

## STIMULANTS AND BARRIERS OF CONVERTING A SMALL ENTERPRISE INTO AN INTELLIGENT ORGANIZATION

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**Purpose:** The aim of this study was to specify the characteristics of intelligent organizations and identify stimulants and barriers to transform a small enterprise into an intelligent organization.

**Design/methodology/approach:** As a research method, case analysis was used as a tool – a questionnaire with a five-point Likert scale and an interview. Four companies were examined.

**Findings:** The most important conclusions put forward are that one of the main stimulants of transforming a small enterprise into an intelligent organization is leadership, which is characterized by a simple organizational structure, trust, triggering creativity among employees, and appreciating ideas among employees. The main barriers to transforming a small enterprise into an intelligent organization are inconsistent regulations, lack of qualified employees, high employment costs, unequal struggle for clients, costs related to running a business and problems with payments.

**Research limitations/implications:** The research regarding leadership determinants in small businesses are planned for the future.

**Practical implications:** Small businesses should strive for a simple organizational structure, trust, triggering creativity among employees, and appreciating ideas among employees.

**Originality/value:** The added value of the article were characteristic stimulants and barriers to the transformation of a small enterprise into an intelligent organizations.

**Keywords:** intelligent organization, learning organization, organization of knowledge.

**Category of the paper:** Research paper.

### 1. Introduction

Often, intelligent organizations in literature are defined as knowledge-based or learning organizations (Wilensky, 1967; March, Olsen, 1979; Quinn, 1992; Haeckel, Nolan, 1993). An intelligent organization can be defined as an organization that is open to change, uses the intellectual capital of all organization members and is based on the ingenuity and creativity of employees. It is open to knowledge, and it is important to experiment and rely on experience in

this type of organization. The organization's intelligence potential is widely spread in it. First of all, it is in the minds of its employees. The organization will be intelligent if it can fully use and integrate the intelligence of its employees. The organization's intelligence potential is created in an integrated process of learning and developing knowledge.

For the above-mentioned reasons, the purpose of the article was to indicate the characteristics defining intelligent organizations and to identify factors determining the transformation of enterprises into an intelligent organization. The thesis puts forward that the identification of factors determining the construction of intelligent organizations supports the process of their transformation. The research problem was the identification of determinants of building intelligent organizations. The research questions that have been posed are: What characterizes smart organizations? Does the organizational structure in the surveyed enterprises determine the process of transforming them into an intelligent organization? What are the conditions for building intelligent organizations? What factors determine the transformation of a small enterprise into an intelligent organization? What are the prospects for the development of intelligent organizations?

The theoretical goal was achieved in the introductory part of the article by presenting and analysing Polish and foreign literature. The empirical aim was accomplished through own research, which was based on case analysis.

## **2. Characteristics and determinants of building intelligent organizations – literature review**

The concept of intelligent organization has been disseminated by J.B. Quinn (1992), who in his publication stated that intellect is the key resource of any organization. The author also drew attention to the fact that the success of enterprises is not determined solely by economic assets, which are often already used in the production process itself, but also by intangible assets such as intellect and service competences. C. Handy (1998) defines an intelligent organization as one that draws added value from the knowledge, ingenuity and creativity of people.

Another approach characterizes intelligent organizations as oriented to knowledge management, able to build relationships inside and outside their borders, dynamically adapting to new forms of organization, previously unprecedented practices and processes, learning and entrepreneurial in the context of looking for, taking and using opportunities. They are stable, based on a system of values, capable of reviving the involvement of their participants, as well as able to develop internal competence for self-development. Intelligent organizations, thanks to proactive attitude have the ability to adapt to changes and develop despite making difficult changes (Dyduch, Bratnicki, 2016).

An intelligent organization creates and transmits knowledge and modifies its behaviour so that it reflects new knowledge and allows it to adapt to the constantly changing environment in order to achieve market dominance (Hejduk, 2016). Very often, intelligent organizations in literature are defined as knowledge-based or learning organizations. However, it is worth going further in defining and identifying an intelligent organization.

