

DETERMINANTS OF ORGANIZATIONAL PROCESS MATURITY - RESEARCH STUDY

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ABSTRACT: The concept of process management, although known for years, is still being developed and modified. Taking process management into consideration, one can say that the process maturity of an organization is one of the criteria of its classification. The main purpose of this paper is to present the results of research on the process maturity of organizations in terms of two determinants: the realization of process objectives and formalization of the process owner function. The article analyses secondary research conducted by the portal procesowcy.pl as well as own research conducted on a group of 474 companies operating in Poland. The results of the study allow us to notice a fairly strong relationship between the open definition of process objectives, determining the role of the process owner and the effectiveness of management, which affects the level of process maturity of the organization.

KEYWORDS: *Enterprise, process maturity, process management, process owner*

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1. INTRODUCTION

Economic, social and cultural changes, globalisation, development of new technologies are factors which force making changes in companies. Currently, those companies that can change products, markets and types of activity have a chance for success. Achieving status quo is not enough. Changes are an indispensable element of modern organization and an important element of its activation. Not only the management but all members of the organization must participate in the changes. At the same time, it should be noted that employees are increasingly willing to participate in the activities of the company. Their approach to work, high qualifications, market factors and new technologies are conducive to development and improvement of work organization. Therefore, it is inevitable and even necessary to introduce metamorphosis in the processes of managing enterprises (Afonasova *et al.*, 2019).

The concept of process management changes the approach of employees to their work and strengthens the orientation towards customer satisfaction. Therefore, it can be said that the introduction of process management gives people who implement the process the opportunity to place their work in a broader business context (Bitkowska, 2019). At the same time, organisational systems are evolving and becoming more flexible, which allows to react quickly enough to transformations. The process approach, therefore, requires changes from the organisation, which

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may be introduced as a whole or gradually, and their scope depends on the degree of process maturity achieved by the organisation.

This study focuses on small and medium organizations operating in Poland, which still apply and implement process management to a small extent. The determinants that influence the process maturity of enterprises were identified. For the purpose of the study it was assumed (in accordance with the results of research cited in the article) that most companies achieve only the 2nd or 3rd degree of process maturity. Thus, it seems reasonable to analyse the factors that have an impact on this situation and at the same time can cause companies to achieve higher levels of process maturity. The paper uses the analysis of the literature on processes and process management, research conducted in the fourth edition of the study of process maturity of the procesowcy.pl portal and the results of preliminary surveys carried out in small and medium-sized enterprises operating in Poland.

2. PROCESS MATURITY OF THE ORGANIZATION

Process management takes place at many levels of an organization. Harmon, discussing the methodology of the Business Process Trends (BPTrends) study, presents the concept of three levels of process management (Harmon, 2016; Klimecka-Tatar, 2021):

- enterprise organisation level: activities occurring at a higher level of the organisation that focus on linking strategy and processes, on defining the process architecture, the performance measurement system and linking them in the value chain and higher level processes. These are activities related to the identification of the organization's needs, the establishment of the process system, its maintenance and improvement;
- process level: includes project-like activities aimed at documenting processes, creating new ones, reconstructing or improving existing ones;
- implementation level: provides the resources and activities needed to implement the actions taken at process level.

The above and examples are presented in Table 1.

Table 1. The three levels of process management

Level	Activities	Changes in organisational management
Organisation	<ul style="list-style-type: none"> • Adoption of the strategy • Definition of process architecture • Establish a system for measuring achievement • Process management priorities and plans 	<ul style="list-style-type: none"> • Adoption of the vision • Definition of expectations • Involvement of managers in processes
Process	<ul style="list-style-type: none"> • Process modelling and redesign • Improvement projects • Lean, SixSigma 	<ul style="list-style-type: none"> • Definition of expectations • Establish process improvement objectives • Employee involvement in processes
Implementation	<ul style="list-style-type: none"> • Training • Knowledge management • Use of systems and applications for process management • Monitoring of actions 	<ul style="list-style-type: none"> • Reorientation of IT and HR to support processes • Recognition of process outputs as the best form of outcome evaluation

Source: developed on the basis of Biesok & Jakubiec, 2019; Raczyńska & Krukowski, 2019; Haseeb et al., 2019

