UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

MASTER'S THESIS

ACHIEVING HIGHER BPM MATURITY LEVEL THROUGH INTRODUCTION OF BUSINESS PROCESS OFFICE AND BUSINESS INTELLIGENCE IN THE COMPANY

Ljubljana, March 2019 NATALIA TKACHEVA

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LIST OF ABBREVIATIONS

ABPMP - Association of Business Process Management Professionals
API - Application Programming Interface
APQC - American Productivity & Quality Center
BPM - Business Processes Management
BPM CBOK - Business Processes Management Common Body of Knowledge
BPMCOE - Business Process Management Center of Excellence
BPM MM - Business Process Management Maturity Model
BPMO - Business Process Management Office
BPO - Business Process Office
CEO - Chief Executive Officer
CMM - Capability Maturity Model

CMMI - Capability Maturity Model Integration
CRM - Customer Relationship Management
EABPM - European Association of Business Processes Management
ERP - Enterprise Resource Planning
FIM - Finance Investment Management
HRMS - Human Resources Management System
KPIs - Key Performance Indicators
PEMM - Process and Enterprise Maturity Model
PML - Process Maturity Ladder
PMO - Project Management Office
Pp - Process Performance
PPK - Process Performance Index

INTRODUCTION

In today's conditions of economic situation and high competition on the market business process management is one of the key success factors for any organization. Building and optimizing business processes affects the operational and strategic performance of a company and, ultimately, its profitability and ratings. Management today requires constant monitoring and updating of business processes and the process approach in management is one of the main basic approaches, along with a system, situational and functional approaches. But the process approach is one of the most progressive methods of organizing management in a company.

Usually the mission of business processes mapping, redesign, optimization, management and maintenance takes business process office – a separate department in the company responsible for «aligning» different areas: strategy, technology, information systems, business intelligence, and logistics. The role of the business processes office (hereinafter: BPO) has to be exactly this: allow synergy, assertiveness, cohesion, integration and alignment of corporate initiatives (Klein, 2012). As long as the company as an integrated whole, it gains benefits in terms of performance, alignment, profitability, quality and productivity.

Also business intelligence is becoming part of business processes, it is being integrated with workflow, business automation and proactive systems, many organizations are now focusing on growing their business maturity level as it has become evident that the business performance influence on the company's profitability and also on non-financial indicators (Mcknight, 2004). Business intelligence solutions typically offer the ability to analyze quantitative data and produce information that monitors business performance.

Despite the benefits of process management, companies are still struggling to evolve and expand Business Processes Management (hereinafter: BPM) practices across the organization (Bruin, 2009). Among the reasons given for these difficulties are the lack of positive organizational culture, lack of support among senior management, the absence of clear roles and responsibilities in implementing the methodology, and insufficient budget and available resources. Thus, there is a need to evaluate its elements using a process management maturity model developed for this purpose. These models must be structured to enable a holistic understanding of business process management, which is an organizational skill rather than isolated initiatives to improve processes (Rosemann & vom Brocke, 2010).

The thesis is written with an intention to describe the main effects of introduction of Business Process Office and Business Intelligence on the Company's BPM Maturity Level and organizational performance. The basic hypothesis is that BPM maturity level of the company can be improved through introduction of business process office and business

intelligence in the company. Later in the work, this hypotheses will be tested by means of literature review and analysis.

The primary purpose of master thesis is to promote the case company to a higher maturity level by implementing business process office and business intelligence concept. Master thesis goals are:

- to define the current business process maturity level of the company,
- to analyze business processes and suggest measures for optimization,
- to create integrated business intelligence system,
- to create and document business process management methodologies and techniques,
- to introduce knowledge management in the company,
- to create business process office.

For the purpose in our study, we propose the following research question (hereinafter: RQ):

RQ1: Can the current business process maturity level of the company be higher through introduction of business process office

RQ2: Can the current business process maturity level of the company be higher through introduction of business intelligence

In conducting the study, methods of deductive, inductive and abductive reasoning were used. the current business process maturity level of the company be higher through introduction of business intelligence.

The thesis will be separated into two main parts; the theoretical one and the analysis of the case company business maturity level prior and after business intelligence concept and business process office implementation. The first part of the thesis will be based on a literature review about the selected topic where different resources, books, scientific articles and journals from different authors will be used. In the second part of the thesis an analysis of the business maturity level of the case company will be made. At first, the current maturity level with the help of the process and enterprise maturity model will be identified. Then, an overview of the structural changes in the company will be provided, the principles of the business-oriented company will be established, the business process automation and re-design and further steps to organize the business process office will be suggested. After BPO implementation, the business maturity level of the case company will be analyzed again with the same model in order to confirm or argue the idea that business process oriented company with a high level of business intelligence achieve better financial and non-financial metrics.

1 BUSINESS INTELLIGENCE AND BUSINESS PROCESS MANAGEMENT

One of the most important issues in business is high business intelligence and effective business process management. The importance of studying, understanding, and using the best practices of business intelligence and process management is based on main tasks of business: generation and increase of revenue; growth of company; marketing competition. All these are impossible without well-organized management, especially business process management. This chapter aims to provide previous literature findings regarding business intelligence and business process management, their main features and benefits.

1.1 Business Process

1.1.1 Business Process Definition

There are different definitions of a business process. Hammer and Champy (1993) state that a business process is a combination of various activities in which one or more types of resources are used «at the entrance», and as a result of this activity «at the output» a product is created that is valuable to the consumer. In the ISO 9000:2000 «Quality management systems -- Fundamentals and vocabulary» a business process is a set of interrelated or interacting activities that transform inputs into outputs.

A business process is:

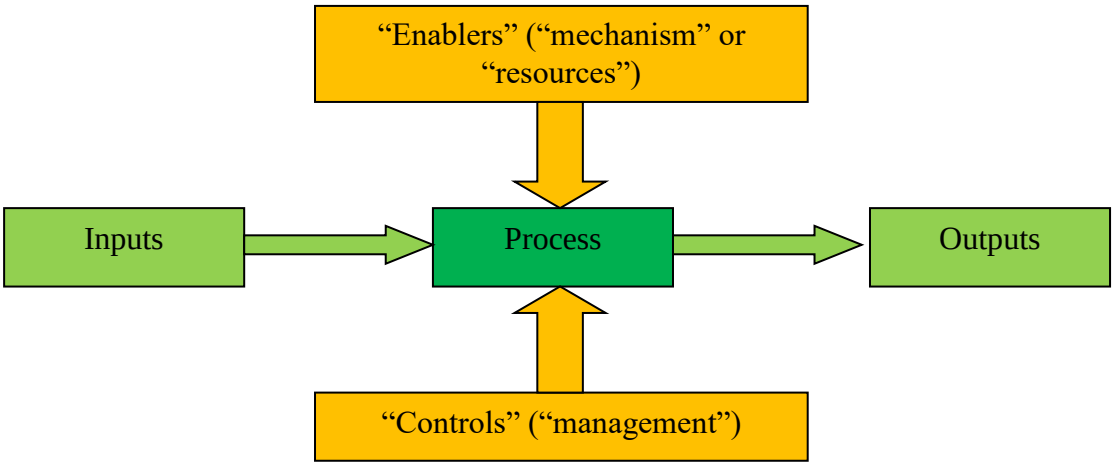
- the process of sequence of operations in the enterprise, which are aimed at converting some input information and material flows in order to obtain results of value to the client (Franklin, 2011);
- the process of creating value products that meet the needs of the client (Dutta & Manzoni, 1999);
- a set of interrelated functions that have one or more inputs and outputs and are completed with the creation of a product that is required by the client (Smith & Fingar, 2003);
- an ordered process of converting a set of inputs into a set of outputs that implements the business function of the enterprise (Bititci & Muir, 1997);
- a set of sequential actions that lead to the solution of a particular entrepreneurial task (Bucher & Winter, 2010).

The Figure 1 shows a graphical depiction of the process, allowing to link together its existing definitions, where:

- «Output» describes what is created as a result of the activity, its specific goal (value for the client, value for the interested persons) - in the particular case, these are goods and services;

– «Input» describes what is converted or consumed in the course of an activity (for example, raw materials and supplies, an application for work, a client's request, etc.);
– «Controls» («management») - describes the purposeful nature of the activity and includes all permissible control actions (instructions, metrics, orders, tasks for the performance, procedures, governance, etc.);
– «Enablers» («mechanism» or «resources») - describes the resources used to achieve the goal (for example, equipment, human resources, knowledge). Their difference from the "Entry" is that they are used repeatedly in the production cycle;
– «Process» («functional block» - the actual activity of the company or its part, to transform «Entry» into «Exit», pursuing a given goal, set in the «Control» and using the available " Enablers ".

Figure 1: A graphical depiction of the process



Source: Singer (2015).

So the next definition can be provided: a business process is several related activities of or procedures inputs and outputs that collectively implement the specific goal of the current activity within the existing organizational structure.

There is a number of classifications of business processes. The most common are two: more detailed reflects the nuances of the processes, and more brief is usually used by consultants in the complex description of the business processes of enterprises. More common classification of business processes is as follows (Gardner, 2004):

- core (basic) business processes;
- supporting business processes;
- managerial business processes.

Detailed classification of business processes is as follows (Singer, 2015):

- basic (main)business processes;
- related business processes;
- auxiliary business processes;
- supporting business processes;
- business management processes;
- business development processes.

Main business processes are processes that are focused on the production of goods or the provision of services, which are the target objects for an enterprise and ensure income. Business management processes are processes covering the whole range of management functions at the level of each business processes and the business system as a whole. These are the processes of strategic, operational and current planning, the formation and implementation of management actions. Business development processes are the processes of improving the manufactured product or service, technology, equipment modification.

It should be emphasized that these processes can be classified not only in this way. In real practice, there are, for example, separate processes of interaction with customers. The fact is that in the activities of a company one can count at least several dozen of business processes (process of personnel management, accounting process, etc.). To somehow structure them, certain classifications are introduced (Gersch, Hewing & Schöler, 2011). At the same time, it is important not to make a classic mistake: not to single out business processes on the basis of the activity of a particular division. In the overwhelming majority of cases, business processes are cross-cutting for the organization, i.e. they affect several subsections.

1.1.2 Business Process Characteristics

Also there are other definitions that are connected to the business process. The business process owner is a person who has personnel, infrastructure, software and hardware, information about the business process, manages the business process and is responsible for the results and effectiveness of the business process (Hernaus, 2008). A business process input is a resource required to complete a business process. An output of a business process is the result (product, service) of the business process. Document management - a system of documentary support of the organization.

The process approach is an application for managing the activities and resources of the organization of a system of interrelated processes. Business process indicators are quantitative and / or qualitative parameters that characterize a business process and its result. Business process performance indicators are business process parameters that characterize the relationship between the achieved result and the used resources. A supplier

is a subject that provides resources. Consumer (client) - a subject who receives the result of a business process. Main business process characteristics are the following (Smith & Fingar, 2003):

- the process has internal and external users;
- the process is cross-departmental;
- the processes are based on how the work is done in the organization;
- every process should be documented and fully understood by everyone participating in the process;
- the process should be modeled to promote complete understanding (Hernaus, 2008).

Evaluation of the business process must be carried out from the point of view of a client. Companies usually consider their business processes in the context of four separate categories (Rosemann & vom Brocke, 2010):

- product and service development;
- demand generation;
- satisfaction of demand;
- enterprise planning and management.

However, processes reflect what kind of work is done, where and when it is done, how it is done. Therefore, it is necessary to consider those aspects and characteristics, the measurement of which will be sufficiently important for the evaluation of a specific process. These measurements can be divided into the following categories (de Bruin, 2009):

- quality;
- quantity (size);
- time;
- ease of use;
- costs.

These five categories will help find the criteria for measuring the most important process points for achieving success. While measuring performance, it is necessary to separately consider the components of the process itself. The process can be divided into input parameters, actions, output parameters, results. So, when it comes to the results of a process, it is needed to define the following criteria for the effectiveness of the process (de Bruin, 2009):

- whether the process leads to the desired result;
- how well the outcome of the process meets the needs of the recipient.

The result of the process can be measured in units of quality, quantity, time, cost.

1.2 Business Process Management

1.2.1 Definitions

Analyst Terry Schurter defines Business Process Management as a natural and holistic management approach to operating business that produces a highly efficient, agile, innovative, and adaptive organization that far exceeds that achievable through traditional management approaches (Schurter, 2007). BPM is about developing management disciplines and deploying technology to be able to handle exceptions in standard procedures so that exceptions becomes standard procedure (Miers, 2006). The definition according to the European Association of BPM (hereinafter: EABPM) is as follows: BPM is a systematic approach for reflecting, designing, executing, documenting, measuring, monitoring and controlling both automated and non-automated processes to achieve the goals and business strategies of a company. Overall BPM is management of actions both automated and non-automated in a team through business processes.

The authors identify the following elements in BPM models (Rosemann & vom Brocke, 2010; Sikdar & Payyazhi, 2014; Singer, 2015):

- Strategic alignment: interconnection between strategic planning and organizational processes, enabling effective and efficient action to improve company performance. Processes must therefore be designed, executed, managed and measured in accordance with strategic priorities.
- Governance: the definition of roles and responsibilities at different levels of BPM (portfolio, program, project and operation).
- Methods: set of tools and techniques that support process management, facilitating the modeling, analysis and improvement of processes.
- Information technology: the use of information technology supports the modeling, execution and control of processes.
- People: considered by authors as the key element of BPM, since it is individuals or groups that enhance and continuously apply their knowledge and skills to execute and improve processes.
- Culture: BPM culture incorporates the values and beliefs that will turn companies toward process management. As such, it is important to create an environment that favors BPM initiatives.

It is needed to manage any business processes (de Bruin, 2009):

- description of the business processes themselves;
- introduction of the described business process in the work of the team;
- assigning people responsibility for business processes, so-called business process owners.

It is important to understand that a business process can be performed both by a person and be partially automated. Similarly, a business process owners can be both a person and a program (automatic execution of operations and automated control). At the same time it is necessary to manage an extremely heterogeneous environment. Different business processes require different approaches and actions of employees, various automation tools. And all this needs to be able to be described separately, and then merged into a common system.

1.2.2 Types of BPM

BPM systems can be categorized based on the purpose that they serve. Here are the three types of business process management (de Bruin, 2009; Dutta & Manzoni, 1999):

- Integration-Centric BPM: This type of business process management system handles processes that primarily jump between your existing systems (e.g. Human Resources Management System (hereinafter: HRMS), Customer Relationship Management (hereinafter: CRM), Enterprise Resource Planning (hereinafter: ERP)) without much human involvement. Integration-centric business process management systems have extensive connectors and application programming interface (hereinafter: API) access to be able to create processes that move fast.
- Human-Centric BPM: Human-centric BPM is for those processes that are primarily executed by humans. These often have a lot of approvals and tasks performed by individuals. These platforms excel at a friendly user interface, easy notifications, and quick tracking.
- Document-Centric BPM: These business process management solutions are required when a document (e.g. a contract or agreement) is at the heart of the process. They enable routing, formatting, verifying, and getting the document signed as the tasks pass along the workflow.

Most business process management systems will be able to incorporate elements of each of these, but each one will usually have one specialty.

1.2.3 BPM life-cycle

The following activities make up the BPM life-cycle (Gersch, Hewing & Schöler, 2011):

- Goal specification, environmental and organizational analysis
- Process design
- Process implementation
- Process enactment
- Process monitoring
- Process evaluation.

BPM life-cycle schematic is in Figure 2. More detailed information is in Table 1.