M.L. Wilensky (1967) defines an intelligent organization as one that collects, processes, interprets and communicates information needed in decision-making processes. J.G. March and J.P. Olsen (1979) – believe that an intelligent organization is based on two basic processes: the first – learning from the experience of rational calculation, and the second process which is a rational adoption, which means that organizations act on the basis of observation of the effects of their actions, draw conclusions and consequences for future activities. J.B. Quinn (1992) claims that an intelligent enterprise manages and coordinates information and intellect to satisfy the needs of clients. An intelligent organization is more focused on the development and deployment of intellectual resources than on financial results and physical (material) resources. S.H. Haeckel and R.L. Nolan (1993) define an intelligent organization as an organization capable of dealing with organizational complexity, i.e. capable of capturing, sharing and responding to market signals. Organizational complexity is defined as a function of the sources of necessary information, elements needed for coordination and the number and type of relations binding these elements. According to the authors, the intelligence quotient of a given organization depends on: the ability to access knowledge and information, the ability to integrate and share information, and the ability to extract the meaning of a structure.

W. Dyduch, M. Bratnicki (2016), when considering the essence of intelligent organizations, point to several key factors that are their characteristics:

- clear and flat organizational structure, hierarchy reduction,
- strategy gradually and consistently developing the organization, focusing on the use of opportunities and breakthroughs,
- simplified process management for rapid response to signals and information,
- leadership based on promoting trust, learning from others, inspiring participants in the organization, allowing for taking risks,
- perceiving mistakes as an opportunity for learning and triggering creativity, mobilizing individual initiatives, creating co-responsibility,
- quick response to non-profit organizational units,
- long-term orientation consisting in training young generations of leaders, creating a safe workplace, maintaining long-term good relations with stakeholders,
- continuous improvement through the selection of a diversified management team, continuous development of the learning organization, attracting exceptional people,
- developing key competences, creating a system of effective communication, focusing people on flexibility,

- culture focused on positive reinforcement of the organization's participants, recognition and rewarding of successes, establishing transparent norms and values, stimulating the flow of information, creating a shared identity and a sense of community,
- external orientation – focus on continuous improvement of values for clients by understanding their needs, developing effective relationships, responding to signals from customers and the market,
- monitoring the external environment and responding to changes in opportunities; comparing with the leader in the industry, growth through partnership and cooperation.

The concept of intelligent organization is aimed at improving the efficiency and efficient operation of the organization. This type of organization requires constant adaptation to new situations, creating and implementing contemporary concepts, constant analysis of weaknesses and strengths, treating mistakes as challenges to continuous improvement of work. In a slightly different way the features of intelligent organizations are characterized by W.M. Grudzewski and I.K. Hejduk (2003), as their definition includes: production of knowledge-rich products; systematic problem solving using philosophies and methods of improving quality; employing high-class specialists, so-called knowledge workers who constitute the core of the human capital of the organization; experimenting, systematic research and searches aimed at discovering new knowledge; the ratio of the market value to the book value greater than 1, i.e. what is not included in the balance sheet, is worth more than the book value; learning based on previous experience – the organization analyses its successes and failures, systematically archives them and makes it easily available to employees; learning from others; fast and efficient transfer of knowledge within the entire organization, e.g. through training, education, and quality improvement methods.

The above features of intelligent organizations indicate the role of knowledge, flexibility, leadership, communication and organizational culture in the process of creating competitive advantage of the company. The more dynamic the organizational framework is, the more impact on survival or development a high level of intelligence of the organization has. Intelligence seems to combine receiving information, processing it quickly and making decisions, implementing them.

### **3. Research methods**

Among many research methods, W. Czakon (2016) draws attention to studying cases as a method experiencing a real renaissance. The most widely-known achievements of case studies are mentioned by K. Adamiecki, H. Fayol and A. Sloan, who based their ideas on the case of one company in which they implemented the described patterns of conduct. Although the number of scientific papers developed in accordance with the case study methodology is

increasing, it is often perceived as easier than quantitative research and is accused of a low level of scientific rigor (Chakon, 2016). To increase the reliability of case-based research it is worth first defining what the case is. By case one should understand one research object recognized due to a specific purpose, located at a specific time and place, taking into account the circumstances that are relevant to it, studied using a variety of data collection and analysis techniques. According to H. Mintzberg, the object may be a single decision or, according to J. Dyer and K. Nobeoka, a process implemented by the company. For these reasons, it is not the size of the object, or some of its features that determines the choice of a given object for analysis (Chakon, 2016) and the goal that is set. Czakon (2016) has three goals. The first is a theoretic goal, the second is to test the theory and the third goal of a case study has a clear practical orientation.