Process maturity is the ability of an organization and its processes to systematically improve. It is a concept that began to emerge in the 1970s and applies to the areas of quality management and the topic of good business practices. Organizations can achieve process maturity when its processes are efficient, predictable and deliver high quality results. Process maturity is also the ability of an organization to systematically deliver business results (Dahlin, 2020). It is also very important customer perspective and customer satisfaction (Liczmańska-Kopcewicz & Zastempowski, 2020; Wiśniewska, 2018). Another definition of process maturity says that it is the degree of implementation of the guidelines that have been included in the process maturity model (Brajner-Marczak, 2017).

Process maturity assessment allows managers to describe and analyse the current state and helps to determine the level of implementation of the process approach. This assessment can have different functions depending on the level of development of the enterprise (Padovani & Carvalho Marly, 2016). These functions are descriptive, improvement and comparison. There are many benefits of process maturity measurement. It allows for continuous improvement of the enterprise and raising the state of process maturity. Thanks to it, good management practices can be applied in an organization (Osamah *et al.*, 2021) and appropriate methods and tools can be adjusted to the enterprise's needs. The business becomes flexible and constantly evolves by introducing changes to the processes (Kock *et al.*, 2020). Maturity also allows to identify the needs of external stakeholders.

In order to measure the degree of implementation of the process approach, many process maturity assessment models have been created (Mielcarek, 2020). An organisation which has achieved process maturity is characterised by the fact that the processes have been identified and the knowledge about them is effectively conveyed to the employees. Each employee knows what role they play and what they are responsible for in the company. Its feature is also the ability to improve a product or service. Processes are constantly monitored and subject to improvement. In order to assess the process maturity level it is necessary to adapt one of the existing models or develop own process maturity model. J. Auksztol and M. Chomuszko (2012) indicate that currently there are several process maturity models developed independently by various organizations. The mentioned authors have distinguished four groups of process maturity assessment models:

1. A galaxy of models based on the Capability Maturity Model (CMM).
2. The Business Process Maturity Model (BPMM).
3. Industry models, often inspired by CMM/CMMI or BPMM.
4. More general organization models that include some maturity elements e.g. Information Technology Infrastructure Library (ITIL), which includes a dedicated section related to process maturity: Process Maturity Framework (PMF) (Auksztol & Chomuszko, 2012).

The last group may also include models for assessing the quality maturity of an organization, which include an assessment of the implementation of a process approach.

One of the ways of measuring the process maturity is the so-called CMMI maturity model, which will be presented in the further, research part of the study. It was created in the United States as a set of good practices of a universal character. The maturity levels in CMM/CMMI are: (C.P.Team, 2010)

- level 1 - initial - at this stage the process is unpredictable and poorly controlled,
- level 2 - managed - processes are managed but not characterised,
- level 3 - defined - at this stage the processes are defined and they are characterised accordingly,
- level 4 - quantitatively managed - the process is measurable and controlled / managed,
- level 5 - optimizing - the organization is focused on continuous improvement.

In order to achieve the highest level of process maturity it is necessary to involve all stakeholders of each process in the organization. The activity of all employees is also important.

The whole organization must be focused on continuous improvement of company processes. Increasing the maturity level also changes the organizational culture (Raczyńska & Krukowski, 2019) and thus the way the organization is managed. Employees should be ready for changes in activities and for acquiring new skills. With this, optimization of process parameters can be carried out.

During the stage of integrated process management, attention is directed primarily to increasing the level of integration and flexibility of processes, carrying out activities to ensure the continuity of processes, shortening production cycles and improving their efficiency, robotization and automation of processes, combining process design and knowledge, as well as the need to integrate process management with other management concepts that are based on a process approach. In addition, integrated process management has begun to take into account social responsibility within the activities of companies (Bitkowska, 2019).