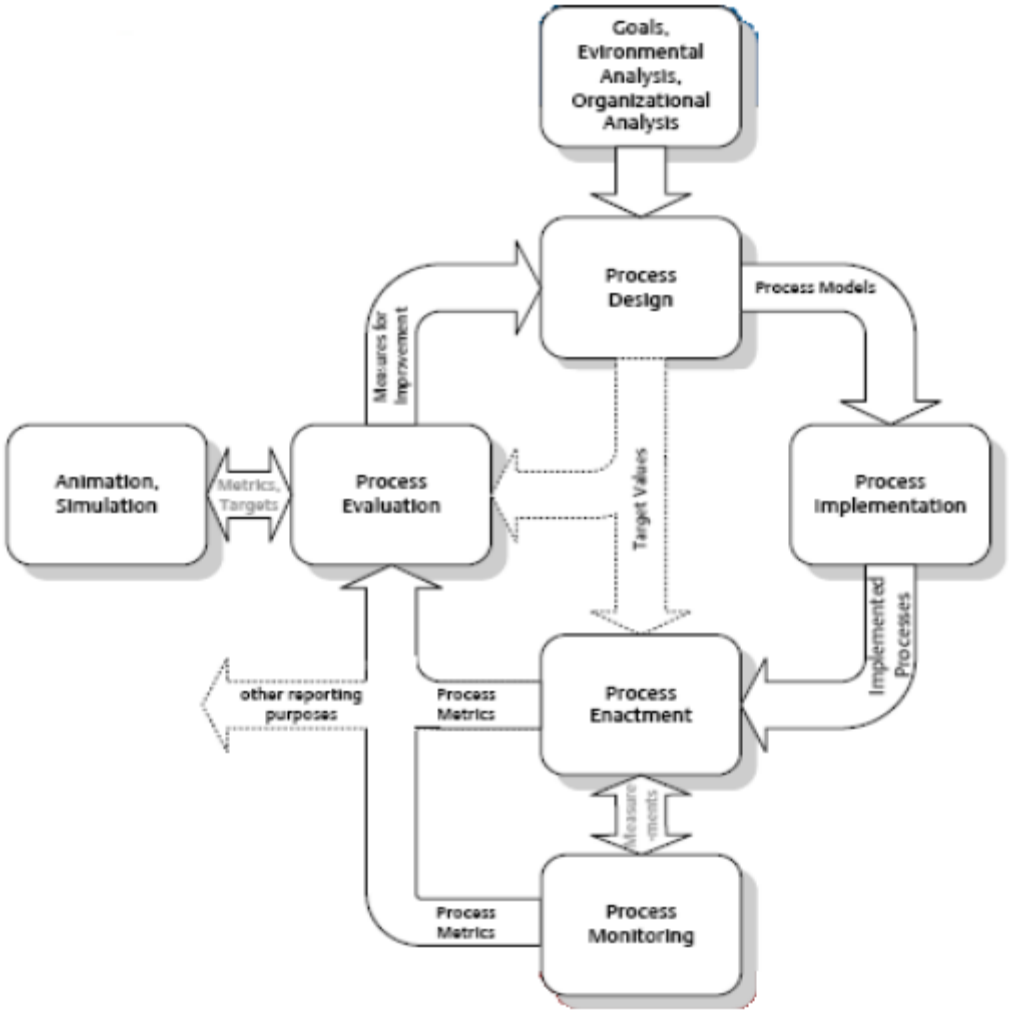
Table 1: BPM life-cycle

Stage of life-cycle	**Characteristics**
Goal specification, environmental and organizational analysis	Specifies goals that a business process is to achieve Gather information about available resources and constrains within the organization Gather information about external environment which is outside the organization
Process design	Identifies the processes to be: – analyzes – design – re-design – automate Identifies the important factors and constrains relates to the process Specification of process
Process implementation	Process is transferred into the operational environment - manual – procedure handbook - automated - workflow
Process enactment	Process is executed – process activities are executed based on the control flow – information is logged during the process execution (activity start time, activity end time, exceptions, etc.)
Process monitoring	Process is monitored in real time – a number of process metrics are defined – could be determined by performance pledges
Process evaluation	Process is evaluated to check if it meets its goal Evaluation is made based on: – target values specified in process design – process metrics from enactment – process metrics from monitoring

Source: Hammer (2007), Hammer & Champy (1993), McCormack and others (2009).

At the end of each cycle, business metrics that are generated by reporting are used as feedback for the process definition stage. The business process will be improved on the basis of the obtained indicators. The updated process will be finalized and reinstalled as a new version. A new cycle of improvements and optimization will begin. So, BPM goes through a recurring cycle of definition, development, installation, use, measurement, and optimization.

Figure 2: BPM life-cycle schematic



Source: UNPAN (n.d.).

1.2.4 BPM Success Factors

BPM concept allows to accelerate the company's work by regulating and automating processes, improving the quality of work and the degree of customer satisfaction due to the transparency of processes for all participants, the use of monitoring tools and quality control throughout the process. Sets of process indicators can be monitored in real time, which simplifies company management. This allows to optimize processes based on quantitative data and immediately analyze the changes that have occurred. An important advantage is the increased flexibility of the company in adapting to changing conditions.

As success factors in BPM implementation Hammer (2007) states the following organizational capabilities:

- Leadership: the disruption caused by the transition to process management causes significant changes in organizational culture.
- Culture: processes require people within the organization to focus on customers, work as a team, and be accountable for results and willing to accept change. If this is not the organizational culture, there may be many obstacles to implementing process management.
- Governance: the shift to process management and its long-term institutionalization require a set of governance mechanisms that ensure the allocation of responsibilities and integration of processes.
- Expertise: implementing BPM and managing processes can be a complex and high-risk initiative, which calls for the involvement of people with knowledge in design and the implementation of processes, measures, change management and process improvements.

1.2.5 Business Process Office

For the successful implementation of projects and programs to improve business processes, organizations create a special governing body that is provided by leadership and fixing decision-making rights. In fact, an additional management subsystem is being created in the company that takes care of the implementation of process management in order to improve customer-centricity and operational efficiency. This structure, designed to synchronize the activities of different divisions of business process management, is the process office, or Business Process Management Office (hereinafter: BPMO), which not only synchronizes all activities, but also gives them a unified methodology, tools and standards (Bucher & Winter, 2010).

BPM Common Body of Knowledge (hereinafter: BPM CBOK), developed by the Association of Business Process Management Professionals (hereinafter: ABPMP), establishes the need to organize specialized structures to coordinate the implementation of process management elements in the body of organization in the field of business process management. In addition to the process office, BPM CBOK also refers to the Business Process Management Center of Excellence (hereinafter: BPMCOE), but if the center of competence often has a virtual structure, the process office is usually institutionalized as a separate unit. BPMO and BPMCOE structures play an important role in setting priorities and distributing scarce company resources for work related to process improvement, as well as monitoring and reporting on business process performance metrics for their respective process owners and senior management.

A business process committee is often created over the process office in the management hierarchy, which includes senior management, department heads, and business process managers. This committee is designed to form a common approach to process management and ensures the alignment of business processes with the company's strategy, goals and

objectives. Also, the business processes committee may be responsible for identifying and solving the problems of integrating processes between process owners and owners of functional areas.

Gartner (2012) emphasize that successful companies have organized business process management competency centers, process offices or business process committees in order to address issues related to improving operational efficiency at the enterprise level.

Many process offices build their work along with Project Management Office (hereinafter: PMO), collecting and consolidating data on various projects related to the improvement of processes in an organization, as well as generating reports on them. The process office can perform such functions as setting standards for modeling and regulating processes, providing general analysis tools and methods for optimizing processes, training and advanced training on the principles and practices of process management, general management of process development, and business process integration at the enterprise level.

1.3 Business Process Orientation

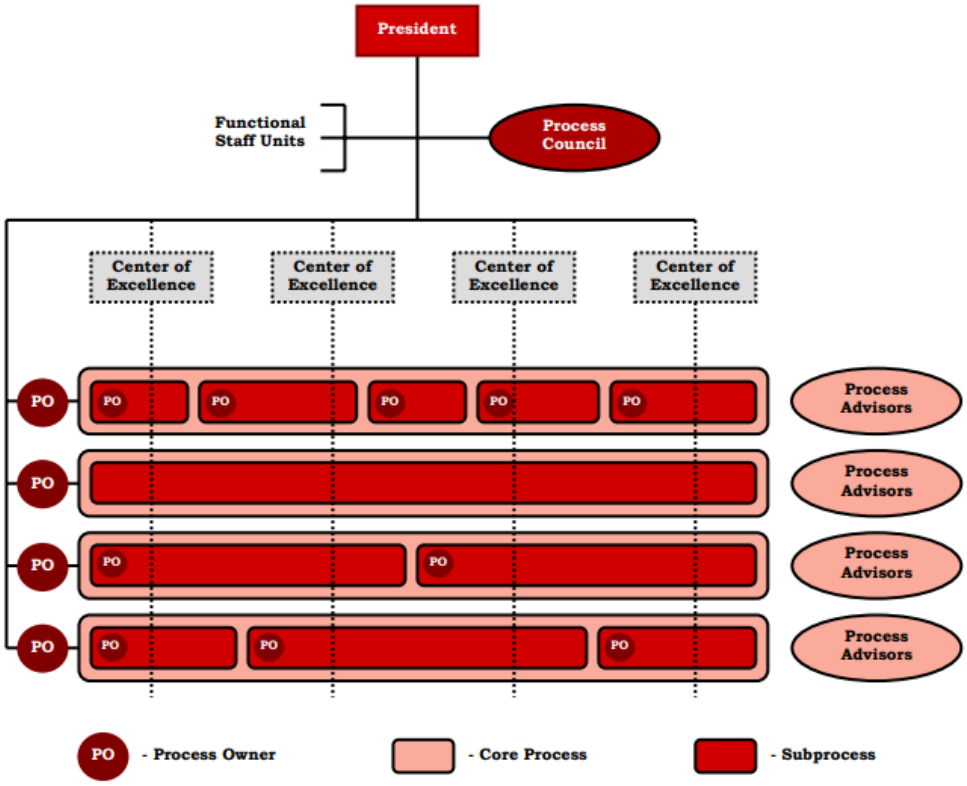
1.3.1 Principles of process-oriented organizations

The organizational form, which is mostly addressing the alignment between structure and processes, is commonly referred to as a process-based organization. It recognizes the integrative and aligning nature of processes. Process-based organizations are different from traditional organizations in several key ways (Hernaus, 2008):

- departments design and manage end-to-end business processes rather than procedures,
- heads of departments measure and manage process-level results instead of departmental efficiency;
- heads of departments think in terms of customer goals instead of localized functional goals.

The process-based organization offers a more powerful and complete paradigm for exploiting the power of process (Gardner, 2004). In order to adequately satisfy emerging business needs, the process-based organizational structures is presented in Figure 3.

Figure 3: Process-based Organizational Structure



Source: Hernaus (2008).

Elements of the process-based organizational structure are (Hernaus, 2008):

- core business processes managed by process owners,
- centers of excellence, where the functional knowledge is gathered,
- staff units or functional support units,
- a process council, which is responsible for lateral coordination between different processes and units.

1.3.2 Characteristics of process-oriented organizations

American Productivity and Quality Center (hereinafter: APQC) Seven Tenets of Process Management encapsulate the common characteristics exhibited by successful process-managed organizations (Hernaus, 2008):

- Strategic alignment– how well process management is linked to organizational objectives;
- Governance– how accountability for process activities is assigned and what structures are in place to support those involved in process efforts;
- Process models– structures, definitions, and knowledge resources designed to help the organization gain a common understanding of its processes;

- Change management– approaches developed to move employees and work activities toward a process focus;
- Performance and maturity– how well processes are performing and how mature process management is in every area of the business;
- Process improvement– strategies and initiatives to improve processes and learn how to continuously optimize performance; and
- Tools and technology– the software applications, Web portals, and print materials available to help in education and management of processes.

Best-practice organizations identified by APQC over the years have consistently excelled in these seven tenets. Top organizations may not be perfect in every area, but their process management approaches explicitly address all seven tenets, ensuring that the organizations can move smoothly toward process alignment.

1.4 Business Intelligence

1.4.1 Definitions

Business intelligence was launched by Gartner analysts in the late 1980s as a «user-centric process that includes accessing and researching information, analyzing it, developing intuition and understanding, which lead to improved and informal decision making». Later in 1996, a clarification appeared - «tools for analyzing data, building reports and queries that can help business users overcome a plenty of data in order to synthesize meaningful information from them - today these tools together fall into a category called business intelligence. For Azvine, Hoque and Bao (2005), business intelligence is all about how to capture, access, understand, analyze and turn one of the most valuable assets of an enterprise – raw data – into actionable information in order to improve business performance (Azvine, Cui & Nauck, 2005). Negash defines business intelligence as a system that combines data gathering, data storage, and knowledge management with analytical tools to present complex internal and competitive information to planners and decision makers (Negash, 2004). According to Turban (2011), business intelligence is an umbrella term that combines architectures, tools, databases, analytical tools, applications, and methodologies. Chaudhuri, Dayal and Narasayya (2011) define business intelligence as a collection of decision support technologies for the enterprise aimed at enabling knowledge workers such as executives, managers, and analysts to make better and faster decisions.

Business intelligence has been described as one of the top 10 priorities of Chief Information Officers (CIOs) for the next five years (Luftmann & Kempaiah, 2008).Overall, BI is the process of analyzing information, developing intuition and understanding for improved and informal decision-making by business users, as well as tools for extracting information that is relevant to business from data.

1.4.2 Business Process Intelligence

In the latest times business intelligence is one of the most talked concept and in demand in many large and mid-size companies. Generally, Business intelligence is intended to be used for achieving the following goals (Barton & Trigwell, 2005):

- provide with a common view of the strategy and goals of the company,
- create a foundation for collaboration facilitating decisions based on common information,
- provide the ability to bring together disparate management measures, including operational, financial and sales, to enable faster and more effective decisions,
- link managers together across the company so everyone can act in a shared context,
- create a culture around decision making so the right people have insight into the company's performance and are empowered to influence it.

Business intelligence is an emerging area that is quickly gaining interest due to the increasing pressure on the companies to improve the efficiency of their business processes and to quickly react to market changes in order to be competitive. Business process intelligence fuses business process management (BPM) and business intelligence (BI). Process intelligence involves monitoring analyzing key performance indicators (hereinafter: KPIs) and linking them daily activities and business processes for the purpose of ensuring that the entire enterprise is moving toward declared performance goals. Process intelligence can be strategic, tactical or operational in nature (Klun & Trkman, 2018).

Process intelligence allows to understand the operating data in the context of business processes– even when the individual steps in those processes span multiple backend systems– and predict future conditions that may present challenges or opportunities. This enables to recognize areas of inefficiency or waste and highlight compliance and risk exposures. It even reveals so-called dark processes in which the organization actually follows process steps that are either unknown or very different than what is generally understood or expected (Sandy, 2015).

Business process intelligence exploits this process information by provides the means for analyzing it to give companies a better understanding of how their business processes are actually executed. Therefore, business intelligence often triggers process improvement or reengineering efforts. Business intelligence not only serves as a tool for improving business processes performance, but also fosters changes by facilitating decision-making. In addition, it is used to monitor the alignment of operational business processes with strategic business goals. Furthermore, business intelligence can also be used to optimize future efforts.

2 BUSINESS PROCESS MATURITY CONCEPTS

The introduction of a business process management system in a company means understanding company as a business process system which results in company's performance. Because of this, raises the question of obtaining an assessment of the maturity level of the existing system of business processes of a company, which would take into account new conditions of market competition, increase the internal efficiency of a company and help improve company's competitiveness. This chapter aims to provide previous literature findings regarding main business process maturity concepts and models.

2.1 Business Process Maturity Definition

The notion of 'maturity' was first proposed by Phillip Crosby (1979) and is defined as «the state of being complete, perfect, or ready». A maturity model is a conceptual model that consists of a sequence of discrete maturity levels for a class of processes in one or more business domains, and represents an anticipated, desired, or typical evolutionary path for these processes (Becker, Knackstedt & Pöppelbuß, 2009).

Tapia (2008, p.71) stated that «maturity models» have been developed to assess specific areas against a norm. Based on maturity assessments, organizations know the extent to which activities in such areas are predictable. Setting the task of introducing and promoting any management process in an organization should correspond to the level of organizational and technological development, and in particular, development of business processes.

Requirements for the implementation of different measures and processes should be formulated taking into account the level of maturity of these processes in a particular organization. Simply, management of an organization can't effectively introduce powerful modern technology if the level of organization does not correspond to the level of technology. Almost always modern processes require an extremely high level of service. If the staff as a whole does not possess the necessary production and corporate culture, then very quickly this process will lose its parameters, or it will simply be spoiled.

There is the concept of a «maturity model» to determine the stage of organizational and technological development of an organization and its processes in world practice. The maturity model is used as a tool for measuring the state of a process based on a set of metrics that represent specific characteristics. Evaluation of these metrics on a specified scale allows managers to understand the state of the organization's processes, which will characterize the level of maturity. After obtaining an assessment of maturity, it is possible to work out the necessary measures to increase the maturity of the processes and the organization as a whole.

In most models, the number of maturity levels is 5, with some exceptions. The naming of levels is about the development of the state of organization from the initial state, at which processes are not engaged at all or are engaged weakly, to the upper level, where the assessed processes are fully integrated and optimized. The metrics in each model are different, almost no matches. This is understandable, each model of maturity was developed for specific goals, solves specific problems. Detailed characteristics o the main maturity models are presented below.