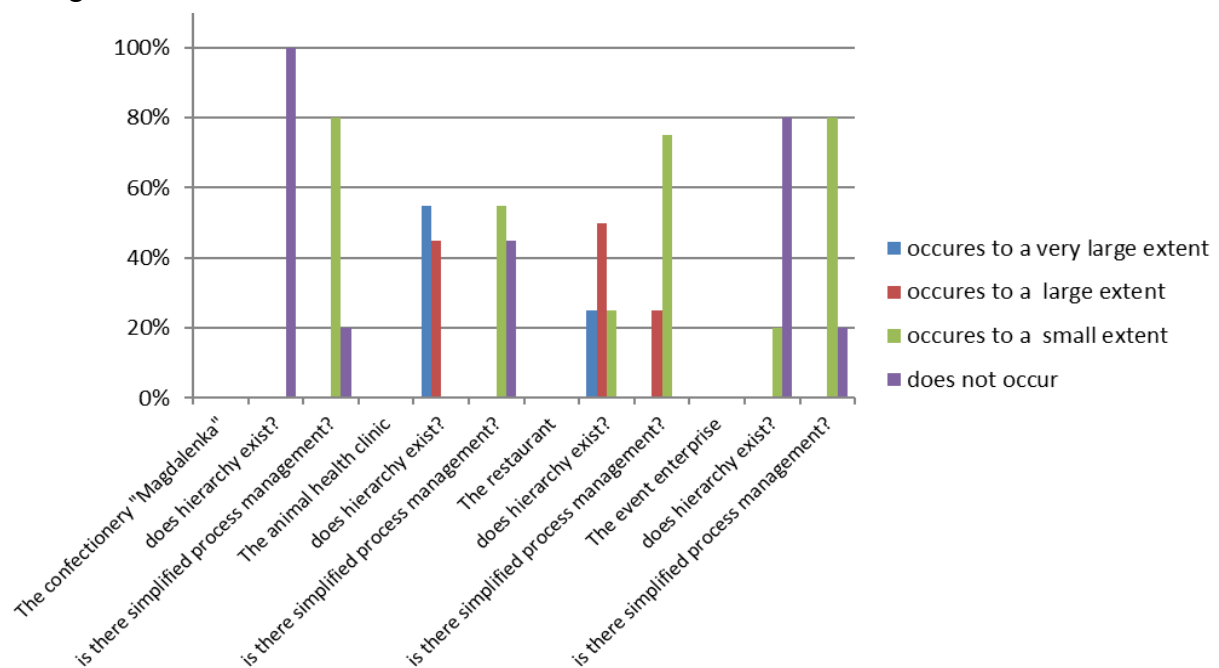
For the above-mentioned reasons, to answer the research questions of the article, an analysis of cases was chosen, aimed at developing the existing theory, providing explanations of phenomena regarding the creation of an intelligent organization (theoretical purpose), as well as recognizing the current phenomenon in real conditions. The procedure of conducting the case study was started by specifying the aim and research questions. The aim of this study, as mentioned in the introduction, was to indicate the items characterizing intelligent organizations and to identify factors determining the transformation of enterprises into an intelligent organization. The research problem was the identification of determinants of building intelligent organizations. The research questions that have been posed are: What characterizes smart organizations? Does the organizational structure in the surveyed enterprises determine the process of transforming them into an intelligent organization? What are the conditions for building intelligent organizations? What factors determine the transformation of a small enterprise into an intelligent organization? In the second stage, cases were selected based on previous research, in which these enterprises were identified as being in the maturity phase, with the characteristics of the growth and entrepreneurial phase (confectionery) and in the growth phase with entrepreneurial characteristics (restaurant, animal health centre, event company/organization of events). All analysed enterprises are focused on cooperation, leadership and introducing changes. In the third stage, a research tool was developed, which was a questionnaire. The questionnaire consisted of two parts: metrics and questions regarding the process of transforming the enterprise into an intelligent organization. The respondent gave answers on the extent to which the given action is taken in the examined enterprise. 1 meant that action is not taken completely, 2 – action is undertaken to a very small extent, 3 – action is partly undertaken, 4 – action is undertaken, 5 – action is undertaken to a very large extent. The questionnaire was sent electronically to the surveyed companies (fourth stage). Four companies were examined – the confectionery "Magdalenka", which has been operating on the market since 1957, has its tradition and is constantly developing. The confectionery "Magdalenka", employs 10 people (7 employees and 2 owners). 9 questionnaires were correctly filled out. Another company selected for research is a restaurant