3. THE ROLE AND IMPORTANCE OF THE PROCESS OWNER IN A PROCESS ORGANIZATION

The new model of organization assumes that nowadays the driving force is people with knowledge. Personalized knowledge, often hidden, which when converted affects the value of the company and engages other resources. Experts believe that the new model of organization also means a reduction in employment of full-time employees, which is supplemented by highly qualified workers (Toth *et al.*, 2021). Knowledge becomes the main value in the idea of a knowledge worker, thus known knowledge management processes must be implemented effectively. Many problems (related to human nature, thus occurring in all organizations) are provided by the process of knowledge sharing, especially expert, highly qualified knowledge. Because in the information society, knowledge workers create, store, use and disseminate knowledge and information (Grabara *et al.*, 2019). P. Drucker (2006) stresses that "knowledge workers are not a workforce, but are capital", they create new knowledge, and thus directly fit into the concept of human capital. They are most often specialists, senior managers, technical, scientific personnel, engineers. Efficient process management requires proper implementation of process roles. Among them special attention should be paid to the role of the process leader who should (Prokopenko *et al.*, 2020):

- be a high-level manager,
- enjoy respect and trust and have clout,
- motivate, inspire, offer advice.
- act as a critic of the process, its advocate, supervisor and liaison.

The main tasks of a process leader are therefore:

- to have knowledge of the process, understand how it works,
- be able to design or redesign a process flow,
- coordinate the process - employees and activities, motivate so as to achieve the planned results,
- monitor and supervise the process, be able to assess the impact of the environment on the process and the process on the whole organisation,
- implement changes, coordinate process improvement.

The role of a process leader is not only to lead and manage a subordinate team, but above all to be the owner of the process. The process owner is responsible for achieving the defined goals, i.e. for planning, organising, motivating and controlling the results. Depending on the type of process, its maturity and the current priorities of the company, the process leader uses appropriate methods and management tools (Gomes *et al.*, 2020).

It is worth highlighting the factors that are fundamental to efficient process management. In this regard, Hammer (2007) draws attention to five essential elements calling them "Enablers of Process". These are:

- process model (design) - a fundamental aspect of the process, being a specification of tasks to be performed, by whom, when and under what circumstances. The design is the specification of the process;
- process indicators (measures) - processes require comprehensive data related to customer needs and organizational objectives. These indicators should monitor effectiveness. The set of indicators should be balanced so that improvements in one area do not mask deterioration in another;
- process performers (participants). People who work in processes need a different set of skills and behaviours from those who work in traditional functions and departments; they need an understanding of the process and its goals, the ability to work in teams, and the ability to manage themselves;
- process infrastructure, contractors must be supported by IT and HR systems;
- process owner - organisations taking the process approach seriously must have process owners; senior managers with authority and responsibility for the process across the organisation as a whole.

Trkman (2010) expands the above list by:

- adaptation of processes to the business environment (strategic coupling, performance measurement, staff specialization),
- continuous improvement to ensure sustainable benefits from process management,
- coordination of processes and information technology (standardisation of processes, computerisation and automation, increasing staff competence).

In conclusion, the concept of process approach and process management is a dynamic management concept. It shows a different view of the organisation, it shows the place and role of the customer and other stakeholders in the organisation, the interrelationship of activities, the dynamics of the organisation and the creation of value.

4. ASSESSMENT OF PROCESS MATURITY OF SMALL ENTERPRISES -METHODOLOGY

The procesowcy.pl portal presented a report from the fourth edition of the study (2020) of the process maturity of organizations (<https://procesowcy.pl/BadanieDojrzalosciProcesowej2020.pdf>). The study was conducted by analysts associated around the website. The survey covered 143 companies doing business in Poland. The largest share in the research group was held by companies from the Mazowieckie, Dolnośląskie and Małopolskie voivodships. The most frequently represented industries were: outsourcing centres, banking, public administration, manufacturing, insurance. For the purposes of the research the own methodology of determining the process maturity was adopted, referring to the CMMI model presented earlier in the article.

