

Identification of Knowledge Workers and Analysis of Methods for Managing their Competencies in Baltic Sea Region Enterprises

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Abstract: This article is a continuation of the 2017 research process on the identification of key employees in the companies participating in the research process. Now the main objective of the research is to identify knowledge workers and analyze the methods of managing the competencies of this group of employees in the studied companies. Of course, at the outset, the author attempted to identify knowledge workers and described their main competencies. In the following part of the article, the author tried to evaluate the measures taken by companies to optimally manage and use this capital to build a competitive advantage. These objectives determined the further course and nature of the research - the author used the following set of research methods: an analysis of the literature on the subject, a comparison of defined concepts and an interview with executives of the surveyed companies. The survey was conducted in 2021 in 100 randomly selected large companies based in the Baltic Sea Region (BSR) - a total of 261 people participated in the study. As literature analysis and empirical studies show, the degree of utilization of knowledge workers' potential is at different levels - there is a distance between developing countries and the richest and most developed countries. This is all the more surprising because company executives are aware of the importance of this capital to the future of their organizations. They also know what barriers they would have to overcome to better manage it. Therefore, according to the author of the article, it is necessary to remove all barriers that prevent the optimal use of the potential of this group of employees. For the organization, this will mean greater efficiency, greater innovation and flexibility in adapting to change. And for employees, intelligently organized work will be easier, more useful, more satisfying and meet a wider range of needs.

Keywords: Knowledge workers, Key competence, Human capital management

1. Introduction

One of the most important metatrends accompanying the evolution of our civilization is the continuous increase in the overall mass of information in human society. It is the result of a feedback loop between our cognitive activity and our ability to influence reality. Wider knowledge increases the scope of our ability to shape reality. How does this affect economic processes? We are seeing the development of the concept of the personnel function towards the study of the growing role of knowledge at work, knowledge management and intellectual capital. Organizational managers are realizing that in such economic conditions, the proper use of the competencies of identified knowledge workers will increase the chance of success in the market.

Changes and accompanying turbulence in the modern economy have led companies to modify the rules of building competitive advantage on the market. This resulted in the necessity to introduce changes in the approach to management. The era in which we live is completely different from the previous ones. Now, the main form of economic activity (social activity too) is the creation and transfer of information and services. All this, combined with new management models and a higher pace of work and life, makes it necessary for entrepreneurs to focus on competences that are important for the type of work. Flexibility, mobility and adaptability to changing conditions are becoming increasingly important. Nowadays, many enterprises need developed interpersonal skills and practical competences.

This means that globalisation, technological innovations and the rapid growth of knowledge and information have forced changes in the structure of employment and a change in the approach to competences that are needed to perform a specific job. In today's world without knowledge we will not build an optimal model of competition and we will not be able to manage the enterprise. It is human capital that has become the most valuable resource in an enterprise. It is the only capital that can obtain, collect and select the necessary information. It has the knowledge that we use to make decisions and solve problems at every level of management.

The purpose of the article is to identify knowledge workers and analyze the methods of managing the competencies of this group of employees in the surveyed companies. In addition, the author presented basic issues in the context of knowledge workers, their competencies and methods of managing them - based on the analysis of the literature and the research process.

2. Method and Description of the Research

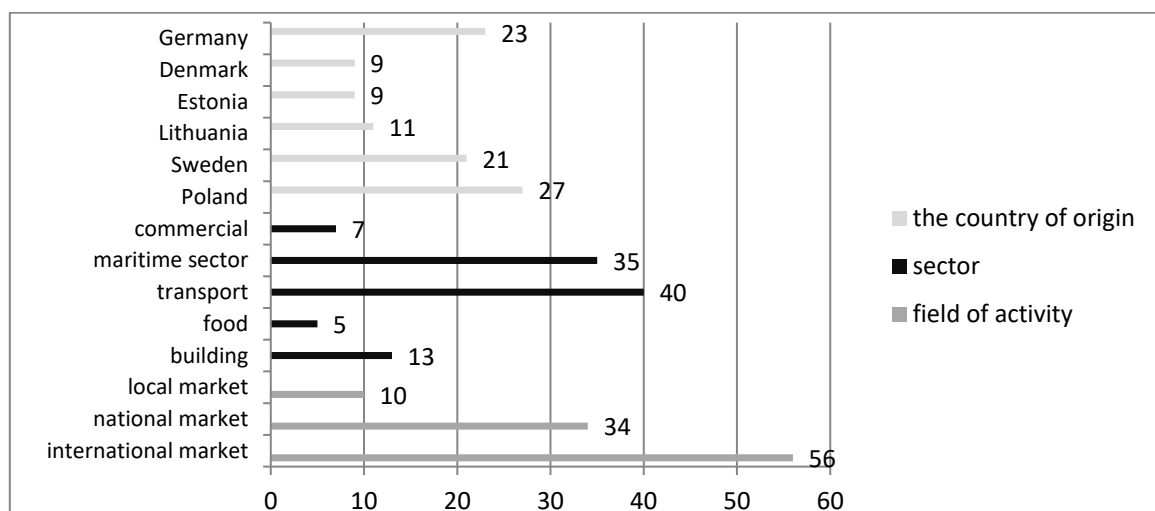
This survey is a continuation of the 2018 survey on the identification of key employees in companies. Now the main objective of the research is to identify knowledge workers and analyze the methods of managing the competencies of this group of employees in the studied companies. The author used 3 research methods: analysis of the literature on the subject - systematization of the language of terms; comparison - the author wanted to indicate characteristic features and defined terms; structured interview with senior managers in the surveyed entities.