with 12 employees. It has been on the market for 9 years. 8 correctly filled questionnaires were received. The third company is an animal health centre. It has been operating on the market since 1993. The company is very customer-oriented and innovative. The animal health centre employs 16 people, but 4 are on sick leave. 11 employees completed the questionnaire correctly. The last analysed case was an event company (organizing events), which has been operating on the market for 9 years. There are 5 employees in the company and all of them completed the questionnaire correctly.

To analyse the collected data, cause and effect explanation procedures were used as the leading ones. The median was used for inference and the modal value. The research was completed with the formulation of conclusions.

#### 4. Small enterprises as an intelligent organization – empirical analysis

The metrics included questions about the characteristics of the surveyed enterprises (industry, number of employees) and about the organizational structure. In the confectionery "Magdalena", the animal health centre and the event enterprise, the structure is linear, while in the restaurant it is functional (100% of respondents answered that). Then respondents were asked whether there is hierarchy and simplified process management. The results are depicted in Figure 2.

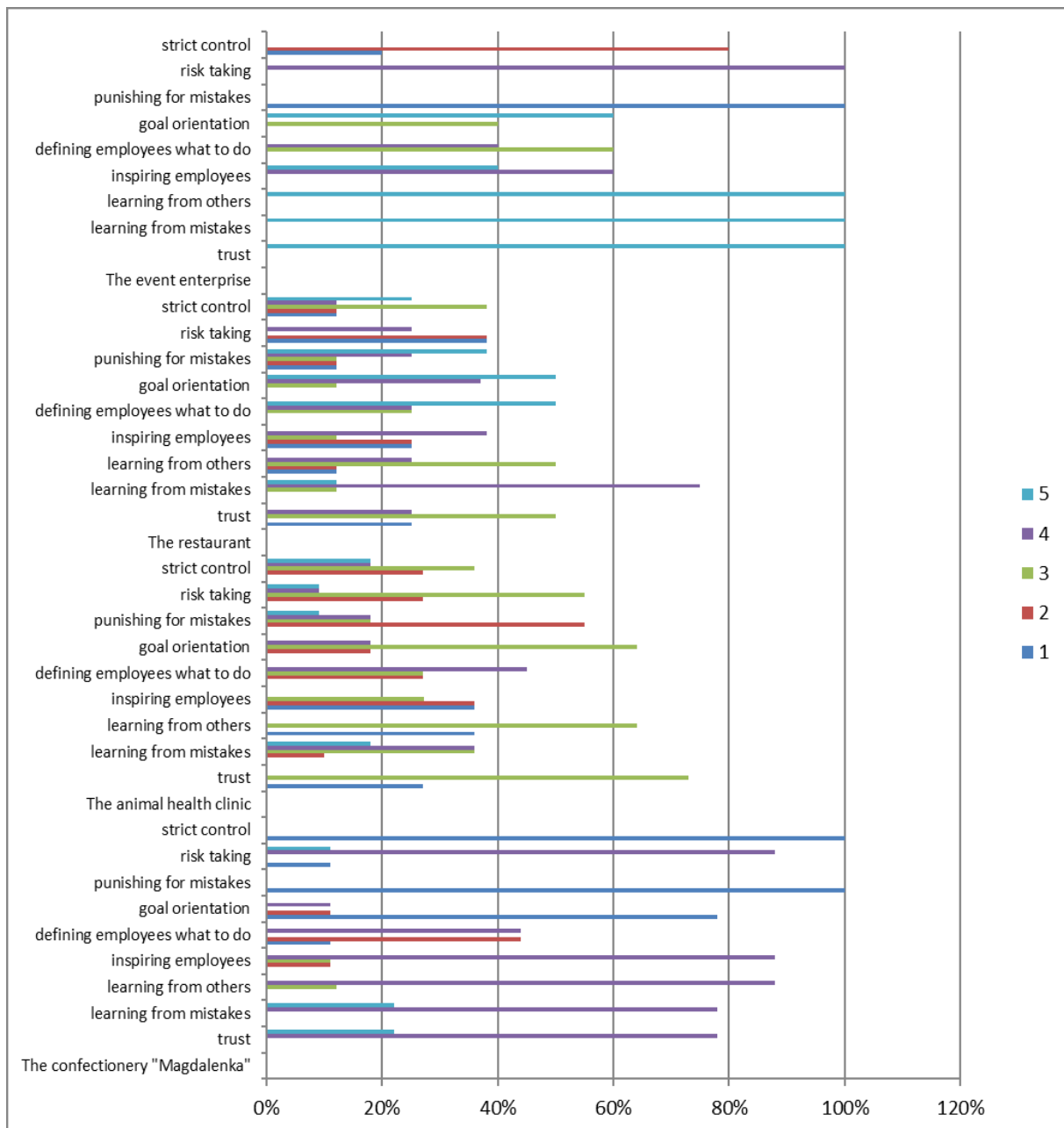


**Figure 2.** Hierarchy and simplified process management in the surveyed enterprises. Source: own study based on the conducted research.

Analysing the results of the research compiled in Figure 2, it can be stated that there is no hierarchy in the confectionery "Magdalenka" and the event enterprise, whereas the simplified process management occurs to a small extent. There is a hierarchy in the animal health centre. The process management occurs to a small extent or it does not occur at all. In the restaurant, the respondents indicated that there is a hierarchy and