The level of maturity declared by the respondents determined that the processes are repeatable, defined, documented, unmeasured (42% of responses). In the case of 26% of respondents the processes are defined, measured, unmanaged. On the other hand, repeatable, undocumented processes were declared by 23% of the respondents. The in-depth analysis shows that senior and middle management perceive their organisations much more favourably than rank-and-file employees. At the highest level of process maturity, 5% of companies and institutions participating in the study are at the top. This is one percentage point better than the result obtained in 2016. The biggest change concerns the third level of maturity, where 23% of the surveyed organisations are

located. The increase of 5 p.p. on this level is a consequence of the transition of some companies and institutions from level 2 to level 3 of maturity, but also of the decrease recorded on level 4 - a decrease whose consequence cannot be only an increase of 1 p.p. concerning level 5. Traditionally, the phenomenon of a glass ceiling dividing level 4 and 5 of maturity is observed. The analysis of the criteria qualifying for the positioning of the organization on a given maturity level shows the great difficulty in the transition from the use of process measurements for controlling (especially employees) to the use of measurements for process improvement (<https://procesowcy.pl/BadanieDojrzalosciProcesowej2020.pdf>).

For 79% of organizations, it is a major challenge or difficulty to establish process ownership. The process owner is usually willing to play this role if the process is carried out by organisational units which he or she manages. The difficulty arises if the processes pass through organisational units which are functionally managed by other people - and processes running horizontally through the organisational structure are, after all, the essence of the process approach. The conducted in-depth interviews (<https://procesowcy.pl/BadanieDojrzalosciProcesowej2020.pdf>) show that often in such cases the ownership of the process is assigned at the level of a board member, who is responsible for the functional areas through which the process runs. Only the companies which are at level 5 of maturity have the process owner in 100%. This role is defined, known and respected. At the same time it is noted that the lower the process maturity level, the less often this role occurs (e.g. maturity level 2 - only 6%).

75% of the respondents claim that resistance to change is a big challenge when implementing a process approach to management. Resistance is something natural in undertakings of an organisational and management nature, which include the implementation of a process approach to management.

Taking into account the literature analysis and the above considerations, the following research hypotheses were set:

H1: There is a positive relationship between the formally established process owner and the achievement of the process goal.

H2: There is a positive relationship between formally established process owner and process management.

H3: There is a positive relationship between formally established and realized process goal and process management.

One of the important parts of the study is the use of appropriate methodology. Therefore, this cross-sectional study employs quantitative deductive research to numerically express the relationship between the research variables, following the pattern of previous studies. The so-called factual truth (quantitative aspect) is preferred to the useful truth (qualitative perspective) to achieve mathematical objectivity. A survey questionnaire, based on Likert scale, was developed to collect data.

In order to avoid bias, it is important to ensure equal and fair representation of respondents, therefore, using a similar approach, we mixed several different sampling strategies including referral, purposive, area and convenience sampling techniques to have fair and equal representation in all voivodships of Poland. Targeted sampling was mainly used, while area-based sampling was preferred over stratified sampling. Combining and performing different sampling strategies are useful and effective in achieving an adequate response from a large population. This is how we made sure that we have equal and fair representation. According to Haque and Oino (2019) this is an effective technique in social science research.

This study was conducted among a group of small and medium sized companies that operate in Poland. The research sample is a group of 474 respondents, and a detailed breakdown of respondents is presented in Table 2. This study was conducted in the form of a standardized survey questionnaire. Part of the research material (28%) responses were obtained from electronic surveys.

Ethical considerations were maintained by disclosing the purpose of the study to the participants, providing the opportunity to leave the study at any time, no monetary reward for participation in the study, using the shared experiences and opinions for research purposes only, and maintaining the anonymity of the participants at all stages of the study.

Table 2. Sample characteristics - Distribution of respondents according to the represented industry.

Type of enterprise	Number of small enterprises	Number of medium-sized enterprises
Production	54	78
Financial and accounting	67	14
Commercial	84	19
Tourist	12	11
TSL (Transport, Forwarding, Logistics)	24	65
Other	31	15
Total	272	202

Note = 474, Source: elaborated by the authors.