2.2 BPM models overview

2.2.1 Capability Maturity Model Integration

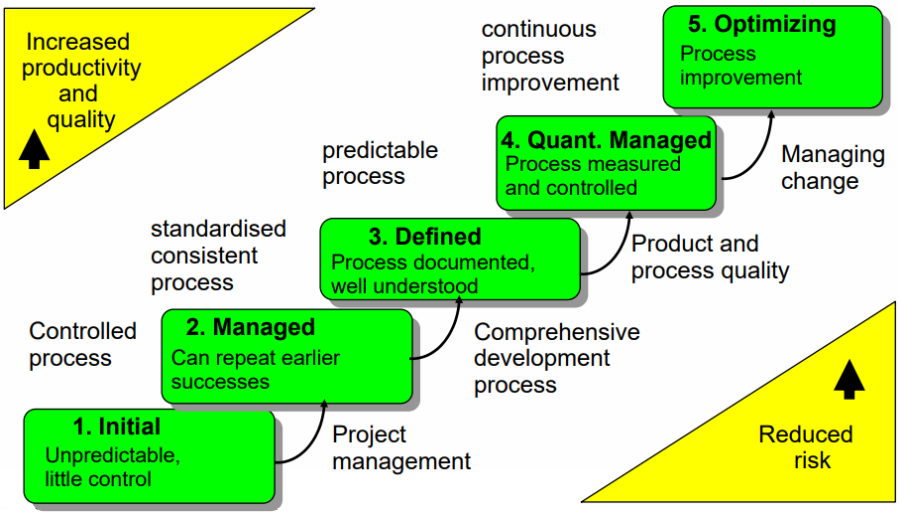
Capability Maturity Model Integration (hereinafter: CMMI) - a set of models (methodologies) for improving processes in organizations of different sizes and activities. It is a development of Capability Maturity Model for Software (hereinafter: CMM) (v. 1.3 in 2009). CMM was developed in 1986 at the Institute for Software Engineering at Carnegie Mellon University. De facto CMM is the standard for the level of maturity of development process in the software industry. CMMI contains set of recommendations in form of practices, the implementation of which, according to the developers of the model, allows to reach the goals that are necessary for certain areas of activity. The most famous model is CMMI for Development. CMMI is a model that characterizes an organization's ability to manage risk. The implementation of this model in an organization demonstrates its ability to fulfill its obligations and supply high-quality products that are in demand on the market.

A mature organization with advanced capabilities will calmly meet unexpected, stressful events, effectively respond to them, make the necessary changes in its activities and continue its development. An immature organization with limited abilities will panic in a stressful environment, try to follow outdated procedures, or even plunge into chaos, not trying to structure its activities in any way. Despite the fact that more mature organizations can more effectively manage risks and their activities are more predictable, risk evasion is observed among mature companies. Less mature companies are more innovative and creative, but their activities are often chaotic and unpredictable. Often, the positive results of such companies become possible as a result of the incredible efforts of individual employees or managers.

There are 5 levels in CMMI (Figure 4). First level is initial level. The 1st level of CMMI corresponds to any company that has successfully completed at least 1 project. There is no management culture. Inefficient planning and poor coordination systems do not allow the benefits of good decisions to develop. Problems lead to complete disappearance of control. Being at the initial level, an organization usually cannot ensure a sustainable development and maintenance process. When an organization lacks a management culture, the benefits of using good solutions in the process disappear due to inefficient planning and poor

coordination systems. Work schedules, budgets, functionality and product quality are generally unpredictable. Productivity depends on the capabilities of individual employees and varies depending on their inherent skills, knowledge and motivation.

Figure 4: Characteristics of the maturity levels of CMMI



Source: Kneuper (2005).

Second level is managed level. The 2nd level means that in the organization are established development project management policies and procedures for their application. Basic project management tools are applied:

- production costs are monitored, schedules and product functionality are monitored;
- management problems are solved as they arise;
- requirements are monitored in the configuration management system;
- development standards are defined.

The third level is defined level. On this level, the development and maintenance process is reliably documented, including both engineering and management processes. A common organization of education in the organization has been implemented.

The fourth level is quantitatively managed level. On this level there are quantitative indicators of quality for both products and their development processes; there is measurement of productivity and quality. Production processes are equipped with instrumental means for precisely defining and consistent measurements. Allows an organization to predict trends in process and product quality.

The fifth level is optimizing level. The whole organization is fully focused on the continuous improvement of the processes. The data on the efficiency of the processes are used to carry out a cost analysis of new technologies, analysis of defects and determination

of the reasons for their occurrence, preventing the repetition of known types of defects in other processes.

Overall, the main characteristics of the model are shown in Table 2.

Table 2: The main characteristics of CMMI

Maturity Level	**Initial**	**Managed**	**Defined**	**Quantitatively managed**	**Optimizing**
Focus of organization	Competence of specialists	Project management	Engineering processes and organizational support	Product and process quality	Continuous process improvement
Characteristic of business processes	Chaos, crisis mode. Processes are not defined.	Standardized project management and control. Repeatable processes	Standard techniques, methods, procedures, technologies. Integration	Quality Control. Feedback from the projects. Archive of projects. Usage of accumulated experience	Improvement. Audit and evaluation of projects. Measurement and development of efficiency
Business process certainty	Processes are not defined	Some processes are defined	Most processes are defined	Processes are under control	Processes are continuously improving
Business process documentation	There are no internal regulatory documents. Actions are not documented. Business processes are not described.	Internal standards appear that describe the company's main business processes	All business processes are documented and standardized in the company.	A quantitative system for assessing the effectiveness of business processes is introduced (financial and physical indicators).	An adjustment of business processes is made (re-engineering), which is reflected in internal documents
Informational support of processes	Business knowledge is not separated from employees (they are lost upon dismissal).	There is no integration of information, and the information flows remain unformalized.	Improvement of knowledge and skills of employees to effectively perform their functions. Ability to analyze information	Corporate knowledge base. Internal corporate quality standards.	Collective processing and analysis of information. Information becomes a production resource

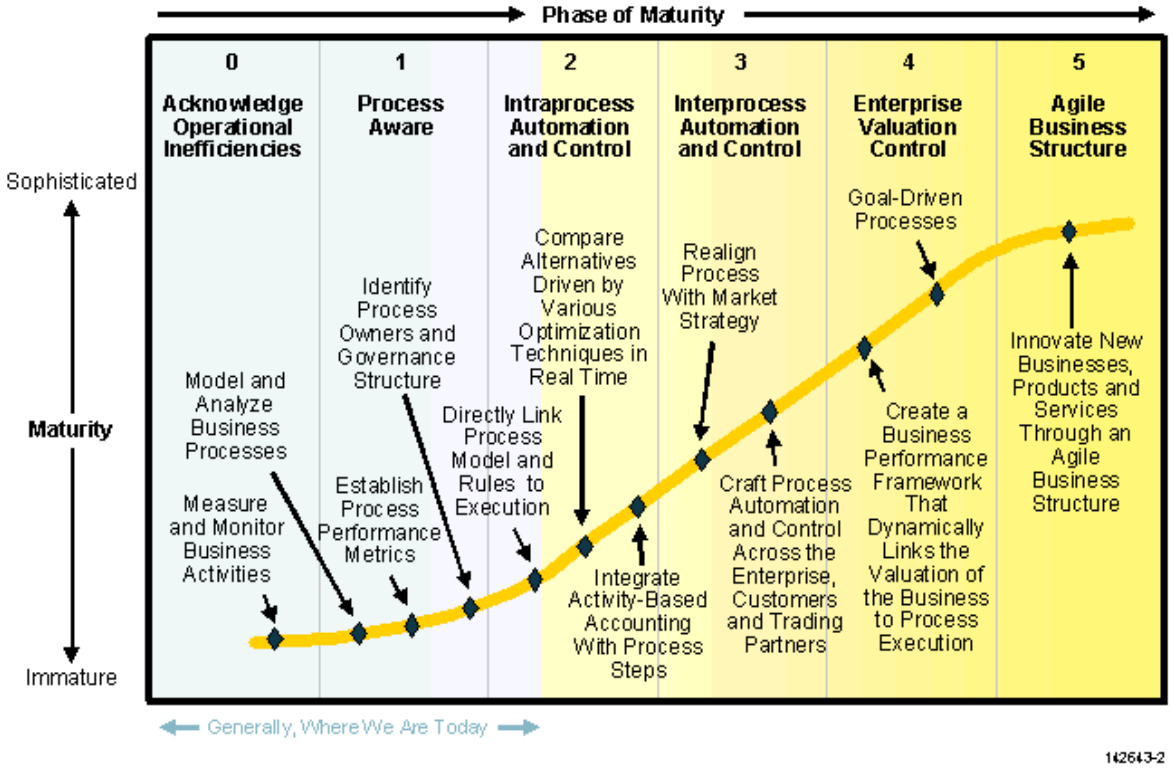
Source: CMMI® for Development (2006).

CMMI model allows to evaluate the quality of process management of organization's development. The higher the level of organization, the more it can manage possible risks and more predictable are the results.

2.2.2 Business Process Maturity Model

The Business Process Management Maturity Model (hereinafter: BPM MM) was proposed by Gartner, Inc. (Kerremans, 2008). Most companies do not have a clear idea of cross-cutting business processes, and if it is present, it is only in the form of scattered ideas, and not a complete strategy. The model of six stages of maturity, proposed by Gartner, is designed to help overcome difficulties in realizing the benefits of BPM and form a corporate business process management strategy that will meet the organization's business goals. The BPM MM defines six levels (maturity levels) of realization of the benefits of BPM by organizations (Figure 5).

Figure 5: Characteristics of the maturity levels of BPM MM



Source: Kerremans (2008).

Overall, the main characteristics of the model's levels are shown in Table 3.

Table 3: The main characteristics of BPM MM

Level	Name of maturity level	Description of level
Level 0	Acknowledge Operations Inefficiency	At the initial stage in an organization, emerges an understanding that it is impossible to achieve certain improvements in business by traditional methods.
Level 1	Process Aware	In seeking ways to fundamentally improve its operations, the company becomes preoccupied with its own processes.
Level 2	Intraprocess Automation and Control	The interest in managing processes leads to the fact that company takes control and automates individual processes.
Level 3	Interprocess Automation and Control	The boundaries of the managed processes are gradually expanding, which ultimately leads to their integration, first among themselves, and then with the processes of customers and partners.
Level 4	Enterprise Valuation Control	Accumulated competence allows company to customize the execution of processes in the chain of business partners under the strategic goals of the organization.
Level 5	Agile Business Structure	The company has learned to rebuild processes and continues to be a leader when business conditions change.

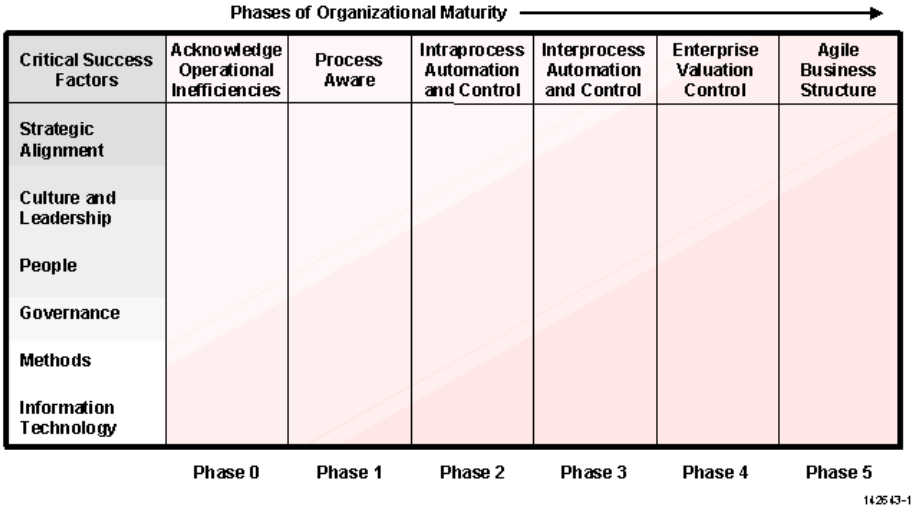
Source: Kerremans (2008).

In addition to the six levels, the maturity model considers six organizational factors (Figure 6), which should develop in a balanced way as it goes from stage to stage.

These factors are (Kerremans, 2008; Hill, Sinur, Flint & Melenovsky, 2006; Melenovsky & Sinur, 2006):

- Strategic Alignment - the inextricable link between the priorities of the organization and its processes, ensuring the achievement of business goals;
- Culture and Leadership - shared values and attitudes that form the right attitude towards processes;
- People - groups and individuals who continuously develop and practice process management skills;
- Governance - adequate and transparent methods of evaluation, decision making and remuneration, contributing to process management;
- Methods - approaches and techniques to successfully implement process management;
- Information Technology - software and hardware that provides and supports process management.

Figure 6: Organizational factors of BPM MM



Source: Hill, Sinur, Flint & Melenovsky (2006).

The BPM MM is common to all business processes of the organization. It is applicable to any organization regardless of size, context, and resources, it allows organizations to identify activities to consistently increase the level of maturity of business processes. The model is multidimensional and allows building processes in several directions - organizational factors (Strategic alignment, culture and leadership, people (personnel), governance (management), methods (techniques), information technologies).

2.2.3 Process and Enterprise Maturity Model

In the article in the Harvard Business Review (Hammer, 2007) and in the book «Faster Cheaper Better: The 9 Levers for Transforming How Work Gets Done» (2010) Michael Hammer presents his model PEMM - Process and Enterprise Maturity Model - a model of process and enterprise maturity. In the PEMM, each process evaluation criterion is characterized by one out of four levels of maturity – from «just started» to «best in class».

Michael Hammer introduces a number of aspects on the basis of which the methodology for assessing the maturity of process is formed. From the point of view of Hammer, it is very important to evaluate the complex process according to five aspects (Hammer, 2007):

- Design.
- Performers.
- Owner of the process.
- Infrastructure.
- Metrics (indicators).

For each aspect, the directions of analysis are determined. For example, «Design» implies an assessment of:

- existence and availability of goals of process creation;
- degree of development of process integration with other company processes and external processes (suppliers and customers);
- the degree of documentation of the process.

Aspect "Performers" implies to analyze the following areas by Hammer (2007):

- knowledge of the process and the information that allows it to develop, do it more effectively;
- skills - from usual functionality to ability to make decisions on process changes and successfully implement them;
- behavior - assessment of degree of intrinsic motivation for change and involvement of process owner.

«Process Owner» aspect defines requirements in the following areas:

- identity - the presence, status and degree of involvement of manager in managing the end-to-end process;
- activity - types of work in the process that owner performs and the degree of their complexity, importance for company and its counterparties.
- authority - the availability of resources and the possibility of their distribution both for implementation of process and for material incentives of its participants.

Aspect «Infrastructure» includes the following areas:

- information systems - from fragmentary functional automation, to process automation integrated at the inter-organizational level;
- human resource system - a system of recruiting, developing and stimulating personnel - from the simplest things to a complex system, maximally orienting staff to increase efficiency, develop the process and communicate with all interested parties.

Finally, the «Metrics» aspect is defined by following:

- definition - the degree of development of a system of indicators for process management;
- usage - from simple monitoring and small process improvements based on indicators to integration with the strategic management system of companies.

The requirements that are formulated by Michael Hummers on each level of process maturity are placed in convenient assessment table (see Appendix 1).There are four process levels in this table (Hammer, 2007):

- Level P-1 - a reliable and predictable process.
- Level P-2 - a process provides the best results at cross-functional level.
- Level P-3 - a process provides optimal results at the cross-functional level and is integrated with other company processes.
- Level P-4 - a process «reaches perfection, going beyond the company and extending from suppliers to customers».

Obviously, the process of the 4th level should, at a minimum, be no worse than the process of the previous level, etc. The PEMM is suitable for any organization in any industry, and can be applied to any process. It does not describe the content of the process, but determines the characteristics that the enterprise needs in order to successfully carry out the transformation. A company can apply the PEMM to any of its processes, as well as create processes with its help for its own needs.

2.2.4 Process Performance Index

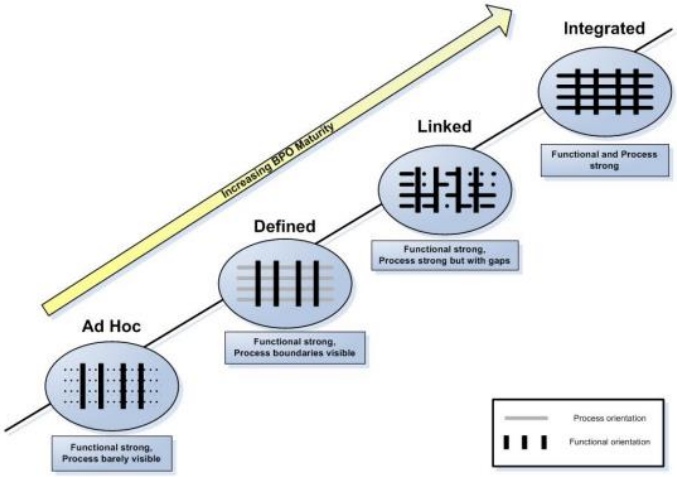
Process Performance attempts to answer the question: does this sample from the process meet requirements? It is a statistical tool (Montgomery, 2005). Pp = Process Performance. A simple and straightforward indicator of process performance. Ppk = Process Performance Index. Adjustment of Pp for the effect of non-centered distribution. Process Performance Index basically tries to verify if the sample from the process is capable to meet requirements. Process Performance is only used when process control cannot be evaluated. An example of this is for a short pre-production run. Process Performance generally uses sample sigma in its calculation (Montgomery, 2005). In simple words, Process Performance Index is an index of process performance, which tells how well a system is meeting specifications. And also how well the process is centered within the specification limits (Kane, 1986; Breyfogle, 1996).Process Performance Index calculations use sigma of the individual values. Process does not need to be centered on target value for this index as Process Performance Index takes location of the process average in account. It penalizes the process by assuming that distances to the specification limits from the mean are equal to the smallest one. This does produce a desired result to maximize Process Performance Index, which is to get suppliers to center their processes (Kane, 1986; Breyfogle, 1996).