simplified process management. As indicated in the theoretical part of the study, the lack of hierarchy and simplified process management in order to quickly respond to signals and information (e.g.: production processes, logistics, sales) are determinants of building intelligent organizations. At this point, it can be concluded that in the confectionery "Magdalenka" and the event enterprise, the organizational structure, lack of hierarchy and simplified process management can prove that these enterprises are more knowledge-based than the restaurant and the animal health centre. A flat structure, lack of hierarchy determine the formation of a learning organization, which determines the construction of an intelligent organization.

In the next stage of the research, in order to answer the given research question about the conditions for building intelligent organizations, leadership was analysed, which is one of the main determinants of transforming enterprises into an intelligent organization (the theoretical part of this study). It was examined to what extent the leadership traits of intelligent organizations (leadership based on trust, learning from one's own mistakes, inspiring employees, lack of control) are visible in the analysed enterprises. The results are shown in Figure 3.

Analysing the data presented in Figure 3, it can be stated that in the confectionery „Magdalenka” and the event enterprise there is a leadership leading to the transformation of the enterprise into an intelligent organization (to a very large extent). Both companies take risks, do not punish for mistakes, inspire employees, the learning process is visible (both from others and from mistakes), rely on trust, which is reflected in the lack of control. Analysing the restaurant and the animal health clinic, it can be concluded that leadership in them is not conducive to build an intelligent organization. The answers prevailed that the indicated behaviours occur partially.