The survey was conducted in 2021 in 100 randomly selected large enterprises with the seat in the BSR) - a total of 261 people took part in the survey. At the stage of planning the research process, the author intended to apply a targeted and random selection of the sample on the basis of information on enterprises in this sector contained in statistical data for the BSR. Unfortunately, the author did not have such large resources and he adopted the principle of selection on the basis of his own declaration of participation (questions were sent to 250 entities whether they are interested in participating in such an undertaking). Unfortunately, the research sample does not have the characteristics of the whole group for this region - the presented research results are not a complete set. It is the basis for extending the research process to the whole BSR in the future - for the time being it is a pilot study.

The author used the method of individual interview. A paper questionnaire was a research tool. The selection for the sample was purposeful on the basis of the following criteria: the status of a large company, having its registered office in the BSR, having a Human Resources (HR) department. The HR department was to help the author to obtain information about employees who can meet the criteria of belonging to the group of "knowledge employees".

Why did the author choose the method of individual interview? He believes that it is the managers who have the greatest knowledge of the nature of the work of their employees in each position. The basic technique of researching the methods of managing the competences of key employees may be an interview. Other techniques provide partial data that are less reliable.

The respondents were managers due to their daily contact with employees. Calculations and statistical analyses of empirical material, which was collected in the research process, were made using the Statistica statistical program and Microsoft Excel spreadsheet. The author used the following structure indicators and descriptive statistics: average, median, standard deviation, quartile range, measures of Spearman's rank correlation. They allowed to determine which of the surveyed phenomena are the most important in the opinion of respondents and what the diversity of their opinions looked like. They were also used to measure the interdependence between particular features of the variables.



Source: Own study.

Figure 1: Characteristics of Companies That Participated in the Research Process

The author could not find companies from other BSR countries, i.e. Russia, Finland and Latvia, to participate in the research (Russia was not considered from the beginning). Unfortunately, none of the companies from these

countries wanted to participate in the research. Therefore, the larger group of companies is from Poland, Germany and Sweden. As we can also see, more than half of the companies operate on the international market, in the transport and maritime sectors.

3. The Essence of Knowledge Workers

However, before we begin to discuss and consider increasing the productivity of today's knowledge workers, it is important to define what productivity and knowledge workers themselves actually are. It was P. Drucker who first described the knowledge worker in a meaningful way in his 1959 book *Landmarks of Tomorrow*, and in 1969 he posited that the productivity of knowledge work would be the great management challenge of this century, just as the productivity of manual labor was the great management challenge of the previous century. Continuing his reflections, in 1997 he went even further in, paying special attention to knowledge workers themselves by claiming that the productivity of knowledge and knowledge workers will not be the only source of competitive advantage in the global economy. Obviously, it will be a decisive factor, at least for most industries in developed countries. Therefore, the question arises: why is knowledge worker productivity such a significant challenge and who are knowledge workers?

A knowledge-based economy must create new organizations, hitherto unheard of, in which the essential ingredient for success is the worker. The new enterprise models are the people with personalized knowledge who make optimal use of other resources. They occupy a central place in their organization, they constitute its competitive advantage - they are its driving force.