2.2.5 BPO Maturity Model

The business process orientation maturity model (hereinafter: BPO MM) was developed based upon the concepts of process maturity, BPO, and the Capability and Maturity Model developed by the Software Engineering Institute at Carnegie Mellon University (Lockamy

III & McCormack, 2004). According to McCormack (2003) the BPO MM construct describes a four-step pathway for systematically advancing business processes along the maturity continuum (Ad Hoc, Defined, Linked, and Integrated level) (Figure 7).

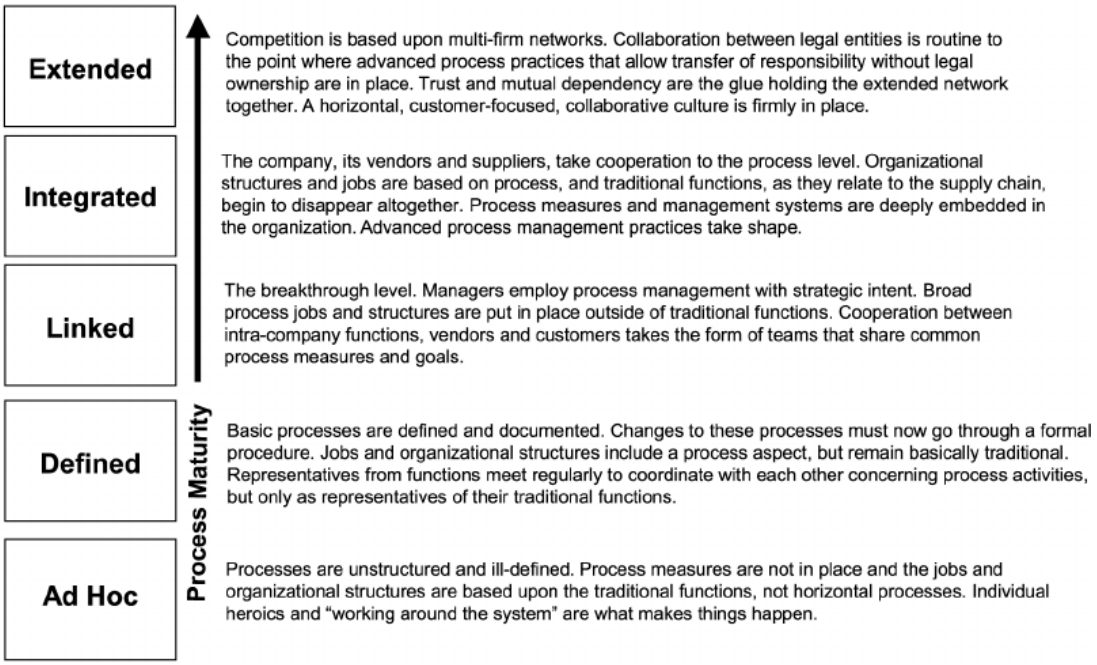
Figure 7: The BPO MM model



Source: McCormack (2003).

Then, the model has been expanded with one more level, The Extended level, which is oriented toward creating the supply chain network. The model and a description of each maturity level are shown in Figure 8.

Figure 8: Characteristics of the maturity levels of the BPO MM



Source: McCormack (2004).

It is important to note that trying to skip maturity levels is counter-productive since each level builds a foundation from which to achieve the subsequent level. An organization must evolve through these levels to establish a culture of process excellence.

2.2.6 Process Maturity Ladder

Harmon (2004, 2009) developed a model based on CMMI, the Process Maturity Ladder (hereinafter: PML) – in which maturity levels range from initial, repeatable, defined, and managed to optimizing. Here the maturity assessment is done in an informal and brief manner. It includes a quick assessment based on just a few checklists and a worksheet. The primary purpose of this assessment is not to be as rigorous as CMMI, but for people within the organization to starting thinking about the processes.

Process Maturity Ladder provides informal analysis wherein managers and others within the organization complete a checklist and worksheet, linking processes with maturity levels. The result is quick assessment, people start thinking about the processes (Lindemulder, 2015). PML attempts to expand upon the maturity level definitions as defined by CMMI by introducing some practical tools or methods for each level beyond the first (initial) level.

In the initial level, no processes are defined. An organization climbs to the second level (repeatable) by defining at least some of their processes. Since the maturity level definitions are the same as used in CMMI. The additions to these maturity levels as defined by PML are as follows:

- Level 1 – Initial: Processes are performed ad-hoc.
- Level 2 – Repeatable: The organization uses modeling tools and notation systems to define at least some of its business processes
- Level 3 – Defined: The organization has a complete and integrated definition of is processes and has established some measures for managing and controlling these processes. The organization stores and maintains its processes in a repository
- Level 4 – Managed: The measures for managing and controlling processes are complete and integrated. There exists alignment between the management and measures of a process and its sub processes.
- Level 5 – Optimizing: PML posits that a Six Sigma program should be present in the organization in combination with a green belt or black belt team. The six sigma efforts help to improve processes further.

The Process Maturity Ladder is an informal method for evaluating BPM Maturity that adds some practical methods to the maturity levels of the CMMI stages approach. It is used to assess individual processes on the five-level maturity scale, but does not define detailed organizational capabilities (Lindemulder, 2015; Mens, 2016).

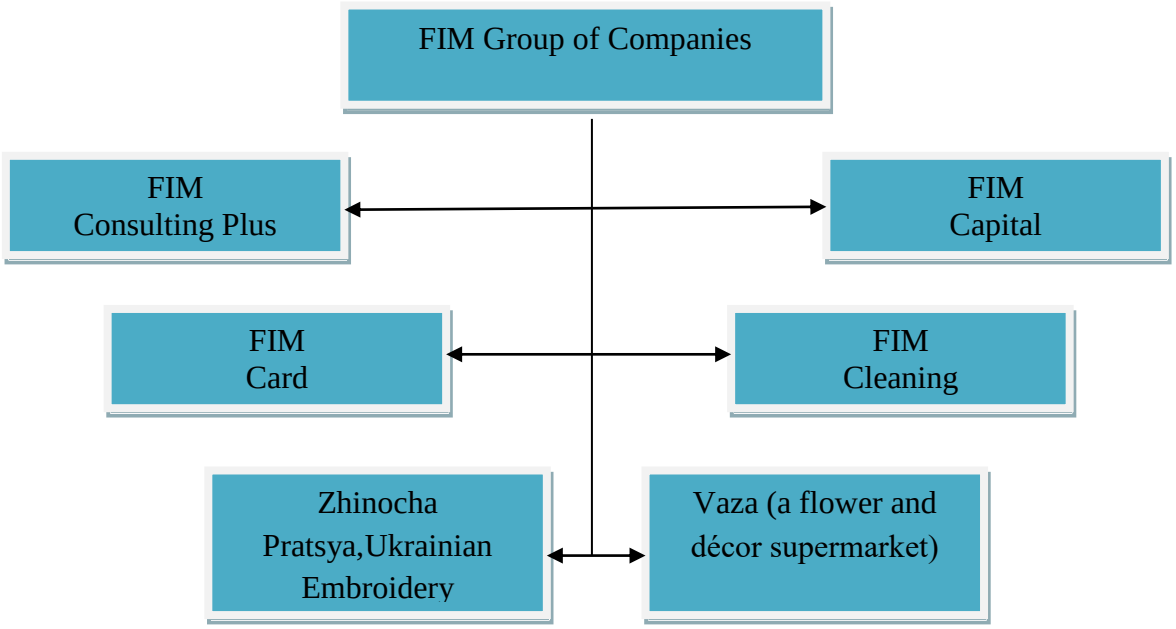
3 ANALYSES OF THE CURRENT MATURITY LEVEL OF THE INVESTIGATED COMPANY

The introduction or improvement of a business process management system in a company starts with the analysis of the existing level of business process management within the area of study. This chapter aims to provide previous empirical findings regarding the existing level of business process management of the investigated company, namely the investment group of companies «Finance Investment Management».

3.1 The Investigated Company Description

The investment group of companies «Finance Investment Management» (hereinafter: FIM Group of Companies) effectively manages projects and businesses in various sectors of the economy: real estate, consulting, joint-investment market, restaurants, cleaning, textile industry, and flower retail (Official cite of FIM Group of Companies).
The holding includes the following companies (Figure 9):

Figure 9: Structure of FIM Group of Companies



Source: Own work.

More detailed information is presented below:

– FIM Consulting Plus is a company that provides integrated management of development projects and operating commercial real estate. One of the first clients of FIM Consulting Plus were the companies: «Odessa Commercial Sea Port», «Illichivsk Sea Commercial Port», Ministry of Transport and Communications of Ukraine.

- FIM Capital is an asset management company that manages the assets of joint investment institutions and assets of pension funds.
- FIM Cleaning is a company that offers professional cleaning services for business and logistics centers, shopping and entertainment complexes.
- FIM Card is a chain of restaurants united by the idea of hospitality and ethnic orientation. Today, the chain includes O'Panas restaurant, Trypillya restaurant and hotel complex, and Trader Vic's Mai Tai Lounge, opened on the terms of franchising with the well-known American company Trader Vic's Corporation.
- Zhinocha Pratsya, Ukrainian Embriodery Manufactory - manual and machine embroidery, the production of home textiles.
- «Vaza» - a flowers and decor supermarket, with a total area of about 550 sq.m. The range of commodities of the supermarket is about 10 thousand items.

The success of the FIM Group of Companies depends on how efficiently the investment strategy is developed, integrated into the general competitive strategy of the company. In its formation, as a rule, it is assumed that the funds invested in one or several investment projects must be fully reimbursed, taking into account changes in the purchasing power of money. The development, adoption and implementation of FIM's strategic decisions are aimed at creating an optimal cost system for obtaining the maximum possible return on investment. In addition, investment income should compensate the investor not only the temporary abandonment of the use of resources in other areas, but also risks caused by the uncertainty of final result.

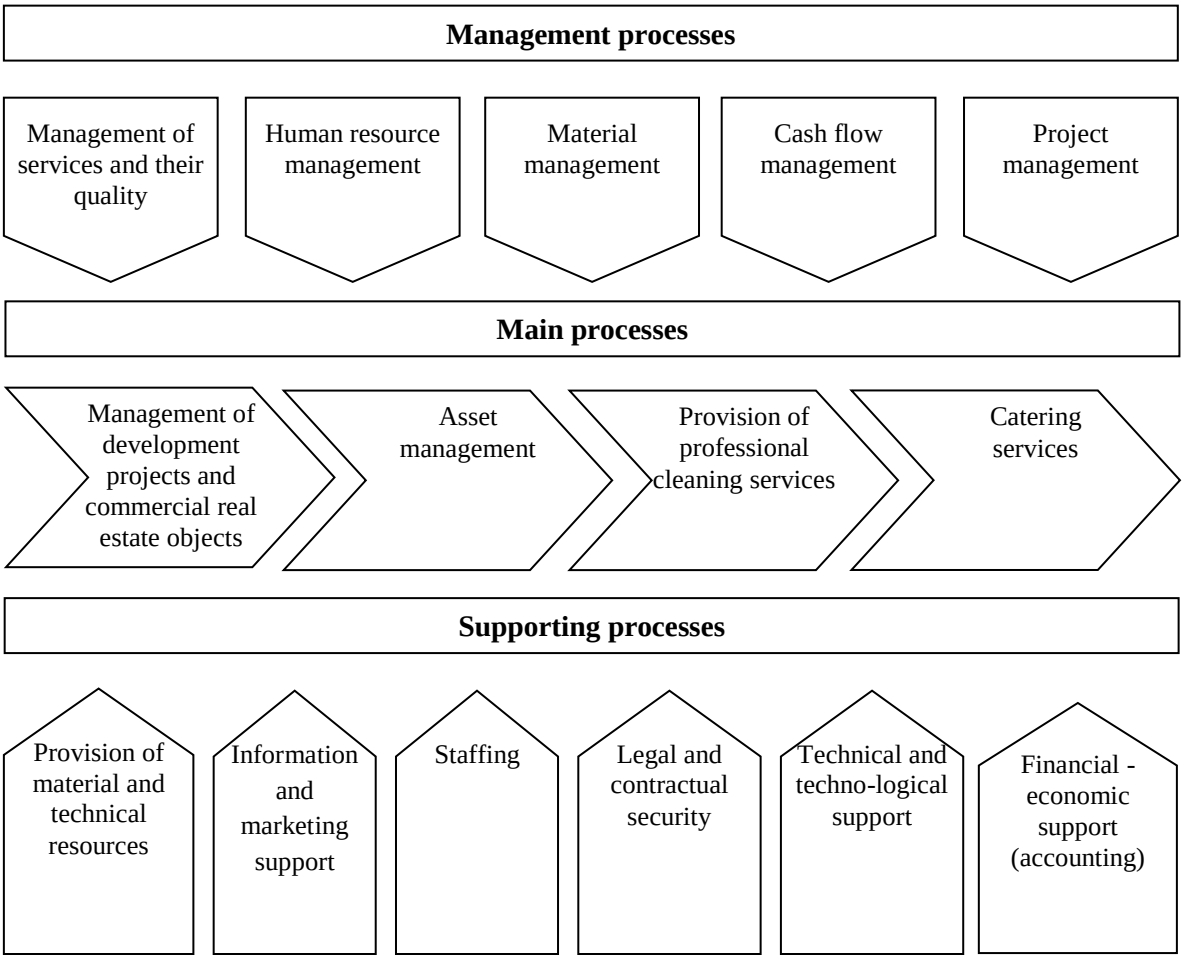
FIM Group of Companies in the process of developing or diversifying a business is faced with the need to create various types of innovations (technological, organizational, managerial, marketing, resource, etc.). In this regard, there are a number of features of project management innovation. FIM Group of Companies needs to expand the activities and launch new projects. There is no department in the company that would be engaged in the selection of new projects, namely start-ups. FIM management is interested in the development of this area, but to launch a new platform, it is necessary to create a department for the selection and implementation of new projects (start-ups).

In the FIM Group of Companies, there are the following ways to group business processes:

- management processes;
- main processes;
- support processes.

A graphical diagram of the processes of the FIM Group of Companies is presented on Figure 10.

Figure 10: The processes of FIM Group of Companies



Source: Own work.

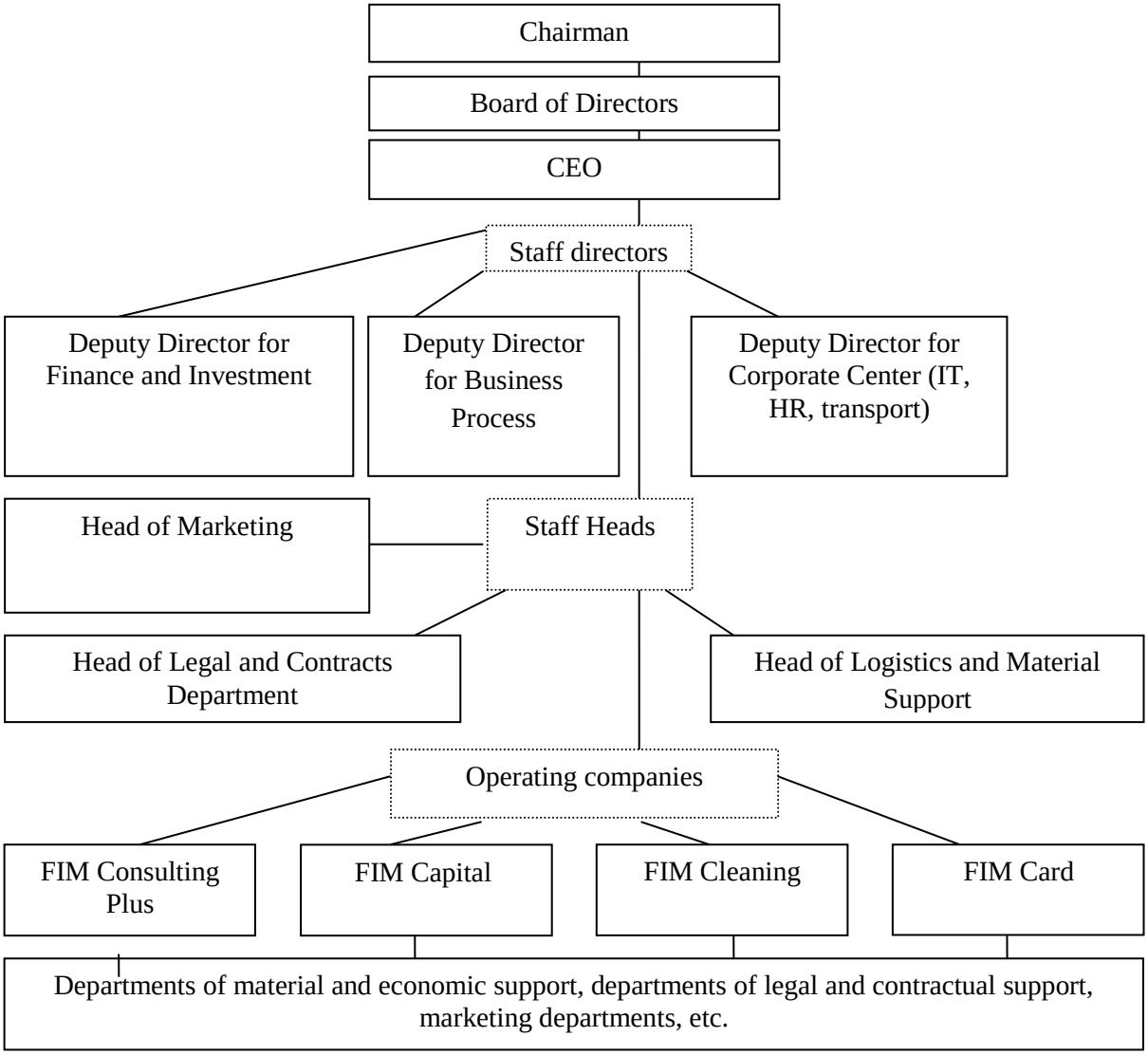
These business processes can be divided into the following areas:

1. Management processes:
1.1. Management of services and their quality
1.2. Human resource management
1.3. Material management
1.4. Cash flow management
1.5. Project management
2. Main processes:
2.1. Management of development projects and commercial real estate objects
2.2. Asset management
2.3. Provision of professional cleaning services
2.4. Catering services
3. Supporting processes:
3.1. Provision of material and technical resources
3.2. Financial - economic support (accounting)

3.3. Staffing
3.4. Legal and contractual security
3.5. Technical and technological support
3.6. Information and marketing support

The overall organizational structure of the FIM Group of Companies is presented in Figure 11.