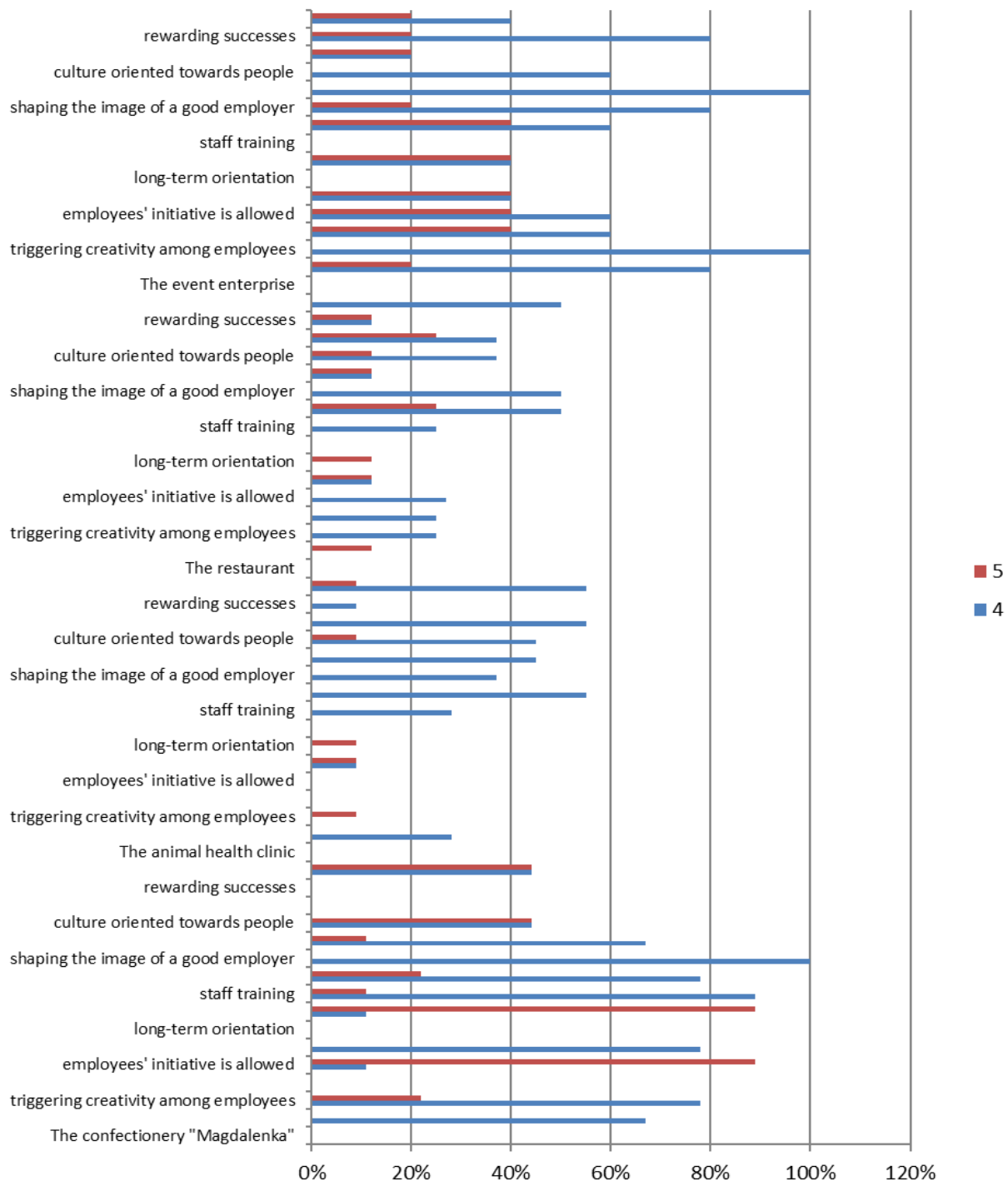


**Figure 3.** Leadership area (managing people) in the surveyed enterprises. Source: own study based on the conducted research.

At this point, it can be concluded that in the confectionery „Magdalena” and the event enterprise there should be more features characterizing intelligent organizations than in the restaurants or animal health clinic.

The third question posed at work is what features of intelligent organizations occur in the surveyed enterprises? The analysis assumes that responses 4 or 5 are important, presenting the results in Figure 4.