5. RESULTS, FINDINGS AND DISCUSSIONS

As a starting model in this study, the previously presented CMMI model (Capability Maturity Model Integration) was used, detailing it in order to more precisely explain the specifics to the respondents, so as to minimize situations in which the respondent does not understand the issues. This model was also adopted in order to be able to compare the results with research conducted by procesowcy.pl. In the model used the following levels of maturity were distinguished:

- Level 1 - Incidental, unidentified processes - indicating lack of process awareness
- Level 2 - Repetitive processes, partly organised - which indicates process awareness but lack of proper formalisation and documentation
- Level 3 - Processes described, identified but not measured.
- Level 4 Processes identified, described, measured but not managed.
- Level 5 Processes are identified, described, measured and managed

Taking into consideration the experience of other researchers (Dziekoński & Jurczuk; Adrodegari and Saccani, 2020; Greal *et al.*, 2013) in the field of process maturity, it was decided that attention should be focused on aspects that determine the process maturity of an organization. It was assumed that most companies achieve the 1st and 2nd, and less frequently the 3rd degree of process maturity. The conducted research has confirmed this state. The analysis of the data shows that 78% of the surveyed companies try to identify the processes, which is reflected in the fact that the employees know the processes and the process awareness is visible. However, these processes

are not measured, mapped or optimized. 10% of the respondents determined that they have no awareness of the processes occurring in the organization, understanding the processes as activities, tasks. Only 3% of the companies can constitute level 3 of process maturity, because they have processes identified, most often presented in graphic form, but they are not measured. The lack of ability to parameterize processes causes a kind of stagnation in the work on implementing process management, because process owners are not able to continue to improve processes on their own, as they are not able to introduce the most important element - optimization. On the one hand, process optimization can translate into increased efficiency, and on the other hand, it increases the morale and motivation of employees to develop further process work. Reaching maturity levels 4 and 5 in the whole organization is time-consuming, and at the beginning laborious, and requires strong involvement of not only process executors but also process owners and decision-making staff in the organization. Thus an important postulate is the necessity of implementing process management solutions as a gradual project, requiring time, developing a schedule and engaging appropriate tools to facilitate the work. The survey did not ask about the declared membership in a given maturity level, but it was determined on the basis of answers to additional questions. Thus, it was noted that the lack of measurement of processes, lack of description and mapping seems to be a problematic issue. It does not seem reasonable to quantitatively analyse these data in this study.

In order to verify the existence of relationships between the variables specified in the research hypotheses and to answer the question of how much influence the process owner has on the realization of the process objective, and thus confirm the validity of the hypothesis H1 adopted in the research procedure, a statistical analysis of the relationships between the mentioned variables was conducted. Spearman's rank correlation coefficient was used. The correlation coefficient between the factors is .766**, which indicates a fairly strong relationship. The obtained values of Spearman's rank correlation coefficient testify to a positive and statistically significant relationship, so the establishment of the process owner influences the fact that the purpose of the process is known and realized.

The studied determinant affecting the possibility of moving to a higher maturity level is the process owner. An interesting aspect is the question of determining process owners. Most of the respondents (72%) believe that the person performing the process is its owner. This is because they do not separate the role of the performer and the role of the process owner. Only 17% of the respondents (usually owners or directors of companies) correctly identified the owner of the process. Asking what the process owner is responsible for in the organization, we received the following answers:

- is responsible for achieving the goal of the processes it owns - 76% of responses
- is responsible for measuring the processes it owns - 64%
- approves documentation of processes in its area - 55%
- coordination of process measurements and reporting of results - 41%

It should be noted that this question was asked in organisations where such a role is designated and formalised.

Another determinant is the purpose of the process - its open definition and formalization. The majority of the surveyed people (67%) did not know the purpose of the process and did not know whether it was defined at all. Thus, some of the processes seem to be unjustified. Therefore, companies should focus on preparation activities in the field of process management, so that they are carried out more carefully, so that the team is trained, knows the purpose and legitimacy of the implementation of process solutions. It is not possible to carry out an effective project in the field of process maturity improvement without the involvement of top management and without the belief of executive staff in success.

The two presented determinants are an element of the assumed hypotheses, so in order to answer the target question and confirm the validity of hypotheses H2 and H3 adopted in the research procedure, a statistical analysis of the relationships occurring between the variables: the

purpose of the process, the process owner and organizational management was carried out. It should be noted that the scope of organizational management is undoubtedly wider, but for the purposes of this study to present quantitative data, it was narrowed down, analysing two aspects: the relationship of the process with the strategic objectives of the organization and the functioning of the mechanisms for launching and monitoring activities to improve management. However, later in the article, the authors also tried to show other areas of management taken into account in the study. Spearman's rank correlation coefficient was used, the obtained values are presented in Table 3.