Knowledge itself is a body of knowledge acquired through learning, a body of information in some field, knowledge of something or awareness of something (Dubisz 2003). From the point of view of a modern enterprise, knowledge is an economic good that can be privately owned and, as a commodity, can be traded on the market. In this case, knowledge is treated as an asset of the enterprise (Lobesko 2004). But looking from a human perspective, it is a key internal capital of each of us, each employee.

Returning to employees, however, the focus on people with high professional potential increased significantly as early as the late 1990s in the United States, where the talent search began to notice and focus on additional employee attributes, which included, first and foremost: distinctive abilities in a particular field - called specific; elevated intellectual potential; originality; openness to ambiguity; risk-taking; commitment to work; internal discipline; diligence.

Thus, if we associate a category of workers with knowledge, we are already dealing with a group of so-called knowledge workers, who, according to T. H. Devenport (2007), have a high degree of specialized education or experience, and the work they do requires the creation, distribution and use of knowledge. They earn their living by thinking, their working tool is the mind, and any effort involved in their profession is intellectual, not physical.

In a similar vein about knowledge workers is expressed by F. Horibe (1999), who believes that it is a worker who uses his mind in creating new value, through innovative ideas, analysis, evaluation, synthesis and design. This is confirmed by the theory of C. Winslow and W. Bramer (1994), which states that a knowledge worker interprets and uses information to create and deliver new value and validate information. On the other hand, M. Morawski (2009) in the layered management model presented categorizes employees according to their importance and value to the company, listing the following categories of knowledge workers: key employee, knowledge process manager, mature specialist, promising talent. Equally interestingly, knowledge workers are characterized by A.K. Koźminski (2004), stating that they are people with: personal intellectual capital (experiences, thoughts, intellectual prowess), personal social capital (acquaintances, contacts, social position), documented qualifications and achievements, and a stable financial situation (an indicator of independence and the value of their services).

Knowledge workers can be found in almost all organizations in developed economies, regardless of the type of business. It is difficult to determine exactly what percentage of the total workforce is made up of knowledge workers, as we do not have a one-size-fits-all definition at the global level - this issue will be discussed further in the next subsection. Arguably, the majority of knowledge workers can be located in organizations engaged in new or advanced technologies, among those in the professions of doctors of certain specialties, scientists, engineers, among professions requiring creativity, non-standard thinking and innovation, as well as among those in certain managerial positions.

The main dilemma, however, remains how to define workers who are not knowledge workers. This issue raises a lot of controversy, because since the productivity of knowledge workers is to constitute the competitive advantage of enterprises in the modern economy, it is necessary to correctly identify the specific characteristics of both the object of their work (knowledge work) and a certain set of characteristics and personal predispositions of knowledge workers as a group. On this basis, it is only possible to develop and implement measures - to create the right work environment - that will bring out the potential in this group of workers and make their knowledge as productive as possible.

Of course, in the era of the new economy, most professions require a certain level of knowledge - but this was also the case at the time when F. W. Taylor implemented the principles of scientific organization of work. External conditions at the turn of the century have changed due to unprecedented economic, technological and social development. Therefore, the minimum level of knowledge necessary to perform any work has increased. Revolutions in technology, telecommunications, automation, productivity impose a certain minimum level of knowledge and the ability to apply it, whether for direct production workers (e.g., automation of production), service workers (knowledge of customer needs, product offerings, etc.) or farmers (mechanization and computerization of farming). However, they do not become knowledge workers by doing so. To be a knowledge worker, one must (i) do knowledge work and (i) have certain specific competencies.

However, it is the productivity of knowledge workers that poses one of the greatest challenges for organizations in the 21st century. The most valuable resource of 20th-century enterprises was production equipment. The most valuable resource of 21st-century institutions, business or not, will be knowledge workers and their productivity (Ducker 2009).

T. H. Davenport (2005), in keeping with the trend of considering knowledge work and the productivity of knowledge workers, created a classification of workers based on the quantity, quality, application and creation of knowledge that accompanies the operations performed by each group of workers. The classification he presented reflects very well what Drucker advocated and brings us closer to a consensus on differentiating workers by the share of knowledge in their work. In short, the idea is that certain types of work require more knowledge, experience, expertise, autonomy, independent, out-of-the-box thinking than others.

On the other hand, today most tasks require at least a minimum level of thinking and knowledge, but not all of the same type and scale. It is important for employers to recognize these differences and act accordingly.

On the one hand, it is important to raise the productivity of those groups of employees who are the most numerous in the organization (such measures most often in practice boil down to the traditional management of industrial era employees - cyclical evaluation and planning of employee development and structure management). On the other hand, if companies want to compete in the global market, they need to attract and adequately motivate employees who, through the use of their knowledge, determine the lasting market success of the company - and these are knowledge workers.

