7 COLLECTING, ACCUMULATING AND ANALYZING KNOWLEDGE AND EXPERIENCE GATHERED AS A RESULT OF PROJECT REALIZATION IN MICRO ENTERPRISES

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7.1. Introduction

Today's economy, changing dynamically and fast, causes that keeping pace with technological progress and new solutions arising in all spheres of organizational activity, is crucial. It cannot be obtained without forming the ability of entities to learn and use acquired skills. In order to achieve it, organizations have to collect, accumulate and analyze knowledge. In this way, bases of the knowledge can be created and used. Project realization is a perfect chance for accumulating knowledge and experience. It is not an easy task, though, and it requires relevant preparation and determination in realization.

The aim of the article is to present the degree to which micro enterprises use project realization for obtaining knowledge and experience. On the basis of presented research results conducted by the author, techniques used by this group of entities for the realization of analyzed project will be defined.

For micro enterprises, it is a very significant task conditioning their remaining in the market and possibility of development. At the same time, it is also extremely difficult because of many reasons such as low employment.

7.2. The role of managing knowledge obtained as a result of project realization

It is people who play a decisive role in achieving success when realizing projects. They are necessary in all phases of such ventures, from preparation, realization until closure. Knowledge and abilities of the employees involved in project realization are of greatest importance considering accomplishing goals of

all ventures. Accumulating and extending knowledge is one of the most significant elements of contemporary organizations, which realize projects presently and will undoubtedly realize them in the future.

The very concept of knowledge is defined in reference books in various ways. According to T. Pszczołowski, this concept can be defined as: „information about reality, stored up in memory of an entity in action" [27, p. 269]. A.K. Koźmiński, on the other hand, characterizes knowledge in a more detailed way. According to the author, the term means an organized store of useful information placed in a specific context. A.K. Koźmiński compares knowledge to a well-organized portfolio of assets. The author emphasizes that information resource should also include generalized values, experience and rules. Thanks to that, interpreting collections of information is made easier and better use of knowledge takes place as a result. [15, p. 374]. Z. Mikołajczyk defines knowledge as: „a resource of contents (information and data) accumulated and fixed in human mind, which is a derivative of experience and learning process." The author also worked out a process of creating knowledge. It takes place as a result of processing information "stored up" in human minds enriched with experience gained as a result of learning processes. In this way, information gets a new shape, experience is gained and new knowledge is created [19, p. 205].

Nowadays, knowledge is considered as the most important element of resources of non-material organizations. Dispersion, continuous changeability and the fact that it not a possession of one specific enterprise or organization, are its features. [30, p. 30-31]. It is qualified as one of the main constituents of intellectual capital of an organization. It should be emphasized that this capital is not a sum of knowledge possessed by all its members. It is caused by the fact that knowledge in all organizations consists of overt and hidden knowledge.

Overt knowledge is represented by means of words, signs, symbols, instructions, procedures and other documents both in print and in email form. On the other hand, hidden knowledge is accumulated as a result of learning and gathering experience in employees' minds. It includes among the others: subjective feelings, ideas, emotions, values, patterns of behaviour, etc.

The research on overt and hidden knowledge was conducted e.g. by I. Nonaka and H. Takeuchi. The authors stress that both types of knowledge intermingle with each other in people's creative activity [25, p. 85]. That is why, the meaning of overt and hidden knowledge for assuring success of realized projects, should be emphasized.

Enterprises and other institutions are going to realize more and more projects and their development is going to depend on the result of their finalization. According to J. Machaczka, development of an organization is a result of its mastering the processes of "learning" [18, p. 20 and 21]. For that reason, a lot of

attention should be paid to processes of managing knowledge and learning. Therefore, the focus should be on:
− learning and development of all members of ventures,
− improving the ability to transform hidden knowledge into overt one.

J. Rokita emphasizes the meaning of abilities of transforming knowledge possessed by individual employees into the knowledge of the whole organization [28, p. 76]. It is particularly important in the case of project realization. The performers of a given venture are often related to the organization which realizes it only at the time of performing job assigned to them. After the job is finished, they look for another one. If the enterprise does not care about preserving the knowledge and experience of these people, it can "leave" together with them. Therefore, a system should be built in which knowledge is accumulated and properly ordered in an organization whose lifetime is longer than that of realized projects. Knowledge base created in this way should be used by other employees when realizing similar ventures.