Table 3. Correlation between organizational management and process objectives and process owner role.

			Linking the process to the strategic goals of the organization	The functioning of the mechanisms for triggering and monitoring actions to improve governance
Spearman's rho	Purpose of the process	Correlation coefficient	.679**	.633**
		Significance (two-sided)	.000	.000
		N	474	474
Spearman's rho	Process owner	Correlation coefficient	.829**	.755**
		Significance (two-sided)	.000	.000
		N	474	474

Note: ** Correlation significant at 0.01 (two-sided). Source: elaborated by the authors.

The obtained values of Spearman's rank correlation coefficient testify to positive and statistically significant relationships. The positive nature of the correlation means that the explicit determination of the process objective has an impact on more effective implementation of the strategic objectives of the organization and on better functioning of the mechanisms for starting and monitoring activities to improve management. The correlation coefficient between the process objectives and the strategic objectives is .679** and with regard to the functioning of the mechanisms for launching and monitoring activities to improve management is .633** which indicates a fairly strong relationship. A similar situation occurs in the case of the correlation between the establishment of the process owner, such that is known and recognizable in the organization and the elements of management, such as: the strategic objectives of the organization and the functioning of the mechanisms for starting and monitoring activities. In these cases, the correlation coefficient is .829** and .755** respectively which also indicates a fairly strong correlation between the characteristics.

As mentioned earlier, the study also analysed other aspects related to broad management functions. For these factors, no such significant relationships were shown. Thus, the most important observations will be briefly presented. The study identified the reason for abandoning or not developing process management. The main reason appeared to be the failure of previous

attempts (21% of responses), as well as the lack of clear financial effects from the activities performed (74% of responses). However, the statement about the lack of financial effects seems to be an oversimplification made by the respondents. If the companies do not have parameterised processes, they cannot optimise them. Therefore, there is no possibility to determine the financial or time benefits. Most actions are only intuitive and do not result from the conducted analyses. Therefore, the recommendation should be that the decision-makers motivate and encourage the team to work in the field of process management, so that the visible results cause an increase in motivation to work.

The study also analysed the human factor aspect and its impact on process management. It was asked whether in the aspect of process management the employees have their roles defined and whether they know them. It was not about organizational roles, but about responsibilities, tasks, authority in processes in which they are both doers, owners and "additional" people. The research shows that such roles are not defined (64% of the answers), the employees mostly do not deal with the broadly understood processes (i.e. modification, updating, etc.), and they only perform the entrusted specific tasks. Thus, there is no conviction among them that what they do is an element of the entire process, they do not perceive the organization as a process structure, but still as a functional one, with job roles.

6. CONCLUSION

Comprehensive process management, taking into account the specificity of the functioning of modern markets, should take place in every modern organisation which wants to achieve market success. It includes such elements as identification and visualisation of processes, development of a set of measures which are used to assess the effectiveness and efficiency of processes, as well as designation of the process owner who is responsible for its effective implementation.

The process maturity score obtained in the own study is typical of other studies, where it was also determined as the second level of process maturity (Bitkowska, 2013) or the third level (Gębczyńska & Bujak, 2017; Bosilij-Vukšić *et al.*, 2017). This is also confirmed by the research published by Mielcarek (2020) and analysed in more detail (in the article) as part of the fourth edition of the research on the process maturity of organizations operating in Poland (procesowcy.pl). It is also worth noting the research that confirmed the relationship between the improvement of process maturity and the effectiveness and efficiency of processes, cost reduction, improvement of product quality and cooperation with suppliers and customers (Gębczyńska & Jagodziński, 2016), which largely corresponds to the exploitation activity.

Taking process management into account it can be said that the effectiveness of the system of processes affects the effectiveness and efficiency of the company. Process management is a dynamic method of management, which on the one hand interferes in the way tasks are performed, in the way the company is organised, aiming at flattening structures, causes a change in organisational culture, but also forces a different approach of employees to the tasks performed. On the other hand it adapts the organization to high variability of the environment, high demands of customers. The benefits which process management brings are mainly the transparency of processes, ordering of management areas, regulation of the principles of functions and tasks performed, clearly defined competencies and responsibilities, improvement of communication, and in the long run the change of attitude towards the client, improvement of reputation and increase of the clients' trust in the company.