Figure 11: General organizational structure of FIM Group of Companies



Source: Own work.

The executive body in the FIM Group of Companies is the Chief Executive Officer (hereinafter: CEO). He also carries out executive management of all activities of the Group. The competence of the CEO includes all questions of the management of current activities of the FIM Group of Companies. At the same time, control over the activities of the general director is exercised by Board of Directors headed by Chairman of the Board of

Directors. This organizational structure is characterized by the following negative properties:

- difficulties in coordination of the activities of the functional units;
- difficulties in implementation of solutions without the involvement of top-managers (lack of agreement between managers).
- excessive development of the vertical component of the control system.
- duplication of functions of managers at the level of corporations and divisions.
- increasing cost of maintaining the managerial staff.
- difficulty in establishing the optimal level of decentralization.
- the presence of excessive competition between departments for resources.

It also complicated the communication between employees, and also lead to conflict situations between employees, as individual specialists preferred to report directly to the director of the operating company, and some rushed to report directly to the head of legal and contract department.

3.2 Methodology approach

In order to assess maturity level of FIM Group of Companies, the Process and Enterprise Maturity Model, the BPO Maturity Model, the Capability Maturity Model Integration and the Business Process Maturity Model were used. The research was conducted during November, 2018.Assessment was carried out by an expert method. Experts were employees of the company. For evaluation the following group of experts has been defined (Table 4).

Table 4: Group of experts

#	**Expert**
1	Deputy Director for Business Process
2	Deputy Director for Finance and Investment
3	Head of Legal and Contracts Department
4	Director of FIM Consulting Plus
5	Director of FIM Capital
6	Director of FIM Cleaning
7	Head of economic support of FIM Consulting Plus
8	Head of legal and contractual support of FIM Consulting Plus
9	Head of economic support of FIM Capital
10	Head of legal and contractual support of FIM Capital

Source: Own work.

A method for collection of primary data was interviews. An interview was in the form of a conversation and discussion based on characteristics of the maturity levels of the maturity models.

3.3 Empirical study of the current maturity level of FIM Group of Companies

First, the Process and Enterprise Maturity Model was used. The experts evaluated the maturity of business processes in the company, they declined the statements for different levels, from P-1 to P-4. Summarized results are presented in Table 5.

Table 5: Experts about Maturity level of FIM Group of Companies by PEMM before changes

		P-1	**P-2**	**P-3**	**P-4**
Design	Purpose	10%	50%	30%	10%
	Context	10%	60%	20%	10%
	Documentation	30%	60%	10%	0%
Performers	Knowledge	0%	10%	60%	30%
	Skills	0%	20%	50%	30%
	Behavior	0%	30%	60%	10%
Process Owner	Identity	20%	70%	10%	0%
	Activity	30%	60%	10%	0%
	Authority	30%	50%	20%	0%
Infrastructure	Information systems	20%	60%	20%	0%
	Human resource system	10%	60%	20%	10%
Metrics	Definition	50%	30%	20%	0%
	Usage	30%	60%	10%	0%

Source: Own work.

In Table 6 and on Figure 12 the assessment of Maturity level of FIM Group of Companies by PEMM based on the opinion of the experts is shown.

Table 6: Maturity level of FIM Group of Companies by PEMM before changes

		P-1	**P-2**	**P-3**	**P-4**
Design	Purpose				
	Context				
	Documentation				
Performers	Knowledge				
	Skills				
	Behavior				
Process Owner	Identity				
	Activity				
	Authority				

(table continues)

(continued)

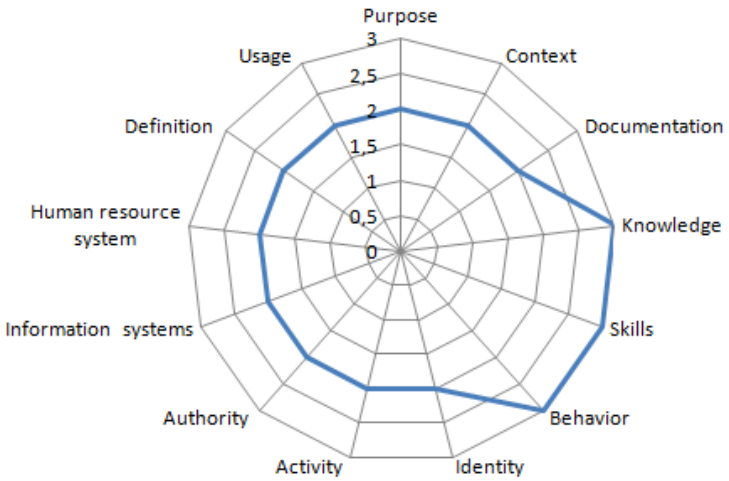
		P-1	P-2	P-3	P-4
Infrastructure	Information systems				
	Human resource system				
Metrics	Definition				
	Usage				

Source: Own work.

To determine the process and enterprise maturity levels, the templates provided by Hammer (2007) were referred to. For each dimension four statements, which represent the four maturity levels, were described. By means of the colors green, orange and red, the expert indicate to which extent a statement is applicable to the organization or to a certain process.

Each process evaluation criterion was evaluated by four process levels. In general, according to the experts and PEMM, it can be said that the company's maturity level is between the second and third level of maturity (mainly second level). The main problem zones are the degree of documentation of the processes, presence, status and degree of involvement of managers, the availability of resources (mainly financial), the degree of development of a system of indicators for process management, integration of the strategic management system.

Figure 12: Maturity level of FIM Group of Companies by PEMM before changes



Source: Own work.

After, the maturity level of FIM Group of Companies by the Business Process Maturity Model was assessed. The experts evaluated the maturity of organizational factors by different levels, from L-0 to L-5. Summarized results are presented in Table 7.

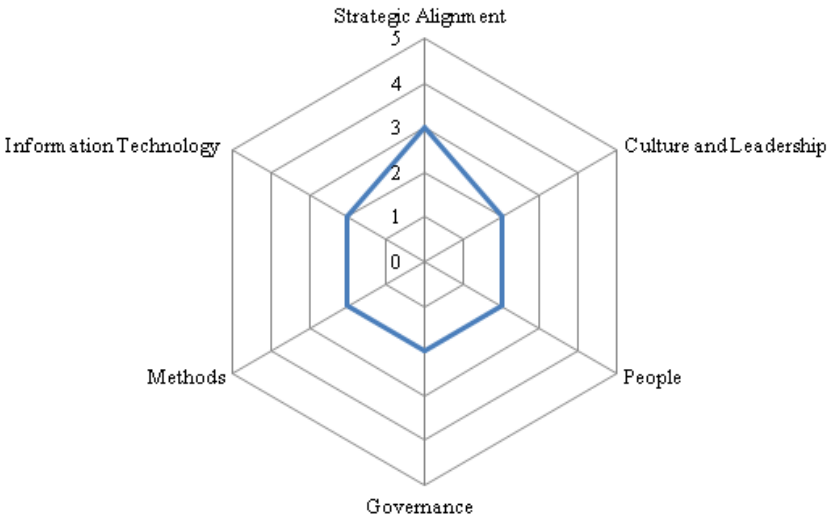
Table 7: Experts about Maturity level of FIM Group of Companies by BPMM before changes

	L-0	L-1	L-2	L-3	L-4	L-5
	Acknowledge Operations Inefficiency	Process Aware	Intraprocess Automation and Control	Interprocess Automation and Control	Enterprise Valuation Control	Agile Business Structure
Strategic Alignment	0%	10%	20%	50%	20%	0%
Culture and Leadership	0%	10%	50%	30%	10%	0%
People	0%	10%	60%	20%	10%	0%
Governance	0%	20%	40%	40%	0%	0%
Methods	0%	30%	40%	30%	0%	0%
Information Technology	0%	20%	50%	20%	10%	0%

Source: Own work.

On Figure 13 the assessment of Maturity level of FIM Group of Companies by BPMM based on the opinion of the experts is shown. In general, according to the experts and BPMM, it can be said that the company's maturity level is between the second and third level of maturity (mainly second level).

Figure 13: Maturity level of FIM Group of Companies by BPMM before changes



Source: Own work.

After, the maturity level of FIM Group of Companies by the Capability Maturity Model Integration was assessed. The experts evaluated the maturity of different factors and

characteristics of the company by different levels, from L-1 to L-5. Summarized results are presented in Table 8.

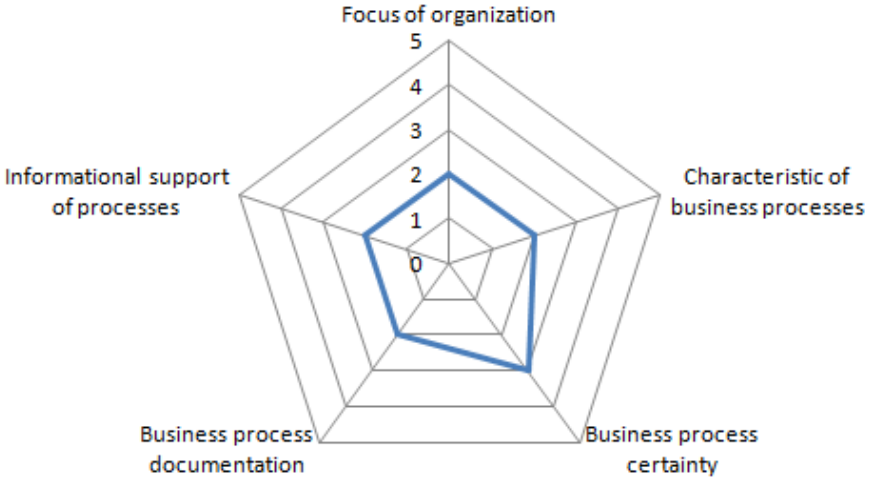
Table 8: Experts about Maturity level of FIM Group of Companies by CMMI before changes

Maturity Level	Initial	Managed	Defined	Quantitatively managed	Optimizing
Focus of organization	10%	70%	20%	0%	0%
Characteristic of business processes	10%	60%	20%	10%	0%
Business process certainty	0%	20%	50%	20%	10%
Business process documentation	30%	40%	20%	10%	0%
Informational support of processes	10%	50%	30%	10%	0%

Source: Own work.

On Figure 14 the assessment of Maturity level of FIM Group of Companies by CMMI based on the opinion of the experts is shown. In general, according to the experts and CMMI, it can be said that the company's maturity level is between the second and third level of maturity (mainly second level).

Figure 14: Maturity level of FIM Group of Companies by CMMI before changes



Source: Own work.

After, the maturity level of FIM Group of Companies by the BPO Maturity Model was assessed. The experts evaluated the maturity of different processes and the company by different levels, from L-1 to L-5. Summarized results are presented in Table 9.

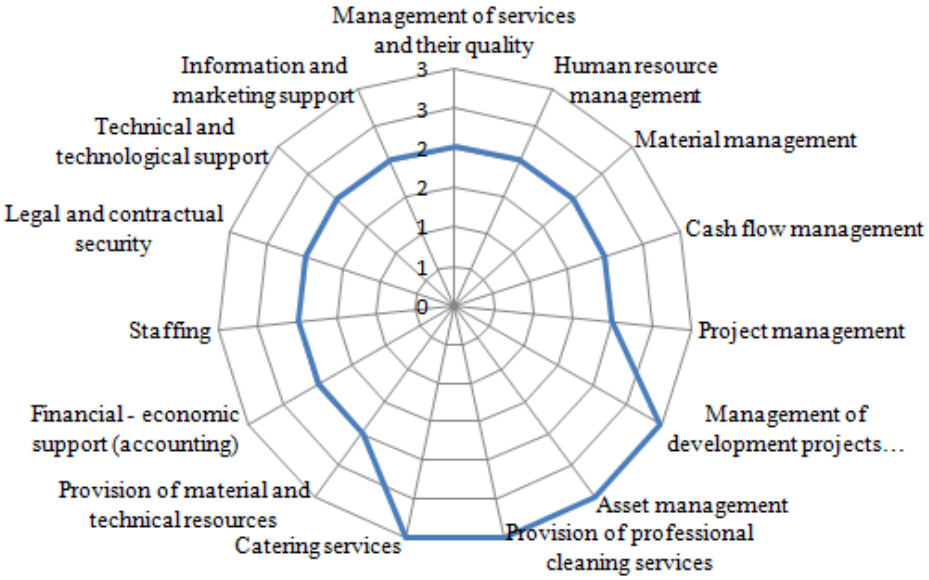
Table 9: Experts about Maturity level of FIM Group of Companies by BPOMM before changes

	L-1	**L-2**	**L-3**	**L-4**	**L-5**
	Ad Hoc	Defined	Linked	Integrated	Extended
Management processes					
Management of services and their quality	0%	60%	30%	10%	0%
Human resource management	0%	50%	30%	20%	0%
Material management	0%	60%	40%	0%	0%
Cash flow management	0%	60%	30%	10%	0%
Project management	0%	70%	30%	0%	0%
Main processes					
Management of development projects and commercial real estate objects	0%	40%	50%	10%	0%
Asset management	0%	30%	60%	10%	0%
Provision of professional cleaning services	0%	30%	50%	20%	0%
Catering services	0%	20%	70%	10%	0%
Supporting processes					
Provision of material and technical resources	0%	70%	20%	10%	0%
Financial - economic support (accounting)	0%	70%	20%	10%	0%
Staffing	0%	60%	30%	10%	0%
Legal and contractual security	0%	70%	20%	10%	0%
Technical and technological support	0%	60%	20%	20%	0%
Information and marketing support	0%	50%	30%	20%	0%

Source: Own work.

On Figure 15 the assessment of Maturity level of FIM Group of Companies by BPOMM based on the opinion of the experts is shown. In general, according to the experts and BPOMM, it can be said that the company's maturity level is between the second and third level of maturity (mainly second level).

Figure 15: Maturity level of FIM Group of Companies by BPOMM before changes



Source: Own work.

In the end, it can be said, that according to the PEMM, the BPOMM, the CMMI and the BPMM and the opinion of experts, the employees of FIM Group of Companies, the company's maturity level is mainly second level. This suggests that managers have good opportunities to develop the processes in company, increasing its efficiency. The main problem zones are in supporting processes, mainly business processes documentation, informational support of processes.

4 BPO IMPLEMENTATION IN THE INVESTIGATED COMPANY

According to analysis, FIM Group of Companies maturity level is mainly second level. In order to move from the second level of maturity to the third, it is necessary to pay attention to creation of standards for implementation of processes, that is, a typical business process should be developed, and it should regulate and reflect all the necessary environment of the processes, and therefore be standard for performing the work within the organization. In addition, at the third level, key performance indicators for the processes should be collected and analyzed, which will be further used to optimize the processes and move from third level to higher levels.