It should be also arranged with the employees who will realize a given project that apart from doing certain work, they are also expected to pass on their knowledge and experience gathered.

The concept of learning or intelligent organization is related to knowledge management. These organizations function on the basis of the concept of management, its task being to improve efficiency and flexibility of action. These goals are to be accomplished by continuous development of knowledge and its proper use. Learning organizations are those in which all employees realize and improve the processes of conscious learning in a constant, planned and appropriately organized way [21, p. 11].

For enterprises realizing projects, building an organization able to learn is a key ability. The phases of building such organization were presented among the others by A.M. Jones and C. Hendry[1] – Figure 1. Cz. Sikorski presents five phases after these authors [31, p. 161-162]:

1. Foundation phase in which an instinct to learn develops by means of: intensifying trainings, working out individual programs of employees' development, influencing their attitudes and motivating.
2. Formation phase – preparing employees for self-learning.
3. Continuation phase is to result in a situation where disproportions in learning processes at all organizational levels are eliminated. Plans of professional carriers of individual employees are worked out as well as alternative ways of performing work. The number of levels of organizational hierarchy and employees' status is gradually reduced and barriers are overcome between areas of activity.

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[1] Phases of creating a learning organization are included in [9].

source: Kozłowski R., *Collecting, accumulating and analyzing knowledge and experience gathered as a result of project realization in micro enterprises*, w: Matejun M. (ed.), *Management of Small and Medium-Sized Enterprises' Potential in Economic Practice*, Technical University of Lodz Press, Lodz 2010, pp. 147-165.

4. Transformation phase is related to new definition of relations of authority, strategy and ways of making decisions. The meaning of non-material assets rises during this time.
5. During transfiguration phase, new organizational culture is established. Its main feature is conviction of the employees that due to openness to new information and abilities, they are able to cope with any change.
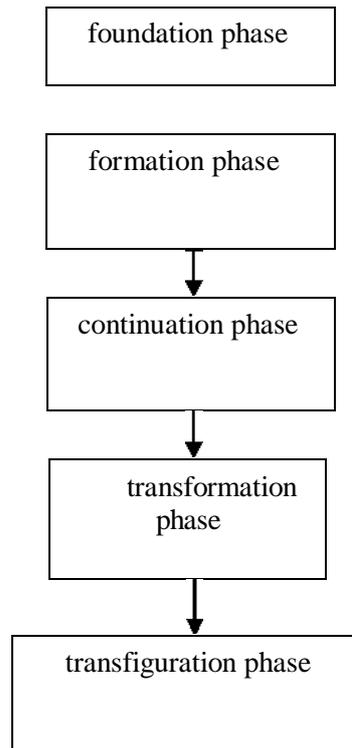
foundation phase

↓

formation phase

↓

continuation phase

↓

transformation phase

↓

transfiguration phase

Fig. 1. Phases of building an organization able to learn
Source: worked out on the basis of: [31, p. 161-162].

A favourable organizational culture is a necessary condition for building a learning organization. It is vital because of the fact that strong barriers to learning occur in some types of organizational culture e.g. in the dominant culture [29, p. 70].

A learning organization has to know how to acquire knowledge in order to function properly. It should know how to apply various ways of acquiring knowledge. In order to implement processes due to which acquiring knowledge becomes possible, appropriate actions taken by the management are necessary

[19, p. 206]. The following educational forms can be used for acquiring knowledge [20, p. 12-13]:

− Traditional improvement of employees' competencies e.g. by taking part in courses, conferences, trainings and self-education of whole teams not individual people. This action results in forming uniform organizational culture which is conducive to efficiency of processes of learning work.

− Empirical learning as a consequence of individual share or observation of other people's actions in doing experiments and research.

− Cybernetic learning by discovering new ways of perceiving, understanding rules and norms. It can lead to undermining the existing rules and replacing them with new ones.

The analysis of mistakes made is a good and often underestimated way of learning. Learning from mistakes can also be one of the efficient methods of improving processes taking place inside an organization [1, p. 22-26].

It should be remembered that actions leading to knowledge acquisition are always costly. Expenses are incurred not only by enterprise in the form of courses and trainings charges, etc. but also by employees. The range of expenses made is often difficult to measure. The costs include e.g. stress related to exams, time devoted to learning instead of spending it with one's own family [19, p. 208].