The conducted research confirms that companies have a low level of process maturity despite relatively high awareness of the decision-makers in this field. To sum up, it is possible to indicate the critical factors which cause the low implementation of process management in the surveyed companies, and these are:

- Lack of knowledge of process owner and lack of formal establishment of process owner;

- Deficiencies in formally defining and communicating the purpose of the process;
- Lack of knowledge regarding the rationale for process management;
- Lack of IT solutions in the company that support analysis and optimization activities;
- Lack of knowledge of staff roles;
- Lack of measurable effects of actions taken so far.

By analysing secondary data and primary research, the aim of the article was realized. In the course of analysis, hypotheses were also confirmed: H1, H2 and H3. Attention was paid to two determinants: realization of process objectives and formalization of the process owner function. The results of the research allow us to note a fairly strong relationship between the objectives of the processes, the determination of the role of the process owner and the effectiveness of the organization's management, which undoubtedly affects the level of process maturity and thus process management.

The authors realize that there are some limitations in the presented study that can be overcome in the future. Therefore, it is recommended that the sample size be improved in future studies and that errors due to the use of mixed sampling technique be eliminated. Despite the attempts to adapt the survey questionnaire to the respondents, we perceive that it would be effective to conduct qualitative research to deepen the knowledge obtained from the quantitative research. Qualitative research will allow us to verify research methods and improve tools. Conclusions from the research may be used by enterprises in Poland to further improve and raise the level of process maturity.

REFERENCES

- Adrodegari, F. & Saccani, N. 2020. A maturity model for the servitization of product-centric companies. *Journal of Manufacturing Technology Management*, 31(4): 775-797.
- Afonasova M.A., Panfilova E.E., Galichkina M.A., Ślusarczyk B. 2019. Digitalization in economy and innovation: The effect on social and economic processes. *Polish Journal of Management Studies*, 19(2): 22-32.
- Auksztol, J. & Chomuszko, M. 2012. *Modelowanie organizacji procesowej (Modeling of the process organization)*, Wydawnictwo Naukowe PWN, Warszawa.
- Biesok, G. & Jakubiec, M. 2019. *Współczesne koncepcje zarządzania (Contemporary management concepts)*. Wydawnictwo Naukowe Akademii Techniczno-Humanistycznej w Bielsku-Białej, Bielsko-Biala.
- Bitkowska, A. 2013. *Zarządzanie procesowe we współczesnych organizacjach (Process management in modern organizations)*, Difin, Warszawa.
- Bitkowska, A. 2019. *Od klasycznego do zintegrowanego zarządzania procesowego w organizacjach, (From classic to integrated process management in organizations)*. C. H. Beck, Warszawa.
- Bosilij-Vukšić, V., Indihar-Štemberger, M. & Vugec, D.S. 2017. Insight into BPM Maturity in Croatian and Slovenian Companies. IEE Information and Communication Technology. *Electronics and Microelectronics*, MIPRO, Opatija, Croatia.
- Brajer-Marczak, R. 2017. Czynniki zwiększania dojrzałości procesowej organizacji (Factors increasing the process maturity of an organization), *Ekonomika i Organizacja Przedsiębiorstwa*, 9: 3-12
- C. P. Team. 2010. *Capability Maturity Model® Integration for Development Version 1.3*. Software Engineering Institute.
- Dahlin, G. 2020. What can we learn from process maturity models? – A literature review of models addressing process maturity. *International Journal of Process Management and Benchmarking*. 10(4).
- Drucker, P.F. 2002. *Knowledge Work, Executive Excellence*, 19(10).
- Dziekoński, K. & Jurczuk, A. Ocena dojrzałości procesowej członków inicjatyw klastrowych – Diagnoza wstępna (Assessment of the process maturity of members of cluster initiatives - Initial diagnosis), <http://amp2.pl/pl/news/view/list> [Date accessed: 13 August 2021].
- Gębczyńska, A. & Jagodziński, J. 2016. Analiza Korzyści Wynikających z Wdrożenia Zarządzania Procesami w Aspekcie Poziomu Dojrzałości (Analysis of Benefits Resulting from the Implementation of Process Management in the Maturity Level Aspect), *Zeszyty Naukowe. Organizacja i Zarządzanie*, 89: 135-145
- Gębczyńska, A. & Bujak, A. 2017. Assessment of the Degree of Process Approach Implementation in Polish Business. *The TQM Journal*, 29(1): 118-132.
- Gomes, J. G. C., Okano, M. T. & Otolá, I. 2020. Creation of indicators for classification of business models and business strategies in production systems. *Polish Journal of Management Studies*, 22(2): 142–157.
- Grabara, J., Cehlar, M. & Dabylova M. 2019. Human factor as an important element of success in the implementation of new management solutions. *Polish Journal of Management Studies*. 20(2): 225–235.