4. Identifying Knowledge Workers in Theory and in Practice

It is already known that the productivity of knowledge workers is a challenge, but how the very distinction between a knowledge worker and a manual worker *vel an industrial era worker*, remains unresolved. Neither managers, workers nor professors at universities have reached consensus on defining these differences clearly, and it is often the case that the existence of such a division is questioned at all. It seems that the main challenge in the coming decade will be to identify knowledge workers themselves, classify them internally, define their tasks and the quality of their performance, and only then, work on their productivity. However, in the literature on the subject, among recognized research authorities, the author has encountered rather harsh criticism of the introduction of the above division.

However, disregarding the different opinions on the subject, the author for the purpose of this article, after synthesizing the definitions of knowledge workers proposed by other researchers, has made a kind of summary and believes that:

- the main purpose of their work is to create, distribute and apply knowledge (taking into account manual operations, which require highly sophisticated and theoretical knowledge);
- thinking occupies most of the time they spend on their work;
- the results of their work are mainly ideas and knowledge, which most often contribute to the work of others;
- the basis of their work performance is knowledge, expertise, experience, education;

- the problems they solve and the opportunities they seize are most often new, unprecedented, non-routine;
- they seek, process and produce information or data from which they are able to draw meaning and take necessary actions based on it;
- their work requires innovation, creativity, problem-solving skills, systemic thinking, high concentration and focus.

To sum up, a necessary but not sufficient condition for a person to be referred to as a knowledge worker is the performance of knowledge work. People with the above-mentioned knowledge worker competencies, but who do not perform knowledge work, will not be referred to as knowledge workers. However, the main dilemma still remains how to find employees who are or are not knowledge workers. This issue raises a lot of controversy, because if they are to be included in this group and constitute a competitive advantage for companies in the modern economy, it is necessary to correctly identify the specific characteristics of both the object of their work (knowledge work) and a certain set of their personal characteristics and predispositions as a group.

In the author's opinion, this is not so simple and of course. Usually, the simplest measures that are available in measuring the number of knowledge workers go to the "first fire":

- ISCED-97 classification - the number of economically active people with full tertiary education.
- ISCO-88 classification - the number of economically active people in an occupation that requires a significant body of knowledge at the tertiary level.
- HRST measure - the number of economically active people with higher education occupying positions that require a significant body of knowledge at a higher level.

Of course, we can assume that higher education is one of the characteristics that I can distinguish a knowledge worker from other workers. But are we sure? On the one hand, it seems that a knowledge worker must, not at all, have an extensive body of theoretical knowledge that will help him understand the essence of the work he is doing and allow him to gain knowledge of how to do it well - methods. At the same time, he must also possess the ability to use such already acquired knowledge in business practice to carry out the tasks assigned to him independently. Of course, such knowledge in the 21st century is acquired primarily during higher education, as evidenced by programs prepared by universities around the world, along with competence matrices that have been in force for almost two decades.

However, on the other hand, the empirical experience of each person who has or has had contact with the higher education system causes them to treat these measures with great caution and distance. The reason for this situation can be attributed to the significant growth of this group of workers (people with full higher education) in the labor market over the second decade of the 21st century. The trump card in the labor market in the form of higher education is slowly becoming a requirement in most of the jobs that are arriving. These booming industries are reporting demand for new professions and are looking for specific specialists to work through, thus greatly expanding educational offerings. In addition, there has been a need to retrain or diversify the competencies already held by a large number of those already working, which also increases the demand for studies.

Besides, can we not be surprised by the fact that the previously described criteria determining the membership of a given employee in the group of knowledge workers, often among many researchers of the subject (not only about the author of the work), did not include this determinant. We can find many more such uncertainties, but some assumptions must be made to make at least an attempt to determine the size of this group of employees in the population under study.

Therefore, the identification of knowledge workers turned out, for the author of the article, to be one of the major challenges during the conducted research, which is described in detail in Chapter 5 of this article.

The first objective of the study was to identify knowledge workers in the surveyed entities - of course, the beginning was the most difficult, as the concept of knowledge worker did not function in any of the surveyed entities (100 large companies in the Baltic Sea Region). Fortunately, having previous experience in this area (the author of the study conducted similar research in 2013-2015) and the characteristics of this group of employees established for the needs of other countries, the author created criteria and conditions affecting the membership of a given employee in the group of knowledge workers, which worked well.