One should always bear in mind that learning must lead to gaining knowledge that is useful and helpful in decision making processes. As its consequence, analyses of other people's actions and the quality of organizational choices and actions have to be facilitated [28, p. 214].

Accumulating, analyzing and using knowledge cannot be chaotic. Relevant knowledge management is needed in order to enlarge effects of these processes for organizations. It consists in control of generating and organizing knowledge, its storing and then finding and processing as well as transferring and applying it in specific cases [15, p. 380].

„Information" which is used for creation of knowledge and its application in practice are called "resources" and "ready-made products" by Z. Mikołajczyk [19, p. 209]. Tools used for knowledge management are presently most of all teleinformation technologies. They allow collecting, creating and making accessible the knowledge in easier, faster and cheaper way.

Creating knowledge inside an organization with the use of advanced teleinformation technologies is not easy and requires fulfilling social and cultural, institutional and legal as well as economic conditions by the management [15, p. 381]. The first consist in employing highly qualified workers and creating organizational culture conducive to the use of these technologies. Fulfilling institutional and legal conditions is to lead to the creation of possibilities and atmosphere favourable to creation of new ideas and

solutions. Economic conditions have to ensure financing of the processes of creation of using knowledge.

Apart from creating knowledge inside organization, there is a possibility to obtain it from environment by means of purchase. This solution often proves cheaper and faster than producing necessary knowledge by an institution. Obtaining knowledge from environment can have a range of different forms which include among the others: purchase of knowledge, employing highly qualified and experienced knowledge e.g. from competitive enterprises, by means of takeovers or mergers, strategic alliances, coalitions and agreements in the scope of mutual passing knowledge, realization of common projects with partners having required knowledge, using chargeable services of consulting companies.

It should be stressed that it is a man and possibilities of his/her mind that is the most important in knowledge management. Due to possibilities of people, more and more advanced and useful tools supporting the processes of collecting, creating and spreading knowledge have been formed. That is why, employees must be ensured with conditions in which they are sure it is worth to share knowledge possessed [11, p. 39].

In case of project realization, knowledge management is an extremely difficult and at the same time necessary task. Taking into account significant rotation of workers participating in successive projects, it should be taken care of that the most of the knowledge is collected in overt form. It concerns registering collected experience and information in the course of realizing one project in order to be able to use them in another project, in which many new members of project team will take part.

The role of project manager in the success of management of knowledge collected as a result of project realization is significant. It is a "storehouse" of knowledge collected in the course of realizing project and can serve as a good source of knowledge for other team members or people in managerial positions and support top management as well as participate in the work of evaluation bodies [2, p. 67-68].

The phase of project closure can be used to collect knowledge from the course of a project. Final report is one of potential tools allowing to collect information. It includes information about performed work, incurred expenses and advice for the future, which is the basic aim of this document [26, p. 109]. It is sometimes the case that final report is not prepared. Another document recapping the project should be worked out then such as e.g. list of successes, mistakes made, assumptions which proved wrong and a list of activities which could have been performed better [5, p. 206].

Archiving, which should comprise all documents that could help project realization in the future, is essential for the processes of collecting knowledge. The necessary condition for usefulness of information included in archived documents is their arrangement and preparation for registration in a way that they can be found easily. The knowledge stored in material media requires recurring evaluation and verification with regard to its keeping up-to-date. It allows eliminating the knowledge which is no longer useful [21, p. 138]. Collected information is a base of knowledge which is a necessary element of expert systems which are more and more broadly applied in management [37, p. 27, 49 and 50].

As a result of analyses of causes of successes and failures of projects, readymade solutions called Best Available Solutions were worked out [33, p. 102 and 103]. They are processes or project methodologies which resulted in achieving good results of these ventures. Building bases of these checked out solutions, is the basis for learning processes and it gives the possibility to use readymade solutions. It also helps to avoid making the same mistakes which appeared previously and were identified.

The programs of using the best available practices can constitute one of the elements of knowledge management in an organization.

Efficient share of the knowledge included in best available practices from project realization can bring a range of advantages to an organization, e.g.: identification of inefficient methods of action and their improvement, raising efficiency of the weakest workers, eliminating mistakes made previously, lowering costs, increasing efficiency [33, p. 103].

Spreading best practices in an organization adopt many different forms. They include internal instructions, presentations of good practices during trainings and publishing manuals for employees. Good practices also include methodologies of realizing projects already popular in the market - PRINCE2 and MSBOK.