- Grela, G., Hofman, M. & Piasecka, A. 2013. Podejście procesowe w organizacjach zorientowanych pro-jakościowo (Process approach in pro-quality oriented organizations), in *Orientacja na wyniki – modele, metody i dobre praktyki (Orientation on results - models, methods and good practices)*, Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław.
- Hammer, M. 2007. *The process audit*. Harvard Business Review (85)
- Harmon, P. 2016. *The state of Business Process Management*. Business Process Trends.
- Haseeb, M., Hussain, H.I., Kot, S., Androniceanu, A. & Jermisittiparsert, K. 2019. Role of Social and Technological Challenges in Achieving a Sustainable Competitive Advantage and Sustainable Business Performance. *Sustainability*, 11: 3811.
- Haque, A. Ul. & Oino, I. 2019. Managerial challenges for software houses related to work, worker and workplace: stress reduction and sustenance of human capital. *Polish Journal of Management Studies*. 19(1): 170-189. <https://procesowcy.pl/BadanieDojrzalosciProcesowej2020.pdf> [Date accessed: 5 September 2021].
- Klimecka-Tatar, D. 2021. Analysis and improvement of business processes management – based on value stream mapping (VSM) in manufacturing companies. *Polish Journal of Management Studies*, 23(2): 213-231.
- Kock, A., Schulz, B., Kopmann, J. & Gemünden, HG. 2020. Project portfolio management information systems' positive influence on performance – the importance of process maturity, *International Journal of Project Management*, 38(4): 229-241.
- Liczmańska-Kopcewicz, K. & Zastempowski, M. 2020. Significance of Proactive Customer Orientation in Creating Product Innovations in Cooperation with the Consumer. In: Zakrzewska-Bielawska A., Staniec I. (Ed.), *Contemporary Challenges in Cooperation and Competition in the Age of Industry 4.0.*, Springer Proceedings in Business and Economics. Springer, Cham.
- Mielcarek, P. 2020. Three-Dimensional Perspective of Organization's Process Maturity Towards Company's Exploration and Exploitation: A Research Study. *European Research Studies Journal*. Volume XXIII, Special 2: 517-529
- Osamah, M.M. Al-Matari, Iman, M.A. H., Sherif A. M. & Sherif E. 2021. Adopting security maturity model to the organizations' capability model. *Egyptian Informatics Journal*, 22(2): 193-199,
- Padovani, M. & Carvalho, M. M. 2016. Integrated PPM Process: Scale Development and Validation. *International Journal of Project Management*, 34(4): 627-642.
- Prokopenko, O., Shmorgun, L., Kushniruk, V., Prokopenko, M., Slatvinska, M. & Huliaieva, L. 2020. Business Process Efficiency in a Digital Economy. *International Journal of Management (IJM)*, 11(3): 122 – 132
- Raczyńska, M. & Krukowski, K. 2019. Organisational Culture as a Determinant of Business Process Management in the Community Offices in Poland. *Administrative Sciences*, 9(4): 96
- Toth, I., Heinänen, S. & Olkkonen, L. 2021. In Search of an Ideal Modern Knowledge Worker. *Academy of Management*, 2021(1).
- Trkman, P. 2010. The critical success factors of business process management. *International Journal of Information Management*, 30(2): 125-134.
- Wiśniewska, A. 2018. The mission & vision statements in the consumers' strategies. *Acta Universitatis Nicolai Copernici. Nauki Humanistyczno-Społeczne. Zarządzanie*, 45(3): 111.