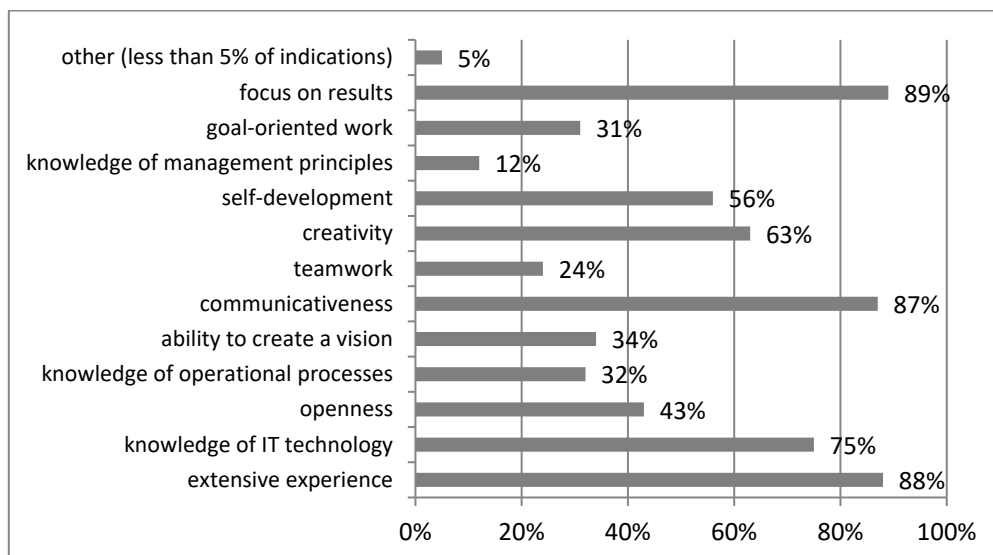
Table 1: Kryteria i warunki przynależności do grupy pracowników wiedzy

	Criterion/condition
1.	Expertise
2.	Creativity in daily work
3.	Courage to implement innovative solutions
4.	Independence and responsibility in action
5.	Expanding and developing existing knowledge
6.	Combining technical and managerial skills
7.	High professional culture
8.	Ability to properly organize work
9.	Dedication to the work performed
10.	Ability to work with others
11.	Possessing the confidence of co-workers
12.	Sharing knowledge with others

Source: Own study.

5. Analysis and Interpretation of Research Results

The entire research process was inspired by the words of H. Davenport (2005), who put forward some time ago, a rather bold thesis that one of the strategic goals of a company nowadays is to provide a high level of satisfaction to its best employees - this was certainly confirmed in the research process conducted among companies in the new economic conditions. With the above statements in mind and in order to start the research process at all, it was necessary to identify knowledge workers. Therefore, in the first step of the first stage of the research, since the functioning of the concept of knowledge worker was not found in any of the companies selected for the study, the author planned to obtain the opinion of a group of respondents on the qualities which, in their opinion, a knowledge worker should have (Figure 2.).



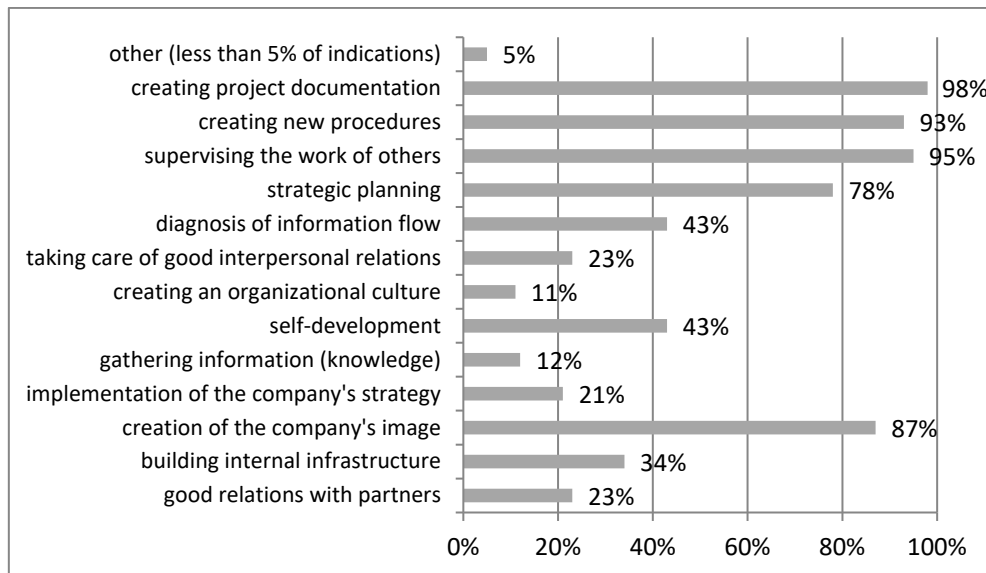
Source: Own study.