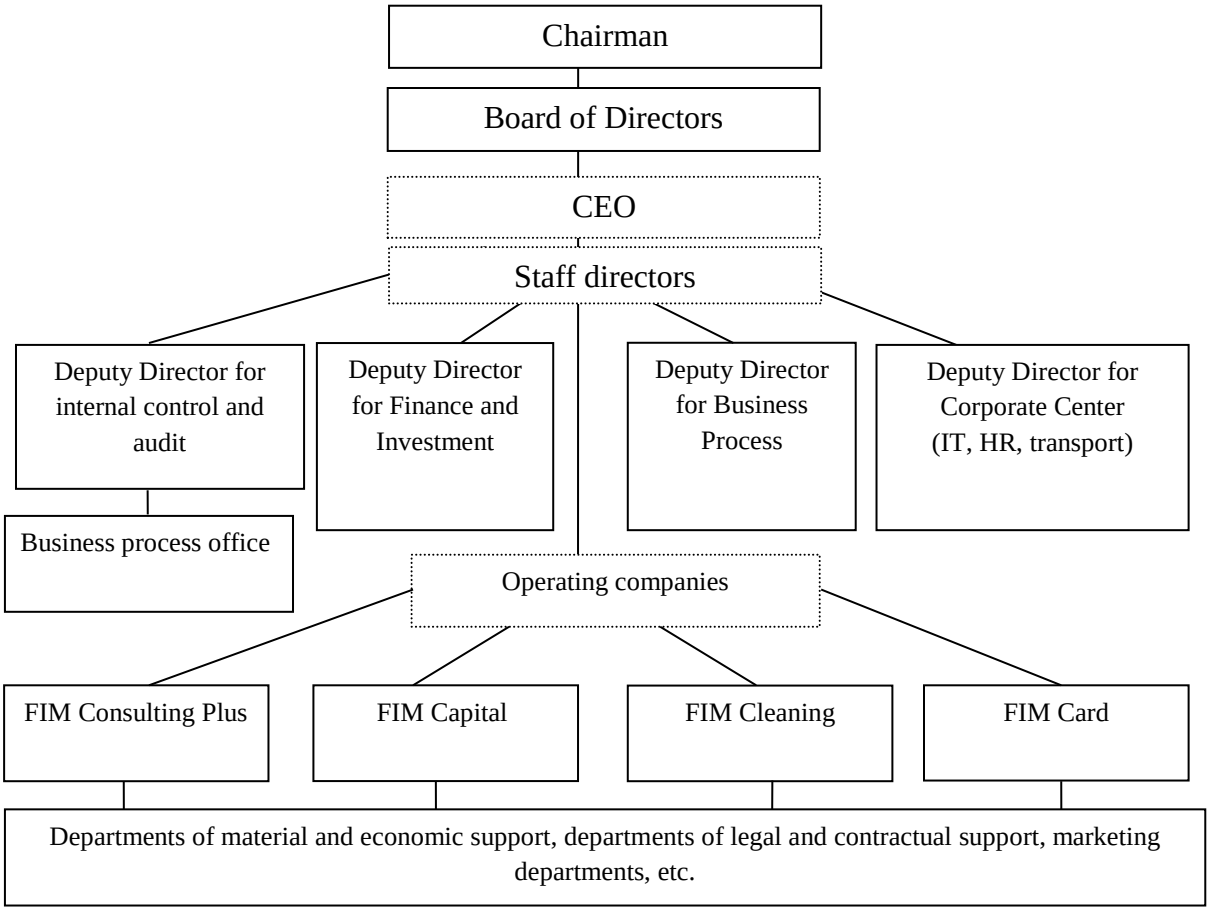
4.1 Knowledge management system implementation

After the analysis of the maturity level of the FIM Group of Companies a meeting was held where all the experts that were involved in analysis, brought their suggestions about rising the maturity level of the company. Different ideas, arguments, and points of view were analyzed and critically evaluated. In the end main suggestions were approved: the implementation of business process office and business intelligence that involves

monitoring analyzing KPIs. The suggestions are described below. So, in order to improve business processes in FIM and increase company's maturity level a business process office should be implemented, a special governing body that is provided by leadership and fixing decision-making rights. To make the business successful, it is necessary to create an internal control and audit department. Department of internal control and audit should report directly to the Board of Directors in order to avoid the risk of corruption. A business process office could be a department of internal control and audit department. To do this, it is necessary to make changes in the management structure of FIM Group of Companies.

In general, the general organizational structure of FIM Group of Companies that was recommended presented in the following form (Figure 16).

Figure 16: New organizational structure of the FIM Group of Companies



Source: Own work.

For business process improvement it is recommended to form in FIM a department of internal control and audit and a business process office. This should be done through the introduction of a balanced organization management system, in which the organization has the ability to competently and effectively compete, continuously learn, quickly develop independently, create unique high-level competencies, unique technologies, business

processes, skills and interaction that meet the needs of business to respond quickly and effectively to emerging crises.

The main goal of the new organizational structure of FIM Group of Companies is that all executors must report directly to the operational managers. The powers of staff directors should concern preparation of advice and recommendations to managers of operating companies or issue instructions to executives. Because of this the speed of operational and organizational response should increase. Employees should not have two directors. They must clearly know the hierarchy of the company.

In order to coordinate the implementation of process management elements in the body of FIM Group of Companies and its operating companies in the field of business process management it is recommended to form a business process office under the control of department of internal control and audit. Description of business processes, development, implementation and monitoring of the implementation of regulations is the most important area of activity of FIM Group of Companies and its operating companies. Non-systematic, chaotic approach to such work leads to the emergence of low-quality graphic schemes of processes and inoperative regulations. This, in turn, can lead to disappointment of managers and employees of the organization in methods of process management.

4.2 Main processes description

The main result or goal of the functioning of the BPO is the «ability to run a transparent, managed and efficient business» for owners and top management of FIM Group of Companies. Short description of processes is presented in table 10.

Table 10: Description of BPO processes

Name of process	**Main result**	**Description**
Management of business process standardization	The possibility of functioning and development of a standardization system for all processes	FIM Group of Companies, like any system, requires management. The ability of the operating companies to perform its functional goal (as part of a more complex system), as well as their development, should be synchronized with changes in the organization as a whole. The level of development of the processes should correspond to the level of development of the organization as a whole.
Description and optimization of business processes	A deep and adequate understanding of business processes.	The first result makes it possible to regulate processes. If BPO deeply and adequately understands the processes performed, practically all nuances, BPO is able to create regulations based on a 100% understanding of the processes.

(table continues)

(continued)

Name of process	Main result	Description
	Understanding process optimization options	This is one of the most important conditions for effective work on the regulations. The second result is the ability to initiate and execute internal organizational development projects that change the organization's processes. Starting points are an understanding of problems in processes and ways to eliminate them.
Development of regulations	The possibility of introducing effective standards for business processes	The main result of the development process is the regulations. But not just regulations. These are: a) documents that can actually be implemented; b) documents, the implementation of which means the effective and efficient implementation of processes in practice. The development process should produce a quality result in terms of practical work.
Implementation of regulations of business processes	The ability to conduct business according to effective standards	The written standard and the implemented standard are two big differences. The main result of the process is that employees: a) thoroughly know the requirements; b) have the right job skills; c) understand the importance of performing the work in accordance with the requirements. It should be noted that the process does not include the operational management or control of the execution of regulations
Knowledge base support, web-portal support	The ability to access the knowledge base for business standards	Ease and simplicity of access to regulatory documents is crucial for the effective work of BPO. The knowledge base and, especially, the internal web-portal are the necessary tools for this. The main result of the process is the possibility of quick and easy access to information. In other words, this is the creation of an information space in the field of regulating the activities of a company.
Training and certification of personnel on regulations	Knowledge, skills and workmanship on standards to improve business performance.	Periodic identification of the real level of knowledge of standards and assessment of the level of practical skills in working with standards is a tool for improving the activities performed. The result of this process is real knowledge and skills to work according to standards. Employees who know and meet the requirements of the standards, directly affect the overall business efficiency.
Storage of regulations Storage of regulations and issuing copies	Reducing the risk of doing Reducing the risk of doing business. The ability to use standards.	There can be still a practical need to use recorded paper copies of regulatory documents. This process enables There can be still a practical need to use recorded paper copies of regulatory documents. This process enables legitimate use of copies. It is important that all copies should be current. Thus, the process reduces the risks that may arise when using outdated copies of regulatory documents when performing activities.

(table continues)

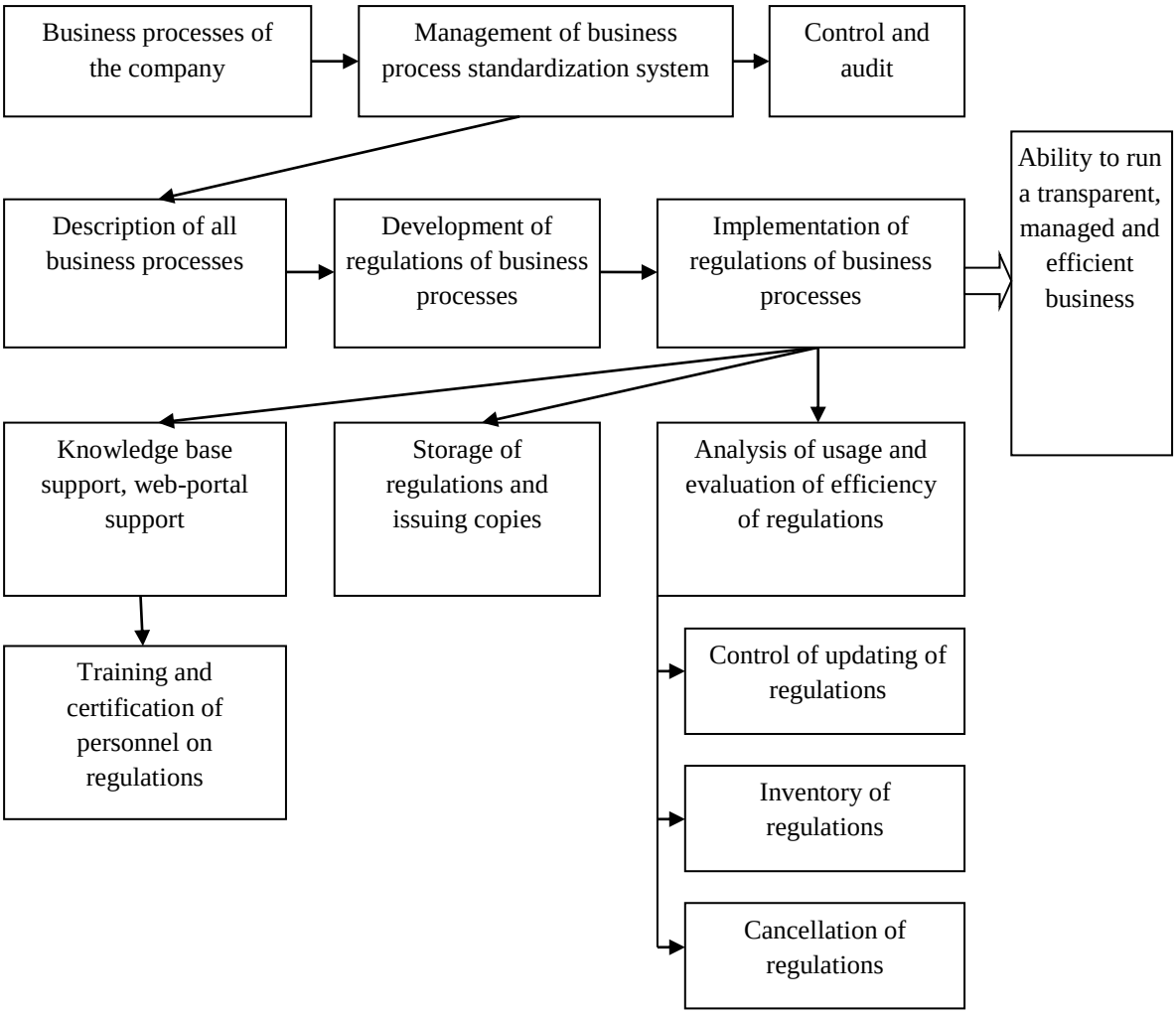
(continued)

Name of process	Main result	Description
Storage of regulations Storage of regulations and issuing copies	Reducing the risk of doing Reducing the risk of doing business. The ability to use standards.	There can be still a practical need to use recorded paper copies of regulatory documents. This process enables There can be still a practical need to use recorded paper copies of regulatory documents. This process enables legitimate use of copies. It is important that all copies should be current. Thus, the process reduces the risks that may arise when using outdated copies of regulatory documents when performing activities.
Analysis of usage and evaluation of efficiency of regulations	The possibility of improving the efficiency of using standards for business.	A company that wants to develop must understand the shortcomings and perspective possibilities of each of its subsystems. The BPO is a part of the work system that is responsible for the availability and use of regulations. This subprocess is needed to understand how effectively the company uses existing standards. Analysis of the practical use of regulations and the identification of problems, make it possible to make decisions that increase the efficiency of using standards for business.
Control of updating of regulations	Compliance of standards with business requirements	Regulations are constantly becoming obsolete. Life and work are constantly changing. Business is forced to constantly change, synchronizing its processes with the external environment, customers, suppliers and so on. Timely monitoring of the relevance of the regulations makes it possible to change the standards on time, maintaining their compliance with the requirements of the business.
Inventory of regulations	Compliance of standards with business requirements	The purpose of the process almost repeats the previous one, but the methods for performing these processes are different. Inventory is conducted every six months (year) by a more complex method. Reveals the real state of each regulation in terms of relevance and practical utility for the business.
Cancellation o regulations	Reducing the risk of doing business	The use of obsolete (irrelevant documents) by employees increases the risks for the company. Incorrect actions are possible, leading to the need to rework work, penalties, etc. Therefore, the timely cancellation of regulations (including notification of employees) leads to a reduction in the risks of doing business.
Control and audit	Understanding of problems and assessment of the effectiveness of work on standards	The inclusion of an internal audit process in the structure of the BPO may seem controversial. But it is needed because of the possibility of identifying deviations of the activities performed from the approved standards, identifying and eliminating the causes of these deviations. Internal auditing is an important part of BPO, since it provides an understanding of the problems and an assessment of the effectiveness of work on standards.

Source: Own work.

On Figure 17 the Business Process Office's processes are shown. They were developed based on description of main processes of BPO and the requirements to it.

Figure 17: The Business Process Office's processes



Source: Own work.

In order to reduce risks and improve the efficiency of work on description and regulation of business processes, company needs the solution of the problem in a comprehensive, systematic manner. BPO would standardize companies' business processes as it is a set of processes, methods, tools and resources that provide a description of business processes, development, commissioning, performance control, keeping up to date, improving, assessing the effect on business and timely abolishing regulatory -methodical documents of FIM Group of Companies on day-to-day processes: from request for delivery a pen to financing start-ups.

4.3 Establish and Implementing Procedural Guidelines

The BPO team, together with the process owners, should develop the company's process tree, which should be approved by the CEO. The order and degree of BP decomposition should be determined by the BPO team in consultation with the CEO. The definition of described and regulated business processes should be conducted by the company's management with the obligatory involvement of representatives of the functional management departments. The level of details of the business processes' description should be determined by the business process owners together with representatives of the BPO team. Requirements for the regulation of the business process should be the next. The business process is subject to regulate and achieve the following goals (Table 11):

Table 11: The main goals of business processes regulation

Level of management	**The main goals**
Top managers	Formation of an effective management system based on business processes.
	A clear delineation of responsibility and authority between managers and departments in the framework of business processes.
	Development of business process performance indicators and methods for their evaluation and analysis
	Creating mechanisms (procedures and techniques) for continuous improvement of business processes
	Preparation for automation of business processes in the company
Operating managers	Development of regulatory documents that regulate business processes
	Creation of mechanisms (procedures and techniques) for continuous improvement of business processes
	Staff training on issues related to participation in business processes
Specialists	Creation of instructions and techniques that determine the activities of specialists in the framework of business processes

Source: Own work.

While regulating a business process, the following information should be collected (Table 12).

Table 12: Procedural guidelines of business processes regulation

Characteristics of the business process	**Information on the business process to be collected**
Name and purpose of the business process	Name of the business process. The purpose of the business process.

(table continues)

(continued)

Characteristics of the business process	**Information on the business process to be collected**
Information about the department or divisions	Full and abbreviated name of the department (or divisions) performing the business process or participating in the execution of the business process
Business process owner	Position of the business process owner
Responsibility matrix	Provides a list of the main operations performed during business process, and responsible persons for their implementation
Clients and outputs of the business process	A list of consumers of the business process, indicating the outputs they receive. Business process outputs: product, service, document, information. Brief specification or reference to it.
Business process inputs and their suppliers	A list of suppliers of the business process, indicating the inputs they give. Business process inputs: product, service, document information. Brief input specification or link to it. Specifies who is the supplier of the input or external initiator of actions.
Graphic diagrams of the business process and their text description	Graphic schemes and text description of the business process
Business process indicators	1. The quantitative indicators that characterize the business process, the absolute and / or relative costs of its implementation. 2. Reference to the document where this indicator is fixed and the method of its calculation is given (or a description of this method). 3. Usage of the indicator: a) making management decisions; b) a report to the supervisor (the CEO)
Indicators of consumer satisfaction	The names of quantitative indicators by which process owner and the BPO team can assess the degree of consumer's satisfaction with the results of the business process.
Glossary of terms	Terms used in the business process.
List of documents	A list and brief description of the documents that are used in the execution, description and regulation of the business process

Source: Own work.

Short descriptions of procedures are presented below.

- The name and purpose of the business process is based on the processes' tree approved in the company.
- Information on the units that are involved in the process is determined on the basis of the organizational structure of the company.