The so called communities of practice are characterized by broad application and perspectives of development also outside an organization. The communities are created by people sharing interests and with experience in a particular field. They accumulate knowledge and make it accessible for other people interested in the same theme [10, p. X]. The time of functioning of such communities is varied and depends on many factors such as specificity of a problem, technology used for data recording, etc. They can be of different ranges, from local to global, and gather members of various communities.

source: Kozłowski R., *Collecting, accumulating and analyzing knowledge and experience gathered as a result of project realization in micro enterprises*, w: Matejun M. (ed.), *Management of Small and Medium-Sized Enterprises' Potential in Economic Practice*, Technical University of Lodz Press, Lodz 2010, pp. 147-165.

7.3. Chosen technologies used for accumulating, analyzing and creating knowledge

Technological progress of the recent several dozens of years is extremely noticeable among the others in teleinformation sector. On the other hand, its influence on other fields of economy has led to an increase in work efficiency, raised the level of quality and modernity of products.

Positive changes related to using teleinformation technologies were not always unconditional, though. Advantages were noted only in the cases when changes were introduced in other areas at the same time such as e.g. employment or organizational structure, applied work methods and rules of cooperation between employees.

Supporting a lot of processes, including those related to management, is the task of information and communication technologies (ICT). Technological progress should be used to implement improvements.

Information and communication technologies are used among the others for building and updating databases. They make up a properly classified collection of information from certain field. Data stored in a base is unchangeable. Certain information can be looked for in databases by means of tools and then it can be spread and used in appropriate way. This results in increasing the possibility to create knowledge.

Information and communication technologies applied properly are able to provide information which exactly meets the needs of an organization. Gaining competitive advantage depends among the others on the ability to arrange data better, which allows better analyses and formulation of more precise conclusions.

Information and communication technologies have developed intensively in recent dozens of years and the development resulted in their convergence. Figure 2 presents phases of technological convergence. As its consequence, from the point of view of telecommunications, boundaries between telecommunications, IT and the media have become blurred.

time before 1970	the 1970s	time after 1980
telecommunications	teleinformation	media – teleinformation
IT		
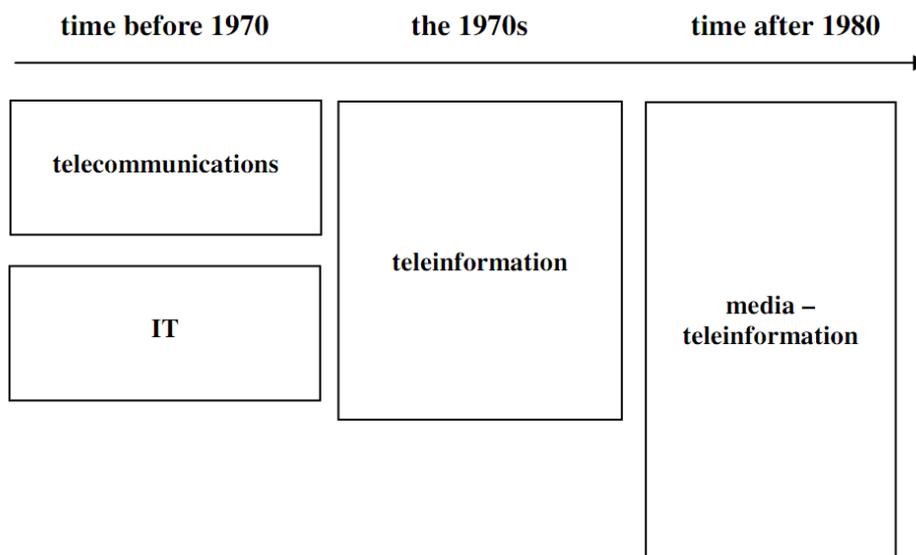
Fig. 2. Phases of technological convergence

Source: [16, p. 458].

As a result of technological convergence, a need occurred for close cooperation between entities dealing with individual areas. The most frequent cooperation takes place between a telco, IT company, content providers and representatives of electronic media. Digital techniques are widely used, which allows to maintain high quality and easy cooperation between partners. Due to the use of digital infrastructure, physical distance loses importance [3, p. 61]. Information technologies enable contacts between people and ensure possibility of their cooperation without the need of direct contact. Due to them, the meaning of time also decreases, e.g. when sending information by email, the recipients gets sound or image record right away. Information placed on websites is available in each time and place of the world. Equating the economic level of individual parts of the world is going to be one of the effects of the development of information technologies as country boundaries are no barriers to them.