Figure 2: Features of Knowledge Workers Identified by Respondents (Managers)

As it can be seen, managers, when defining the qualities of a knowledge worker, attach particular importance to their experience, achieved results or specific competencies (in this case, IT), which may prove the thesis that they expect results from their employees above all - this is the main barrier to creating a vision for managing their competencies and knowledge. Interestingly, respondents placed great emphasis on leadership qualities,

which included, first and foremost, systems thinking, a shared vision, a friendly attitude toward others (even altruism), courageous commitment, or knowledge of the business.

Equally interesting opinions of the respondents appeared when they were asked what tasks they set for the people they would include in the group of knowledge workers (Figure 3.) - of course, the condition for fulfilling these tasks, is to have, first of all, the appropriate qualities identified earlier.

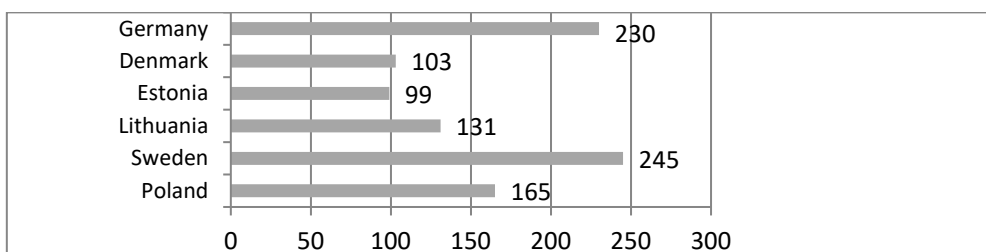


Source: Own study.

Figure 3: Tasks set for Knowledge Workers in the Opinion of Each Manager

In this case, the respondents focused primarily, once again, on day-to-day work (preparation of documents or procedures), although, in the author's opinion, issues related to the use of knowledge, i.e.: its collection, processing and use, should prevail. This is undoubtedly the result of the lack of identification and in general the presence of the concept of a knowledge worker in the surveyed companies - it seems that the management is not aware of the potential of such people and their impact on the overall functioning of the company (at this point it was known that the level of difficulty in achieving the set research objectives increased significantly).

Reassuring. thanks to the analysis of the above data and on the basis of the experience of the research process in previous years, it was possible to identify knowledge workers (Figure 4) in all the companies participating in the study - in 973 employees.



Source: Own study.

Figure 4: Number of Identified Knowledge Workers by Country of Origin of Enterprise

Analyzing the above data, it may seem strange to us that the number of identified knowledge workers was distributed almost evenly across all the surveyed companies - in proportion to their number from a given country (Scandinavian countries minimally lead the way). This is probably a result of the fact that in no enterprise such a concept was functioning, and the process of identifying them, created and implemented for this purpose, may have been imperfect - it was perhaps too unified a picture. In summary, however, it can be assumed that the first stage of the research process has been completed - the established sub-goals have been achieved - the author moved on to the next stage of the research.

In the next part, in accordance with the research plan, respondents were asked about their opinions on the conditions that the companies created for knowledge workers. Respondents were given a rating scale from 1 to 5 - where one was very poor conditions and 5 was very good. The answers given nevertheless add up to a fairly positive picture of this area in the surveyed entities - the main mistakes most often made by companies are: lack of agreement to act independently, lack of experienced among managers (this causes lack of recognition among employees), excessive bureaucracy or lack of expected training, These are the biggest problems and at the same time challenges faced by the managements of the surveyed entities. It is difficult to talk about building relationships with knowledge workers in the case of poor evaluation of the working conditions created for them.