- The assignment of the owner of the business process is carried out by the consumer of the business process. When appointing the owner of the business process, the following factors are taken into account: it is subordinate to and manages the functions of this business process; has at its disposal the resources to conduct this business process; has at its disposal the information necessary to manage the business process; is responsible to the head or director for the result of the business process and its effectiveness.
- It is the responsibility of the owner of the business process to determine the list of operations of the business process and build the matrix of responsibility.
- The owner of the business process is responsible for determining the consumers of the business process. For each client of the business process, the outputs of the business process and their requirements are determined. The received data is recorded in the schedule template. It should be borne in mind that the regulation should include all, without exception, consumers of this business process, internal and external, as well as all outputs of this business process. The consumer of the business process has the priority for drafting the specification for output.
- The owner of the business process is responsible for determining the list and specifications for the inputs of the business process and suppliers of the business process. For each business process, the inputs and their requirements are defined. The obtained data is recorded in the business process regulations. It should be borne in mind that the regulation should include all, without exception, the suppliers of this business process, internal and external, as well as all the inputs of this business process.
- The formation and verification of the correctness of business process diagrams are the responsibility of the process owner and the BPO team. The owner of the described business process is responsible for checking the adequacy and consistency of the business process diagrams with actual business processes.
- Indicators of the business process must meet the following requirements: indicators must adequately reflect the real situation; it is recommended to define quantitative indicators; there should be groups of indicators according to which the owner of the business process leads the management of the business process. There should also be indicators for which the owner of the business process reports to the head or the director.
- The regulation is supplemented by a glossary and description of the documents of the business process.

The information given in Table 12 is entered into the business process regulation template that should be agreed by all the participants of the business process and approved by the CEO. The BPO performs coordination, sighting, and approval of the regulations in accordance with the procedures established in the company. The regulation is enacted by the order of the CEO.

4.4 Implementing Quality Management System

The development and implementation of a quality management system is a set of activities that concerns various aspects of an company's activities, workflow, personnel management, production subsystem, internal communications, strategic management subsystem, logistics subsystem, sales subsystem, product sales and, of course, BPO. The work of BPO is headed on improving the quality of work of all employees. The development and implementation of a quality management system (hereinafter: QMS) in FIM Group of Companies should be implemented in several stages, because of the fact that QMS should reflect a cyclic process for monitoring, evaluating and, if necessary, improving the quality of the processes:

- first, analysis of the existing situation in the company and personnel training should be provided in order to prepared for the implementation;
- second, development of documentation and change of work of employees should be provided in order to implement the system;
- third, conducting an internal audit of the quality system should be provided in order to evaluate the results.

At the first stage of the creation of the QMS, the management of FIM Group of Companies should define goals, policies, quality commitments, observing the following principles: the policy is the basis for determining the goals necessary to improve product quality; the quality policy is part of the overall strategy and policy of the company; regulation of business process should be directed to improve the quality of work of all employees.

Creating a QMS begin with the fact that the BPO team developed a work plan, which should be approved by the CEO. The plan specifies the stages and types of work, their deadlines, and performers. The plan consisted of the following:

- the policy and objectives of the company in the field of quality;
- identification of business processes of the organization;
- establishing the authority of the company's officials in the;
- development of a motivational mechanism;
- training the personnel of the company involved in the development of the QMS.

The second stage consists of a comprehensive analysis of the quality management of services of the company and the development of a conceptual model of the QMS. Analyzing the state of quality management, the BPO team should solve the following tasks, because of the fact that the BPO team in order to build as perfect QMS as possible should take into account all the processes and their procedures, all the possible errors and negative facts that influence the quality of processes:

- How the processes are performed at workplaces;
- Are there mechanical or non-mechanical errors;
- If there are random errors among these errors,

– What should be taken into account when developing the QMS and regulations for business processes.

The above questions should cover every department in the company. Then the QMS documentation system should be developed, which is one of the most important components necessary for the normal functioning of the QMS and business processes of the company. It provides the performance of functions by defining forms and types of interactions and establishing the order of input and output of information. The quality management system documentation consists of:

– Quality guidelines - is the main document of the system, which describes all the requirements for an enterprise's QMS according to ISO 9001: 2015, and includes the objectives and quality policy of the company;
– Documented regulations of business processes for the coordination of various types of activities that ensure the effective functioning of the QMS and the company as a whole. This also includes quality records that confirm the quality of services or works, which contain the registered values of monitored parameters.

4.5 ERP Functions Improvement

In order to manage all the processes in the company in accordance with new business process regulations, Enterprise Resource Planning System should be improved. Before all the operating companies had their own ERP systems. After implementation of BPO, a corporate ERP system should be developed and implemented. The basis of new ERP-systems is the principle of creating a single repository of data that allows manager of all operating companies of FIM Group of Companies to obtain all corporate business information: planned and financial information, production data, personnel data, etc.

The presence of a single corporate repository allows company to access data from any system, conduct research on effectiveness of business processes in all companies. New ERP system is not only improving the management of the FIM Group of Companies activities, but also reducing the costs and efforts to support its internal information flows.

4.6 Setting Up Main KPIs

In order for the FIM Group of Companies BPO system to work effectively, a clear controlling system is required. Controlling and performance management systems are a set of systematic processes, procedures and methodological approaches used to assess the performance of the company and apply action to improve those (Taylor & Raden, 2007). Such a business control management system should consist of three elements, namely:

– KPIs and their monitoring;
– the mechanism for determining target KPI values;
– KPI-based management process - process of setting tasks, planning work and evaluating results.

Among the general KPIs for the BPO of FIM Group of Companies is advisable to use those that reflect the development of the company:

- total costs;
- quality of service;
- payback time;
- performance;
- return on investment.

The system of key performance indicators for evaluating company's BPO includes groups of indicators whose composition, starting from the client level, essentially depends on the business process management. So, for the development of the company, which is focused on the further growth of performance indicators, key performance indicators should include such indicators that are oriented towards the company's goals. In Table 13 the main KPIs for evaluation of BPO implementation are presented. It should be mentioned that BPO implementation effects all the processes of the company, and the main indicators that evaluate the business of the company are financial, marketing, organizational indicators. These KPIs reflect main goals of the company such as receiving profit as much as possible, gaining customers, raise the efficiency of the company and the BPO implementation should help in achieving all these goals.

Table 13: KPI to evaluate BPO implementation

No	**Goal**	**Indicator**
Financial component		
1	Growth of profitability	Return on assets - ROA Net Operating Profit After Tax - NOPAT Revenue from financing investment projects Revenue from additional services (consulting, project outsourcing)
2	Growth of sales of products	Company's revenue Asset turnover Amount of financing
3	Cost optimization	Total cost Department costs
4	Production growth	Number of completed processes per 1 specialist Number of profitable processes per 1 specialist
Marketing component		
5	Growth of the number of new consumers	Sales volume Return on sales
6	Growth of the number of additional services	Number of additional services The volume of sales of additional services Revenue from additional services Net profit from additional services
7	Growth of the representative network	Company recognizability

(table continues)

(continued)

No	Goal	Indicator
Organizational component		
8	Increase investment efficiency	Return on investment
9	Cost control	Project costs Profit to cost Department costs
10	Quality control and service	Staff performance The number of regular and new customers
11	Building an effective customer relationship system	Sales volume of the company's regular customers Sales of services to regular customers
Internal component		
12	BPO implementation	Level of achievement of strategic goals Process time The quality of processes and control systems The quantity of operational risks Automation of processes

Source: Own work.

Implementation of the BPO in FIM Group of Companies is handled by a controlling manager of BPO who report to the Deputy Director for internal control and audit. His tasks include analytical support of BPO system and analysis of key performance indicators and determining their target levels. The implementation of BPO is not limited to the creation of a highly professional analytical department, but requires a radical restructuring of the methods and practices of the entire company. It is important to correctly position work with an emphasis on the process iteration and the involvement of line units in determining their KPIs.

5 INVESTIGATED COMPANY MATURITY LEVEL ANALYSIS AFTER BPO IMPLEMENTATION

After the implementation of BPM on the base of introduction of Business Process Office, the results of implementation should be measured. This chapter aims to provide empirical findings regarding the level of business process management of the investigated company, namely the investment group of companies «Finance Investment Management», after BPO implementation.

5.1 Methodology approach

For assessment the same maturity models should be used: the Process and Enterprise Maturity Model, the BPO Maturity Model, the Capability Maturity Model Integration and the Business Process Maturity Model. The research about results of implementation of BPO was conducted during November, 2018. Assessment was carried out also by an expert method. Experts were employees of the company. For evaluation the following group of experts has been defined (Table 14).

Table 14: Group of experts

#	**Expert**
1	Deputy Director for Finance and Investment
2	Deputy Director for Business Process
3	Deputy Director for Internal Control and Audit
4	Head of BPO department
5	Director of FIM Consulting Plus
6	Director of FIM Capital
7	Head of economic support of FIM Consulting Plus
8	Head of legal and contractual support of FIM Consulting Plus
9	Head of economic support of FIM Capital
10	Head of legal and contractual support of FIM Capital

Source: Own work.

A method for collection of primary data was interviews. An interview was in the form of a conversation and discussion based on characteristics of the maturity levels of the maturity models.

5.2 Empirical study of the maturity level of FIM Group of Companies after BPO implementation

First, the Process and Enterprise Maturity Model was used. The experts evaluated the maturity of business processes in the company after analyzing project of BPO implementation, they declined the statements for different levels, from P-1 to P-4. Summarized results are presented in Table 15.

Table 15: Experts about Maturity level of FIM Group of Companies by PEMM after changes

		P-1	**P-2**	**P-3**	**P-4**
Design	Purpose	0%	30%	60%	10%
	Context	0%	40%	50%	10%
	Documentation	10%	30%	50%	10%
Performers	Knowledge	0%	0%	70%	30%
	Skills	0%	10%	60%	30%
	Behavior	0%	10%	70%	20%
Process Owner	Identity	0%	40%	50%	10%
	Activity	10%	30%	40%	20%
	Authority	10%	20%	50%	20%
Infrastructure	Information systems	10%	30%	50%	10%
	Human resource system	0%	20%	60%	20%
Metrics	Definition	20%	20%	50%	10%
	Usage	10%	30%	50%	10%

Source: Own work.

In Table 16 the assessment of Maturity level of FIM Group of Companies by PEMM is shown.

Table 16: Maturity level of FIM Group of Companies by PEMM after changes after changes

		P-1	P-2	P-3	P-4
Design	Purpose				
	Context				
	Documentation				
Performers	Knowledge				
	Skills				
	Behavior				
Process Owner	Identity				
	Activity				
	Authority				
Infrastructure	Information systems				
	Human resource system				
Metrics	Definition				
	Usage				

Source: Own work.

On Figure 18 the assessment of Maturity level of FIM Group of Companies by PEMM before changes and after changes is shown.

Figure 18: Maturity level of FIM Group of Companies by PEMM before and after changes

Source: Own work.

According to Figure 16, the Maturity level of FIM Group of Companies by PEMM increased from level 2 to level 3.

After, the maturity level of FIM Group of Companies by the Business Process Maturity Model was assessed. The experts evaluated the maturity of organizational factors by different levels, from L-1 to L-5 after analyzing project of BPO implementation. Summarized results are presented in Table 17.

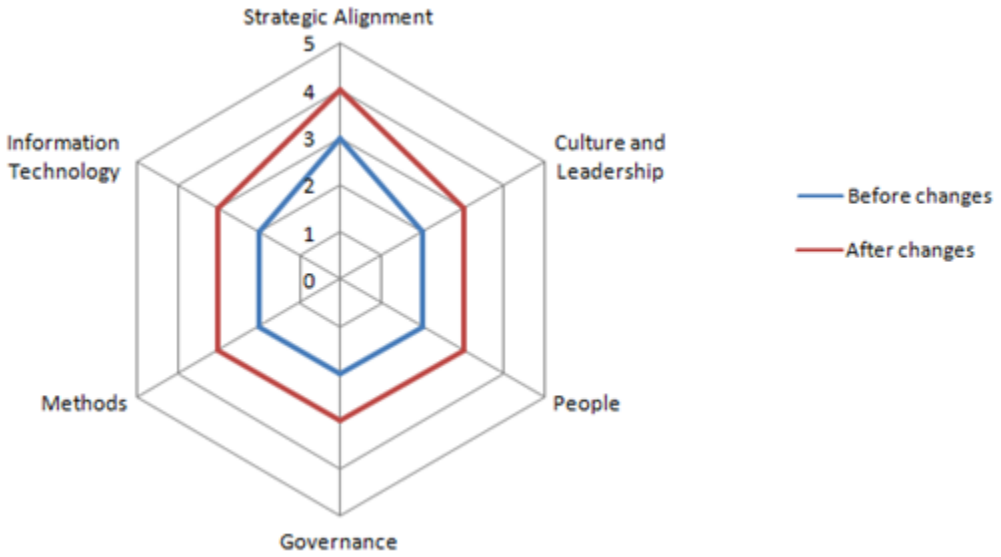
Table 17: Experts about Maturity level of FIM Group of Companies by BPMM after changes

	L-0	**L-1**	**L-2**	**L-3**	**L-4**	**L-5**
	Acknowledge Operations Inefficiency	Process Aware	Intraprocess Automation and Control	Interprocess Automation and Control	Enterprise Valuation Control	Agile Business Structure
Strategic Alignment	0%	0%	10%	40%	40%	10%
Culture and Leadership	0%	0%	30%	50%	10%	10%
People	0%	0%	40%	50%	10%	0%
Governance	0%	10%	20%	60%	10%	0%
Methods	0%	10%	10%	50%	20%	10%
Information Technology	0%	10%	20%	50%	10%	10%

Source: Own work.

On Figure 19 the assessment of Maturity level of FIM Group of Companies by BPMM based on the opinion of the experts before and after changes is shown.

Figure 19: Maturity level of FIM Group of Companies by BPMM before and after changes



Source: Own work.

In general, according to the experts and BPMM, it can be said that the company's maturity level is between the third and fourth level of maturity (mainly third level). So, according to figure 17, the Maturity level of FIM Group of Companies by BPMM increased from level 2 to level 3.

After, the maturity level of FIM Group of Companies by the Capability Maturity Model Integration was assessed. The experts evaluated the maturity of different factors and characteristics of the company by different levels, from L-1 to L-5 after analyzing project of BPO implementation. Summarized results are presented in Table 18.

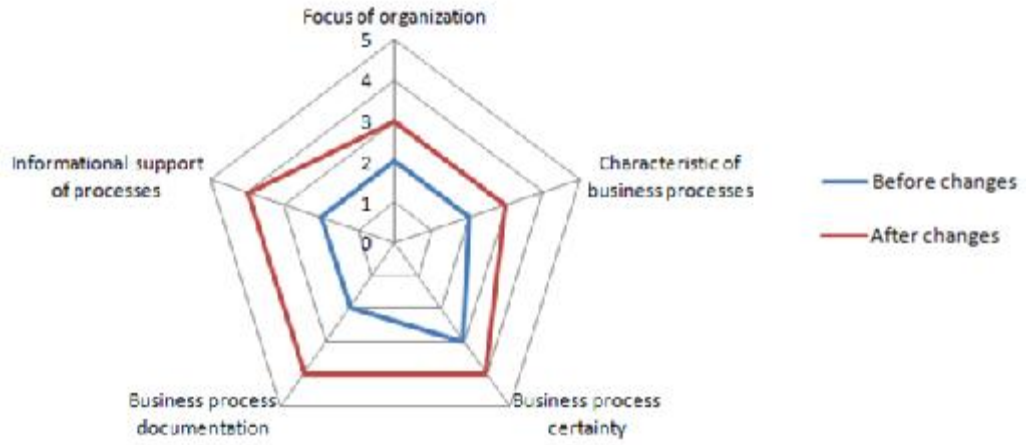
Table 18: Experts about Maturity level of FIM Group of Companies by CMMI after changes

Maturity Level	**Initial**	**Managed**	**Defined**	**Quantitatively managed**	**Optimizing**
Focus of organization	0%	30%	60%	10%	0%
Characteristic of business processes	0%	30%	50%	10%	10%
Business process certainty	0%	10%	30%	40%	20%
Business process documentation	0%	10%	20%	60%	10%
Informational support of processes	0%	10%	30%	50%	10%

Source: Own work.

On Figure 20 the assessment of Maturity level of FIM Group of Companies by CMMI based on the opinion of the experts before and after changes is shown.

Figure 20: Maturity level of FIM Group of Companies by CMMI before and after changes



Source: Own work.

In general, according to the experts and BPMM, it can be said that the company's maturity level is between the third and fourth level of maturity (mainly third level). So, according to figure 18, the Maturity level of FIM Group of Companies by BPMM increased from level 2 to level 3.

After, the maturity level of FIM Group of Companies by the BPO Maturity Model was assessed. The experts evaluated the maturity of different processes and the company by different levels, from L-1 to L-5 after analyzing project of BPO implementation. Summarized results are presented in Table 19.