The development of advanced information and communication technologies has to comprise all areas, including also state government and local self-government administration. The use of these technologies in administration was already predicted in the first half of the 1970s by J. Starościak, who identified them with "mathematical machines" [32, p. 284 and others].

The emphasis on supporting ICT is reflected at the level of the whole country, among the others in National Development Plan (NDP) [12, p. 309]. Accelerating the development and spreading of ICT was triggered by

liberalisation of telecommunication services market that took place in many countries [35, p. 310]. In the year 2000, the Sejm of the Republic of Poland adopted a resolution on building the foundations of information society [17]. It includes the following aims [22, p. 44]:

− leading to free access and use of the Internet,
− intensifying the development of information education,
− defining plans and giving priorities of development of teleinformation systems in administration,
− developing teleinformation systems for the purposes of country defence and safety,
− developing safety systems protecting from abuses and crimes on the Internet, − active participation of representatives of Poland in international actions standardizing the rules of electronic economy.

Information society uses them extensively and focuses most of its attention on works related to them (e.g. information processing, education and others) [24, p. 288].

i2010 – A European Information Society for growth and development initiative, started by the European Commission in the year 2005, aimed at building information society on the area of united Europe. On its basis, actions were taken to create open and competitive market for information society and media services as well as increasing investments in the field of research concerning the development of information and communication technologies.

The e-administration or electronic administration is to be developed within the framework of the European initiative. Its aim is to improve the service of people and enterprises. As a result, the degree of clarity of all actions and decisions will increase and responsibility for public services will be expanded. The aims of i2010 also include:

− developing safe electronic means of citizen identification,
− developing digital libraries and making their resources accessible,
− limiting the use of energy and lowering its negative influence on natural environment.

Both National Development Plan and the actions of Polish and European authorities, including i2010 – A European Information Society for growth and development, are examples of building knowledge more extensively than in the case of one organization. Involving public means in supporting the processes of creating and using knowledge proves a very significant meaning of these actions.

On the other hand, contemporary tools that enable accumulating and exchanging knowledge also by enterprises and in the course of project realization include among the others [23, p. 284]:

− intranet systems − support internal knowledge transfer,

− systems supporting team work,
− document management systems,
− management support system modules – MRP, MRP II, ERP and ERP II class.

Systems supporting teamwork make up a quickly developing group of programs. It is the response of software suppliers to the needs of organizations. These systems very often use intranet, extranet networks and the Internet. Due to that, they enable work over a given project for people in various geographical places. There is no need to shift, as a result. The advantages of it include among the others: limiting costs, decrease in pollution of natural environment, increasing safety of means of transport, etc. This results in greater satisfaction of participants of teamwork and increase in work efficiency.

More and more documents are created in organizations. In order to function effectively, organizations have to archive them and be able to find them. Nowadays, document management systems are based on electronic solutions. It allows a fast and simple search for certain information in documents according to criteria provided and easy access to it. Documents created in previous years are usually scanned and entered in electronic systems as well. In this way, a database is created, which can be used also by means of mobile systems beyond a given enterprise. There is also a possibility to limit access to certain range of documents to particular users.

MRP, MRP II, ERP and ERP II class management support systems often have a knowledge management support module. These solutions are already offered by all respectable producers. However, the analysis of their offer very often leads to the conclusion that knowledge management has practically become limited to many issues related to trainings. These programs are able to identify training needs precisely, plan the range and schedule of trainings, control their progress, check efficiency and update employees' data.

The communities of practice, mentioned previously, are highly used in intranet networks of enterprises, in which e.g. sellers exchange experiences and help each other in solving problems encountered. They have interfaces adapted to individual users such as e.g. the author of the training contents, the learner, the superior and the training administrator.

The Internet also has numerous typical communities of practice. They are used for exchange of experiences and providing help when solving problems, basically in all areas of human activity from technical issues (e.g. forum on viruses[2]) to forestry (e.g. forum on calculating the volume of a tree[3]). The Internet also includes a lot of communities of practice concerning project

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[2] discussed example can be found at: [7, on 14.08.2009 r.].
[3] discussed example can be found at: [36, on. 14.08.2009 r.].

realization e.g. on applying PRINCE 2 methodology in practice[4]. Table 1 presents technical solutions used to ensure communications within communities of practice with different range of action.