Table 2: Assessment of the Conditions Created for Knowledge Workers and Identification of the Biggest Problems of Managing Them

Evaluation of the created working conditions				
very weak	weak	medium	good	very good
11%	19%	20%	33%	17%
Mistakes made by enterprises in the process of managing knowledge workers				
lack of acceptance of self-reliance				88%
little experience of managers				78%
excessive bureaucracy				77%
lack of expected training				76%
poor relations between manager and subordinate				67%
favoritism of individual employees				65%
lack of opportunities for promotion				64%
poorly constructed evaluation system				61%
one-sided communication				59%
too much control				56%
authoritarian management style				54%
too many ritualistic activities				52%
low level of remuneration				49%

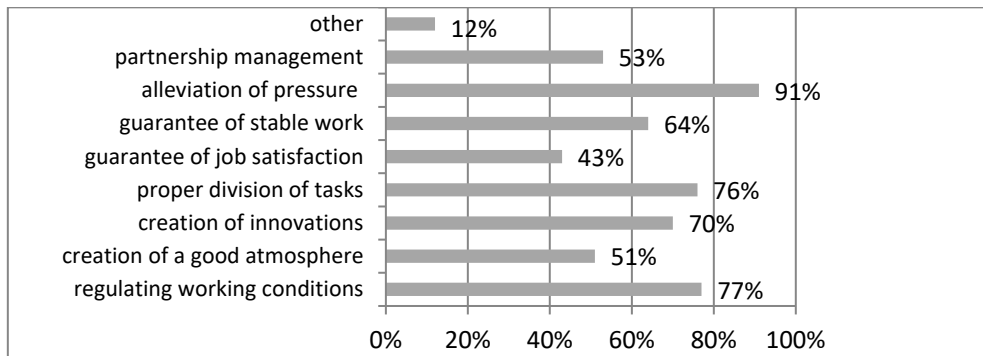
Source: Own study.

At this point, it should be noted that, on the one hand, the respondents are aware of the challenges they face due to the new determinants of the economy - this was shown by their opinions on knowledge workers and "competencies of the future" and the role of these people to play in the process of building a competitive advantage for their companies in the market. They also understand that their companies will become organizations of the digital age, producing physical products and providing innovative services based on data analytics - there will be a radical transformation in the way they operate and the dynamics of the processes in the market will also increase. They also know that data and information are central to the coming changes, and they have a long and difficult road ahead of them leading to advanced analytical capabilities.

5.1 Tools and Principles of Cooperation with Knowledge Workers in the Enterprise

Unfortunately, the problems / barriers or challenges are quite numerous - this confirms the need to set directions for improvement and implement corrective actions. This shows not only a gap in the research and scientific treatment of the problem, but also a gap in business practice. Therefore, decisive steps should be taken to eliminate the barriers that have arisen, which contribute to the escalation of further dysfunctions and will help (initially at least to a small extent) to better manage knowledge workers. In the next stage of the research, it was possible to observe and, importantly, identify, from the opinions of respondents, new areas / directions of activities implemented in the surveyed companies in the field of knowledge worker management strategies: the creation of systems to prevent psychosocial risks at work, strengthening of already existing and implementation of new tools, improvement of the quality of relations and working conditions.

This is the result of the understanding of the needs of employees by the responsible boards, conversations with managers, as in the next step of this stage of the research, the respondents themselves indicated the need for specific actions and changes in management systems, in line with the above-mentioned areas, which would affect the effectiveness and efficiency of work (Figure 5).

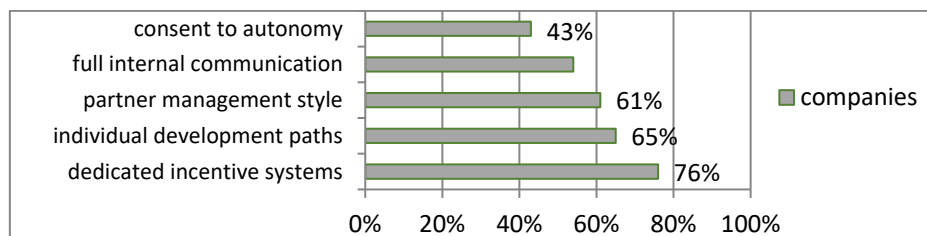


Source: Own study.

Figure 5: Changes Needed to be Made in Knowledge Worker Management Strategy

All of the above plans must, of course, be translated into concrete actions that will gradually modify the management systems already in place. Interestingly, at this stage of the research, based on the analysis of all the data, we can see the analogy with the earlier theoretical argument about contemporary working conditions resulting from the economic changes taking place and the specific characteristics of knowledge workers, who do not attach as much importance to a permanent place of employment, and put their independence first. The most important thing, however, is that employees, together with their managers, at least in the companies surveyed, are aware of this.