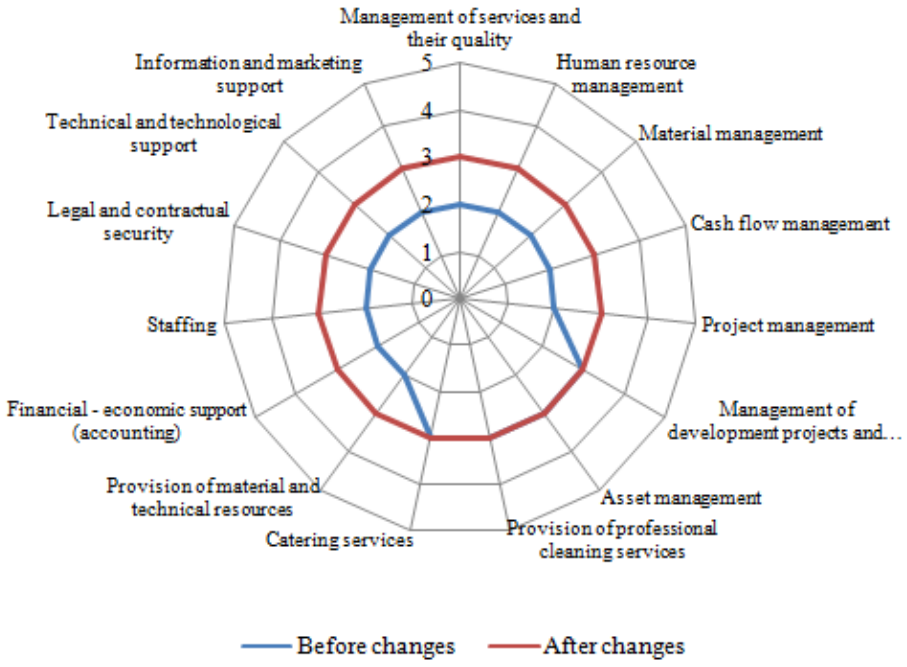
Table 19: Experts about Maturity level of FIM Group of Companies by BPOMM after changes

	L-1	**L-2**	**L-3**	**L-4**	**L-5**
	Ad Hoc	Defined	Linked	Integrated	Extended
Management processes					
Management of services and their quality	0%	20%	50%	20%	10%
Human resource management	0%	30%	50%	10%	10%
Material management	0%	20%	60%	10%	10%
Cash flow management	0%	20%	60%	10%	10%
Project management	0%	30%	60%	10%	0%
Main processes					
Management of development projects and commercial real estate	0%	20%	50%	30%	0%
Asset management	0%	10%	60%	30%	0%
Provision of professional cleaning services	0%	10%	50%	30%	10%
Catering services	0%	10%	70%	20%	0%
Supporting processes					
Provision of material and technical resources	0%	20%	40%	30%	10%
Financial - economic support (accounting)	0%	20%	60%	20%	0%
Staffing	0%	10%	50%	30%	10%
Legal and contractual security	0%	20%	50%	20%	10%
Technical and technological support	0%	10%	60%	30%	0%
Information and marketing support	0%	10%	60%	20%	10%

Source: Own work.

On Figure 21 the assessment of Maturity level of FIM Group of Companies by BPOMM based on the opinion of the experts before and after changes is shown.

Figure 21: Maturity level of FIM Group of Companies by BPOMM before and after changes



Source: Own work.

In general, according to the experts and BPOMM, it can be said that the company's maturity level can increase from the second to the third level of maturity. So, it can be said, that according to the PEMM, the BPOMM, the CMMI and the BPMM and the opinion of experts, the employees of FIM Group of Companies, the company's maturity level after BPO implementation can increase.

CONCLUSION

This paper has been written with an intention to analyze and discuss the main effects of introduction of Business Process Office and Business Intelligence that involves implementation of QMS and monitoring analyzing KPIs on the Company's BPM Maturity Level and organizational performance. First of all, in the work was carried out the critical review of the theoretical aspects of the main characteristics of business process management, business process orientation and business intelligence. It was noted that a business process is several related activities of or procedures inputs and outputs that collectively implement the specific goal of the current activity within the existing organizational structure.

In order processes to be high effective, business process intelligence and business process offices are implemented. Business processes assessment is launched through different business process maturity concepts and models. The author has analyzed business process

maturity concepts. It was noted that the implementation of different processes should be formulated taking into account the level of maturity of these processes. After obtaining an assessment of maturity, it is possible to work out the necessary measures to increase the maturity of the processes and the organization as a whole.

The current maturity level of the case company was studied by the Process and Enterprise Maturity Model, the BPO Maturity Model, the Capability Maturity Model Integration and the Business Process Maturity Model. According to the PEMM, the BPOMM, the CMMI and the BPMM and the opinion of experts, the employees of FIM Group of Companies, the company's maturity level is mainly second level. Based on the received data main recommendations for the FIM Group of Companies were presented according to the finding of the research. In order to improve business processes in FIM it is recommended to form a department of internal control and audit and a business process office.

The Business process office should describe and regulate all the business processes of the company. The definition of described and regulated business processes should be conducted by the company's management with the obligatory involvement of representatives of the functional management departments. The author provides description of BPO processes and procedural guidelines of business processes regulation. Also the author proposed to implement a quality management system and developing of QMS documentation system as one of the most important components necessary for the normal functioning of the QMS and business processes of the company.

Also it was recommended to improve Enterprise Resource Planning System: a corporate ERP system should be developed and implemented. The basis of new ERP-systems is the principle of creating a single repository of data that allows manager of all operating companies of FIM Group of Companies to obtain all corporate business information. After analyzing project of BPO implementation the experts evaluated the maturity of business processes in the company. According to the PEMM, the BPOMM, the CMMI and the BPMM and the opinion of experts, the employees of FIM Group of Companies, the company's maturity level after BPO implementation can increase.

Overall, the main aim of this research was achieved – maturity level of the case company can be increased by implementing business process office and business intelligence concept.

The research questions were answered:

– The current business process maturity level of the company can be higher through introduction of business process office. In order to improve business processes in FIM and increase company's maturity level a business process office was implemented, a special governing body that is provided by leadership and fixing decision-making

rights. Before the implementation of the BPO the maturity level was mainly second level. After the implementation of the BPO the maturity level was mainly third level.

– The current business process maturity level of the company can be higher through introduction of business intelligence. In order to improve business processes in FIM a controlling system was implemented based on QMS and set of KPIs. Before the implementation of the controlling system the maturity level was mainly second level. After the implementation of the controlling system the maturity level was mainly third level.

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APPENDICES

Appendix 1 : Povzetek (Summary in Slovene language)

Upravljanje poslovnih procesov je v trenutnih gospodarskih razmerah in pri visoki stopnji konkurenčnosti eden od ključnih dejavnikov uspeha za katero koli organizacijo. Oblikovanje in optimiziranje poslovnih procesov vpliva na operativno ter strateško delovanje podjetja in v končni fazi tudi na dobičkonosnost in ocene podjetja. Današnje upravljanje zahteva stalno nadzorovanje in posodabljanje poslovnih procesov, procesni pristop pa je poleg sistemskih, vedenjskih in funkcionalnih pristopov eden od glavnih osnovnih pristopov. Procesni pristop je ena od najnaprednejših metod organizacije upravljanja v podjetju.

Z nalogami upodobitve, preoblikovanja, optimizacije, , upravljanje in vzdrževanja poslovnih procesov se običajno ukvarja oddelek za poslovne procese, ki je ločen oddelek v podjetju, odgovoren za «usklajevanje» različnih področij: strategije, tehnologije, informacijskih sistemov, poslovnega obveščanja in logistike. Vloga oddelka za poslovne procese (v nadaljevanju BPO) mora biti prav to: omogočati mora sinergijo, asertivnost, povezanost, integracijo in usklajevanje pobud podjetja (Klein, 2012). Če podjetje deluje kot nedeljiva celota, se bodo v njem izboljšali učinkovitost, usklajeno delovanje, dobičkonosnost, kakovost in produktivnost.

Namen te diplomske naloge je analizirati ter opredeliti glavne vplive uvedbe oddelka za poslovne procese in poslovnega obveščanja, ki vključuje uvedbo sistema vodenja kakovosti (QMS) in nadzorovanje analitičnih ključnih kazalnikov uspešnosti (KPI) na ravni stopnje zrelosti za BPM podjetja in organizacijske učinkovitosti. V nalogi je bil najprej izveden kritični pregled teoretičnih vidikov upravljanja poslovnih procesov, usmeritve poslovnih procesov in poslovnega obveščanja. Ugotovljeno je bilo, da poslovni proces sestavlja več povezanih aktivnosti ali postopkov vhodov in izhodov, ki skupaj poskušajo uresničiti določen cilj trenutne aktivnosti v okviru obstoječe organizacijske strukture.

Uvedeni so poslovno obveščanje o procesih in oddelki za poslovne procese, ki zagotavljajo visoko učinkovitost procesov. Ocenjevanje poslovnih procesov je izvedeno z različnimi koncepti zrelosti in zrelostnimi modeli poslovnih procesov. Avtor je analiziral koncepte zrelosti poslovnih procesov. Ugotovljeno je bilo, da je treba oblikovati izvedbo različnih procesov in pri tem upoštevati stopnjo zrelosti teh procesov. Po pridobitvi ocene zrelosti je mogoče pripraviti potrebne ukrepe za povečanje stopnje zrelosti procesov in organizacije kot celote.

Za preučevanje trenutne stopnje zrelosti podjetja, ki je bilo vključeno v raziskavo, so bili uporabljeni zrelostni model procesov in podjetja, zrelostni model BPO, združeni model stopenj zrelosti in zrelostni model poslovnega procesa. Na podlagi modelov PEMM, BPOMM, CMMI in BPMM ter po mnenju strokovnjakov in zaposlenih v skupini podjetij

FIM je stopnja zrelosti podjetja večinoma na drugi stopnji. Na podlagi prejetih podatkov so bila glavna priporočila za skupino podjetij FIM predstavljena v skladu z ugotovitvami študije. Za izboljšanje poslovnih procesov v podjetju FIM je priporočeno oblikovanje oddelka za interni nadzor in revizijo ter oddelka za poslovne procese.

Oddelek za poslovne procese bi moral opredeliti in izvajati vse poslovne procese podjetja. Opredelitev opisanih in nadzorovanih poslovnih procesov bi moralo izvesti vodstvo podjetja z obveznim sodelovanjem predstavnikov oddelkov za funkcionalno upravljanje. Avtor opiše procese BPO in postopkovne smernice za izvajanje poslovnih procesov. Avtor tudi predlaga uvedbo sistema za vodenje kakovosti in razvoj dokumentacijskega sistema za QMS kot enega od najpomembnejših sestavnih delov, ki je potreben za običajno delovanje sistema QMS in poslovnih procesov podjetja.

Avtor priporoča tudi izboljšanje sistema za načrtovanje virov podjetja: v podjetju je treba razviti in uvesti sistem ERP. Osnova za nove sisteme ERP je načelo ustvarjanja ene same shrambe podatkov, ki vodjem vseh operativnih podjetij v skupini podjetij FIM omogoča pridobitev vseh poslovnih podatkov družbe. Strokovnjaki so po analizi projekta uvedbe modela BPO ocenili zrelost poslovnih procesov v podjetju. Na podlagi modelov PEMM, BPOMM, CMMI in BPMM ter po mnenju strokovnjakov in zaposlenih v skupini podjetij FIM se lahko stopnja zrelosti podjetja po uvedbi modela BPO izboljša.

Glavni cilj te raziskave je bil na splošno uresničen – stopnjo zrelosti v podjetju, ki je bilo vključeno v raziskavo, je mogoče povečati z oblikovanjem oddelka za poslovne procese in koncepta poslovnega obveščanja.

Pridobljeni so bili odgovori na vprašanja v raziskavi:

1. Trenutno stopnjo zrelosti poslovnih procesov podjetja je mogoče povečati z uvedbo oddelka za poslovne procese. Za izboljšanje poslovnih procesov v podjetju FIM in povečanje stopnje zrelosti podjetja je bil uveden oddelek za poslovne procese, tj. poseben upravljavski organ, ki ga oblikujejo vodstvo in določene pravice za sprejemanje odločitev. Pred uvedbo modela BPO je bila stopnja zrelosti večinoma na drugi stopnji. Po uvedbi modela BPO je bila stopnja zrelosti večinoma na tretji stopnji.
2. Trenutno stopnjo zrelosti poslovnih procesov podjetja je mogoče povečati z uvedbo poslovnega obveščanja. Za izboljšanje poslovnih procesov v podjetju FIM je bil uveden sistem nadzora, ki temelji na sistemu vodenja kakovosti (QMS) in naboru ključnih kazalnikov uspešnosti (KPI). Pred uvedbo sistema nadzora je bila stopnja zrelosti večinoma na drugi stopnji. Po uvedbi sistema nadzora je bila stopnja zrelosti večinoma na tretji stopnji.

Appendix 2: Assessing the Maturity of Processes of PEMM (Hammer, 2007)

		P-1	P-2	P-3	P-4
Design	Purpose	The process has not been designed on an end-to-end basis. Functional managers use the legacy design primarily as a context for functional performance improvement.	The process has been redesigned from end to end in order to optimize its performance.	The process has been designed to fit with other enterprise processes and with the enterprise's IT systems in order to optimize the enterprise's performance.	The process has been designed to fit with customer and supplier processes in order to optimize interenterprise performance.
	Context	The process's inputs, outputs, suppliers, and customers have been identified.	The needs of the process's customers are known and agreed upon.	The process owner and the owners of the other processes with which the process interfaces have established mutual performance expectations.	The process owner and the owners of customer and supplier processes with which the process interfaces have established mutual performance expectations.
	Documentation	The documentation of the process is primarily functional, but it identifies the interconnections among the organizations involved in executing the process.	There is end-to-end documentation of the process design.	The process documentation describes the process's interfaces with, and expectations of, other processes and links the process to the enterprise's system and data architecture.	An electronic representation of the process design supports its performance and management and allows analysis of environmental changes and process reconfigurations.
Performers	Knowledge	Performers can name the process they execute and identify the key metrics of its performance.	Performers can describe the process's overall flow; how their work affects customers, other employees in the process, and the process's performance; and the required and actual performance levels.	Performers are familiar both with fundamental business concepts and with the drivers of enterprise performance and can describe how their work affects other processes and the enterprise's performance.	Performers are familiar with the enterprise's industry and its trends and can describe how their work affects interenterprise performance.
	Skills	Performers are skilled in problem solving and process improvement techniques.	Performers are skilled in teamwork and self-management.	Performers are skilled at business decision making.	Performers are skilled at change management and change implementation.
	Behavior	Performers have some allegiance to the process, but owe primary allegiance to their function.	Performers try to follow the process design, perform it correctly, and work in ways that will enable other people who execute the process to do their work effectively.	Performers strive to ensure that the process delivers the results needed to achieve the enterprise's goals.	Performers look for signs that the process should change, and they propose improvements to the process.
Owner	Identity	The process owner is an individual or a group informally charged with improving the process's performance.	Enterprise leadership has created an official process owner role and has filled the position with a senior manager who has clout and credibility.	The process comes first for the owner in terms of time allocation, mind share, and personal goals.	The process owner is a member of the enterprise's seniormost decision-making body.
	Activities	The process owner identifies and documents the process, communicates it to all the performers, and sponsors small-scale change projects.	The process owner articulates the process's performance goals and a vision of its future; sponsors redesign and improvement efforts; plans their implementation; and ensures compliance with the process design.	The process owner works with other process owners to integrate processes to achieve the enterprise's goals.	The process owner develops a rolling strategic plan for the process, participates in enterprise-level strategic planning, and collaborates with his or her counterparts working for customers and suppliers to sponsor interenterprise process-redesign initiatives.
	Authority	The process owner lobbies for the process but can only encourage functional managers to make changes.	The process owner can convene a process redesign team and implement the new design and has some control over the technology budget for the process.	The process owner controls the IT systems that support the process and any projects that change the process and has some influence over personnel assignments and evaluations as well as the process's budget.	The process owner controls the process's budget and exerts strong influence over personnel assignments and evaluations.
Infrastructure	Information Systems	Fragmented legacy IT systems support the process.	An IT system constructed from functional components supports the process.	An integrated IT system, designed with the process in mind and adhering to enterprise standards, supports the process.	An IT system with a modular architecture that adheres to industry standards for interenterprise communication supports the process.
	Human Resource Systems	Functional managers reward the attainment of functional excellence and the resolution of functional problems in a process context.	The process's design drives role definitions, job descriptions, and competency profiles. Job training is based on process documentation.	Hiring, development, reward, and recognition systems emphasize the process's needs and results and balance them against the enterprise's needs.	Hiring, development, reward, and recognition systems reinforce the importance of intra- and interenterprise collaboration, personal learning, and organizational change.
Metrics	Definition	The process has some basic cost and quality metrics.	The process has end-to-end process metrics derived from customer requirements.	The process's metrics as well as cross-process metrics have been derived from the enterprise's strategic goals.	The process's metrics have been derived from interenterprise goals.
	Uses	Managers use the process's metrics to track its performance, identify root causes of faulty performance, and drive functional improvements.	Managers use the process's metrics to compare its performance to benchmarks, best-in-class performance, and customer needs and to set performance targets.	Managers present the metrics to process performers for awareness and motivation. They use dashboards based on the metrics for day-to-day management of the process.	Managers regularly review and refresh the process's metrics and targets and use them in strategic planning.

Source: Hammer (2007).