Table 1. The range of communities of practice and technical solution ensuring communication

The range of communities of practice	Type of technical network ensuring communication
one organization or project	intranet
various organizations and/or co-operators	extranet
global range	Internet

Source: own study.

In order to use electronic tools supporting knowledge management in projects effectively, actions which will be the source of knowledge useful in future should be laid out already at the stage of planning the project course as well as actions that will require information support. It is also important to define the type of this information and relevant choice of ICT tools. In this way, an efficient system of knowledge management in the course of project realization can be built.

The use of VoIP technology has caused numerous changes in the way of doing typical office work activities. Low cost of use is its feature, this allows to lower significantly costs of phone calls. [34, p. 183-186]. That is why, a lot of enterprises in the whole world use it to realize work regardless of distance. This, in turn, requires organizational changes but, as a result of implementing this technology, satisfaction of clients and workers increases. The technology enables easy and extremely cheap communication both between employees (or project participants) and clients. Due to that, both employees and clients do not have to be stuck in traffic jams or waist time and energy while getting to the office of a given company.

Modern ICT technologies can be applied in every area of human activity. For example, in education, e-learning[5] or the process of preparing BA, MA and other theses, the use of paper can be essentially reduced as well as the necessity to move places and polluting natural environment related to it.[6]

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[4] discussed example can be found at: [6, on 14.08.2009 r.].

[5] see more in: [8, p. 48-61].

[6] see more in: [13, p. 52-53].

7.4. The results of research concerning accumulating knowledge and experience from realization of projects by analyzed entities

The research sample consisted of a group of purposely chosen projects realized in particular enterprises or other organizations. The number of employees was assumed a key criterion dividing the researched entities into groups. People who had employment contract but also those with mandatory agreement or employed in any other form accepted by Polish law were considered employees of the researched entities.

In order to define the structure of the size of the researched enterprises, the criterion was assumed of division of enterprises into micro, small, medium and large entities, according to the number of employees in the following way:
− micro entities employing up to 9 persons,
− small entities employing from 10 to 49 persons,
− medium entities employing from 50 to 249 persons,
− large entities with at least 250 employees.

A detailed characteristics of this group is presented in point 4 of the article placed in the present book entitled: Applying telecommunications services in realization of projects by micro and small enterprises.

In the further part of the article, analyses of micro entities employing up to 9 persons are presented. The researched group included 135 of such organizations.

On the basis of the research conducted, information on accumulating and maintaining knowledge and experience obtained in the course of realization of the researched projects, was gathered. It proved that micro entities, despite their low number of employees, also try to collect and accumulate knowledge and experience gained in the course of project realization (Figure 3). However, in as many as 36% (in 48 researched projects) cases, there were no attempts at collecting and keeping gained knowledge and experience. It is a very unfavourable situation, which causes a whole range of negative consequences. The situation is caused by many reasons. They most of all lie in lack of knowledge on the results of such behaviour and skills how the knowledge can be accumulated, spread and used. Low number of employees is also one of the reasons.
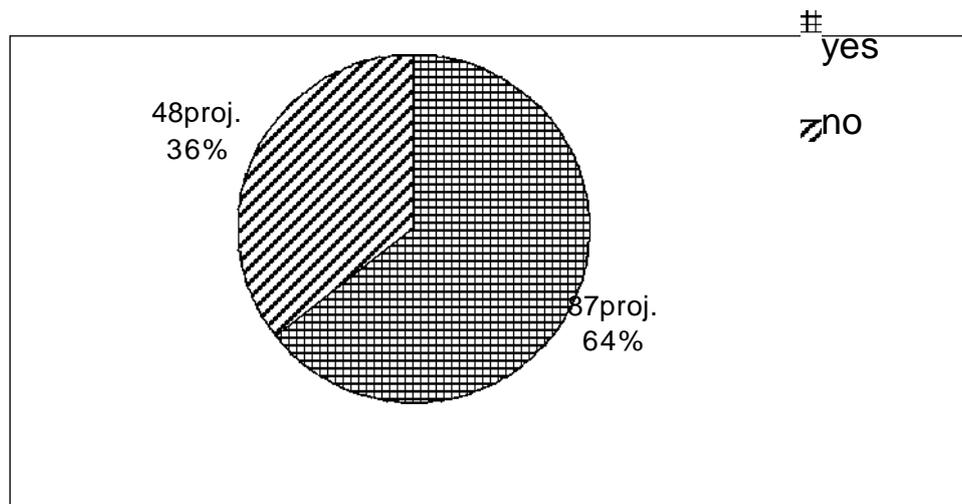
Fig. 3. Responses to the question about collecting and accumulating knowledge and experience gained in the course of realization of projects by the researched micro entities
Source: own study.