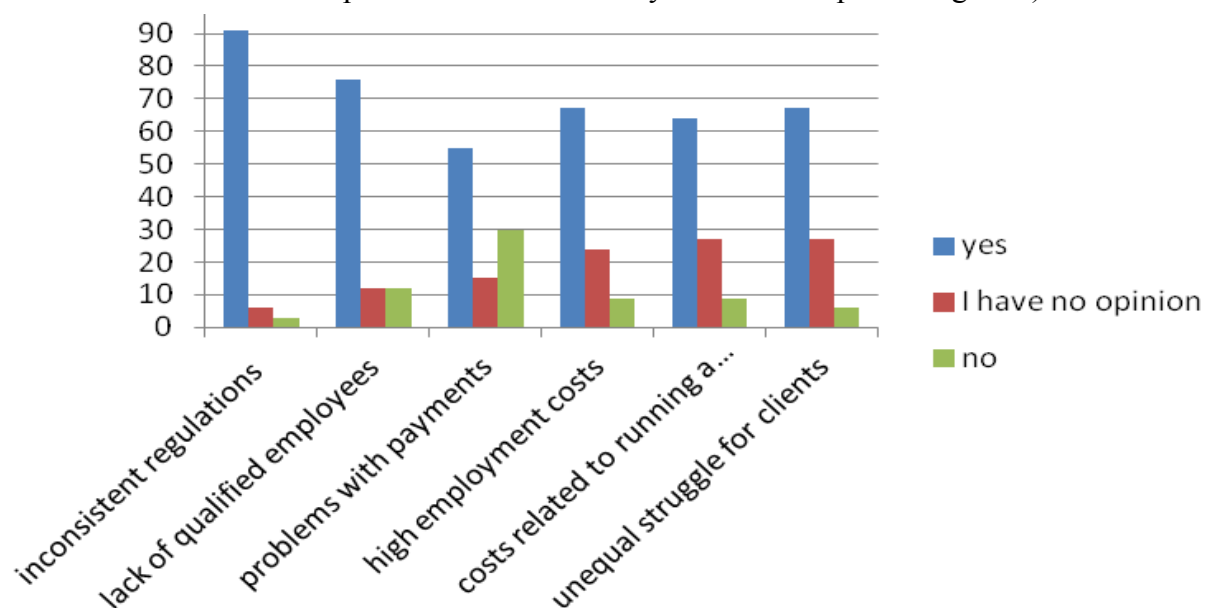
**Figure 4.** Features of intelligent organizations in the surveyed enterprises. Source: own study based on the conducted research.

Analysing the statement presented in Figure 4, conclusions can be drawn that the most features of an intelligent organization were visible in the event enterprise. Almost all features were described by 100% of respondents as occurring. Similar results were noted in the confectionery „Magdalena” in which all the indicated features of the intelligent organization were also identified (except rewarding ideas). The respondents assessed the rest of the features as occurring or occurring to a very large extent. Therefore, it is possible to place a conclusion here, that the confectionery „Magdalena” and the event company can be described as

intelligent organizations (to a large extent they have features that characterize them). Analysing the responses of respondents from the restaurants and the animal health centre, it should be stated that they contain selected features of an intelligent organization. In the restaurant, attention is paid to shaping good relations with clients and employees, the image of a good employer is created and the company is oriented at increasing the value for the customer. Similar results were obtained in responses given by respondents from the animal health centre. Additionally in the company the culture is oriented towards people.

Summarizing this part of the considerations, it can be stated that hierarchy, lack of trust, control, and punishment for errors are not conducive to building an intelligent organization. During the interviews conducted with the owners and employees of the surveyed enterprises, the respondents emphasized that the lack of intelligent organization features (the lack of the company's orientation to knowledge) is caused by the constant struggle of enterprises for survival.

The third and last question posed in this study was related to the barriers to transforming a company into an intelligent organization. The last question asked in the questionnaire concerned factors that can be considered as barriers to building an intelligent organization. The results of the research are summarized in Figure 5 (respondents' answers were very similar to each other so we could present them collectively – for all companies together).



**Figure 5.** Factors that can be considered as barriers to building an intelligent organization. Source: own study based on the conducted research.

When analysing the statement presented in Figure 5, it can be concluded that the indicated factors constitute barriers in the building of an intelligent organization. Among the barriers one should mention: inconsistent regulations (91% of respondents indicated this), lack of qualified employees (76% of respondents indicated this), high employment costs and unequal struggle for clients (67% of respondents indicated this), costs related to running a business (64% of respondents indicated this) and problems with payments (55%).

## 5. Summary

In this study, the set goal was accomplished - the features of intelligent organizations were characterized and stimulants and barriers to the transformation of a small enterprise into an intelligent organization were identified. The main conclusion that has been made is that an intelligent organization can be a micro as well as small enterprise. It can also be stated that one of the main stimulants of transforming a small enterprise into an intelligent organization is leadership, which is characterized by a simple organizational structure, trust, triggering creativity among employees, and appreciating ideas among employees. The research allowed to formulate the conclusion that enterprises in which the above-mentioned leadership occurs possess features characterizing intelligent organizations to a greater extent than those that feature hierarchy, control, and lack of trust. The main barriers to transforming a small enterprise into an intelligent organization are: inconsistent regulations, lack of qualified employees, high employment costs, unequal struggle for clients, costs related to running a business and problems with payments.

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