Summarizing all the above considerations, while moving on to the essentials of changes in personnel policies in the context of knowledge worker management, it was possible to identify in the surveyed companies, the initial directions of activities aimed at achieving the highest possible productivity of this group of employees and creating optimal conditions conducive to the effective use of their potential and competencies (Figure 6).



Source: Own study.

Figure 6: Measures for Knowledge Workers in Surveyed Companies

An equally important condition that an organization must meet to enable knowledge workers to act as innovators is the issue of building employee commitment. When planning to fully utilize the potential of this group of employees, it is necessary to cause them to be sincerely interested and preoccupied with their work and willing to take on additional activities that go beyond their formal duties. However, it is often possible, as the research has shown, to encounter barriers that hinder the optimal use of the potential of knowledge workers (and not only this group of employees) for the development of the enterprise: haphazard recruitment of team members, the lack of specialists on the market, the lack of mechanisms developed by companies to function in the new economic conditions, the lack of awareness of the role of intellectual capital in the knowledge economy.

Of course, when analyzing the data, we can come across measures to effectively manage this group of employees - according to the author, they can be directed to 4 main areas - acquisition of new knowledge, use of knowledge by the largest possible group of employees, knowledge management, encouraging employees to continuously acquire new knowledge.

Below, in Table 3, the author has matched, in his opinion, the main actions taken by the surveyed companies to optimally utilize the potential of knowledge workers and assigned them to the 4 areas plotted earlier.

Table 3: Actions Taken to Optimally Utilize the Potential of Knowledge Workers

Areas	Actions seeking to realize the potential of knowledge workers
Area No. 1	Clarifying the role of management
	Determining the influence of strategic goals on each employee's work
	Careful listening
	Eliminating ventures that do not benefit the company
	Encouraging the creation of new ideas
	No punishment for mistakes - only he who does nothing is not wrong
	Promoting attitudes related to admitting mistakes
Area No. 2	Informing employees about organizational conditions
	Consent to corporate actions
	Joint decision-making / consultation on changes
	Preferowanie pracy zespołowej Preferring teamwork
Area No. 3	Delegating decision-making authority to knowledge workers
	Changing the role of managers: coordinator, coach (helps strengthen commitment), leader/authority (represents the interests of their employees), mentor (reminds them of the organization's mission)
Area No. 4	Training that takes into account the strategic goals of the company
	Training that takes into account employee development goals
	Zachęcanie do uczenia się nieformalnego Encouraging informal learning
	Rewarding learning outcomes

Source: Own study

This means that in the new economic reality created by globalization, technological advances or the rise of intellectual capital, at the dawn of a 5.0 society, there will be changes in the perception of employees in every workplace. In every industry - in the factory and in the law firm. Knowledge workers will need new competencies in the face of the dominance of digital tools. They will expect completely different treatment and support from their employer. Daily experiences with Artificial Intelligence, Internet of Things, robotics and automation will imprint on them and evoke unprecedented feelings and needs, and HR departments around the world must be prepared for this.

In addition, the above measures are all the more important because knowledge worker productivity is one of the biggest challenges facing organizations in the 21st century. However, before even discussing and considering how to increase knowledge worker productivity, it is important to define what productivity is and how we distinguish between the productivity of industrial era workers and knowledge workers. Therefore, it seems that this will be another very important research problem that the author plans to address in the near future.

6. In Conclusion

In summary, no matter what method or strategy an organization chooses to support (or even build) its business goals through optimal management of knowledge workers, it must base this sphere of activity on specific rules:

- All people employed in the company, not just knowledge workers, must be treated as an asset of the organization - not a cost or resource.
- The organization must have a concrete and flexible business model, from which the applicable personnel strategy is derived.
- Organizational culture is the basis for managing knowledge workers - primarily a system of values and norms, as well as people's attitudes and behavior.
- Combining the goals of the employer with the interests of knowledge workers.
- Breaking down the responsibility for managing all human capital to several centers in the organization: starting with the top management and ending with each manager.

- The top management in an organization must realize that the expertise of the people they employ largely determines its competitiveness - they must trust them and motivate them properly.
- Properly define the tasks for the HR Department, which should include helping to solve social problems in the organization. Managers of these departments should have at their disposal HR solutions and tools that are easy to apply and tailored to the specifics and needs of the company.
- In building and managing teams of employees, techniques should be used that will enable, on the one hand, proper organization of work and effective problem-solving, and on the other hand, take into account the interests of the company and its employees.

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