Knowledge and experience gained in the course of project realization can be accumulated and preserved in many different ways. The following techniques were distinguished on the basis of received answers [14, accepted to print]: − accumulating technical, financial documentation, etc.,
− collecting accounts, reports and protocols,
− collecting all notes on practical ways of coping with particular problems,
− collecting source materials such as e.g. instruction manuals for devices, training, information and advertising materials, photos, etc.
− electronic documents on CDs, hard discs and other storage media.

Figure 4 presents worked out data concerning the number of techniques of accumulating knowledge and experience from the researched projects applied concurrently.

The prevailing part of micro entities in which knowledge and experience were accumulated, used one or two ways concurrently. Three or four techniques were only applied in individual cases. These results show that a part of the researched micro entities applied more than one way of accumulating knowledge, despite their employing only a few persons.
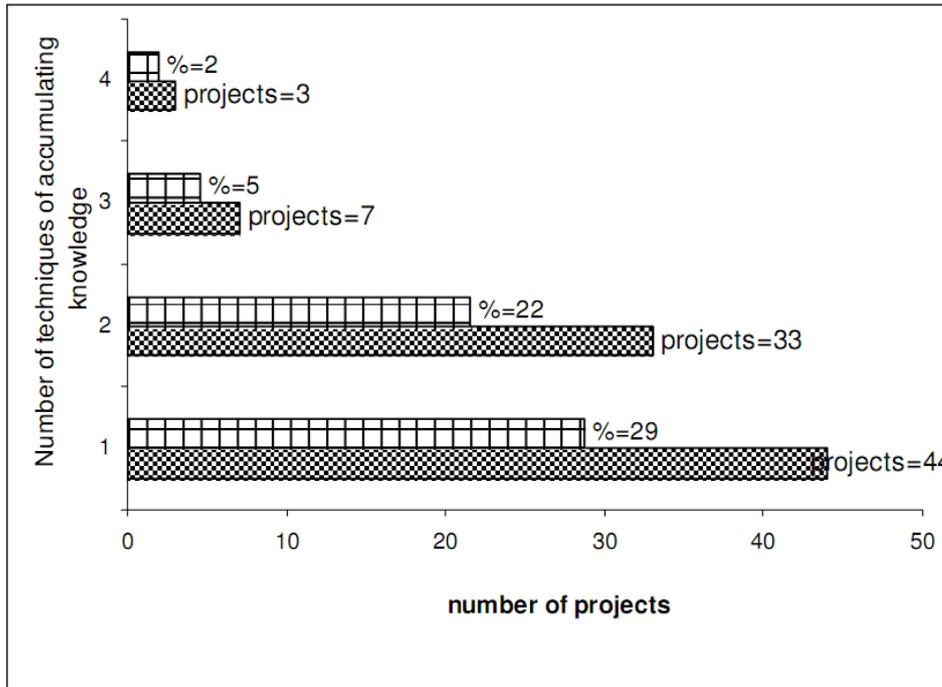
Fig. 4. The number of techniques of accumulating and saving knowledge and experience gained in the course of realization of the researched projects, applied concurrently
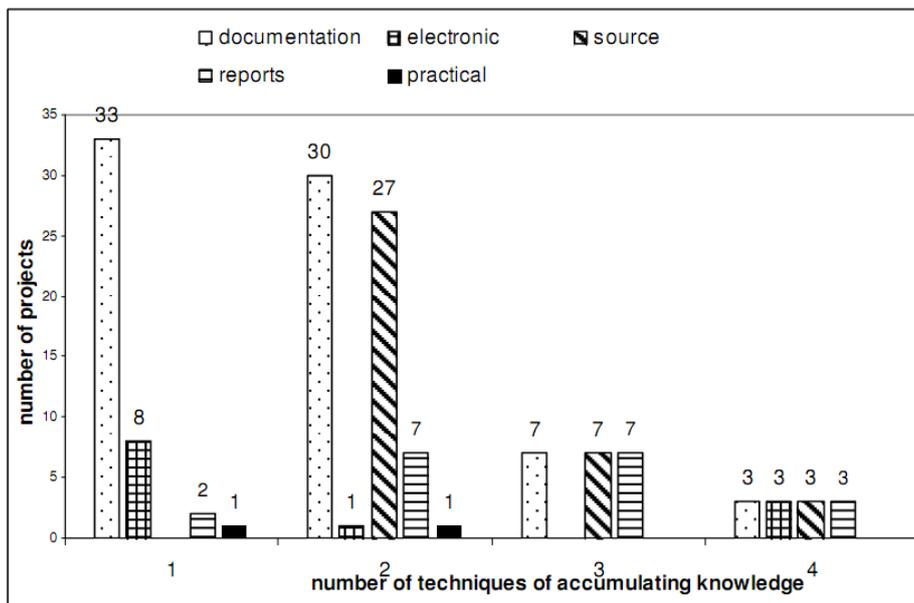*Source: own study.*

Fig. 5. The number of techniques of accumulating and saving knowledge and experience gained in the course of realization of the researched projects, taking into account their concurrent occurrence.
Source: own study.

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Figure 5 presents the number of techniques of accumulating and saving knowledge and experience in the researched projects, taking into account the ways it was done.

In cases where only one technique of collecting and accumulating knowledge and experience was applied, it most often concerned collecting documentation (as many as 33 indications). Electronic tools were used relatively rarely – only in eight cases. Reports or individual notes were made only in a few projects, in which practical ways of solving problems encountered in the course of project realization were taken down.

In case of applying two techniques of accumulating knowledge gained in the course of project realization concurrently, the situation was different. Apart from accumulating documentation, which was the case in thirty projects, source material was also collected in twenty seven cases. Accounts, reports and protocols were prepared and archived in seven projects. The possibilities of electronic storage of data and making practical notes on solving encountered problems were used only in one project.

In case of using three different techniques of accumulating knowledge and experience from the realised projects concurrently, documentation, source information and preparing a report were used to the same degree. It is surprising that possibilities of electronic data record were not used in any venture.

Projects, in which the greatest scale of ways of collecting and accumulating knowledge and experience gained in the course of realization of the researched projects was used, made up the least numerous subgroup – only 2% of micro entities which took part in the research. However, collecting documents, source materials, reports and electronic forms of accumulating and storing data was used in each case. On the other hand, the technique of saving non-formalised notes containing practical ways of coping with encountered problems was not used in any case.

7.5. Summary

Collecting, accumulating and analyzing knowledge and experience when realizing projects is a necessity and a perfect chance for increasing organizational potential at the same time. Technological progress has contributed to working out a range of contemporary techniques, which can be perfectly used for realizing these tasks. At the same time, the decrease in prices of contemporary solutions used for accumulating and managing knowledge has been observed for a few years. As a result, they have become much more accessible to organizations of all types.

Despite their low number of employees, micro entities, in about two thirds of the researched enterprises, accumulated and analyzed knowledge and experience

gathered as a result of project realization. The result cannot be considered as satisfying, though. It means that the remaining enterprises are doomed to failure.

The presented research results reveal worrying information. It concerns inconsiderable use of electronic tools that can be applied for collecting, accumulating and managing knowledge. The possibilities of these techniques are significant and the costs acceptable. Moreover, the main existing limitation in this segment of organizations, i.e. the number of employees, is a barrier to using first of all traditional methods such as collecting documentation, making reports or practical ways of coping with specific problems, in the form of notes. On the other hand, contemporary electronic tools allow automation of many processes of collecting, accumulating and analyzing data, which is particularly important in the case of micro entities. Lack of ability to use the latest accessible techniques by the workers and employees of these organizations is the main reason of not applying them. In order to increase the degree and range of collecting, accumulating and analyzing knowledge and experience from realized projects, the increase in the use of modern electronic techniques designed for these tasks should be aimed at. However, in order to make it possible, knowledge barrier of owners and employees of micro entities should be overcome. It should be accomplished e.g. by special trainings in this field destined for people employed in these organizations.

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