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SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

**A COMPARISON OF BUSINESS PROCESS MATURITY ROADMAPS  
BETWEEN EASTERN AND WESTERN EUROPEAN COMPANIES**

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## LIST OF ABBREVIATIONS

- BP** - Business process
- BPM** - Business Process Management
- BPMMLee** - Business Process Maturity Model
- BPMOMG** - Business Process Maturity Model
- BPMs** - Business process maturity models
- BPO** - Business process orientation
- BPOMM** - BPO Maturity Model
- CEE** - Central and Eastern Europe
- CEO** - Chief Executive Officer
- CFO** - Chief Financial Officer
- CIO** - Chief Information Officer

**CMMI** - Capability Maturity Model Integrated

**COO** - Chief Operations Officer

**HR** - Human Resources

**IP** - Interview participant

**PEMM** - Process and Enterprise Maturity Model

**PJ** - Process jobs

**PMMS** - Process management and measurement

**PPI** - Process Performance Index

**PV** - Process view

**SLR** - Structure literature review



## INTRODUCTION

Companies are constantly facing business challenges such as international competition and increased cost pressure due to demand to satisfy customers and adopt the most recent technologies. Nowadays more significant challenge for business is COVID-19 since it is completely changing the way how companies operate. A number of firms have transformed their business model to adapt to the recent situation on the market and fight COVID-19. They have also adjusted their business models through cooperation between competing companies (Crick & Crick, 2020). Adapting to the novel way of working from home and leading people online can change business models in the future and develop new technologies. Incorporating new technologies without changing the business model is not efficient and can cause more problems than advantages.

Therefore, companies are focusing on managing their business processes with the help of business process management. It allows companies to a faster organizational adaptation to the changing business environment of the market (Neubauer, 2009). By understanding, documenting, and modeling business processes companies can improve their transparency, resource planning, and reduce costs. BPM represents a journey and continuous effort to learn and improve business processes rather than a one-time project. Moreover, BPM requires the company's resources and investments. Therefore, it is not cost-effective to equally invest in all processes, redesign, and analyze each one of them in detail. Some processes require more attention either because of their strategic importance or present trouble (Dumas, La Rosa, Mendling, & Reijers, 2013, p. 33). In practice, companies are trying to reach the maturity of their processes, since processes are seen as assets that need investment and development as they mature. In order to improve their processes, a lot of focus has been given to business process maturity models and business process capabilities. Maturity aims at improving capabilities i.e. skills and competencies that will lead to higher performance. It helps in systematic thinking in companies and gives insight into the completeness and quality of processes within companies (Dumas, La Rosa, Mendling, & Reijers, 2013, p. 44).

As the significance and adoption of business process management increases, it is substantial to determine in what stages companies are in their BPM development (Dharmawan, Divinagracia, Woods, & Kwong, 2019). The researches in the field of BPM maturity have been indicating the positive relationship between BPM maturity level and company's performance. However, a company's performance is under the influence of other factors especially the company's environment (Ongena & Ravesteyn, 2019). This matter makes this master thesis more interesting considering the fact that companies included in this research are based in different countries and different business settings.

Thus, it is highly important to understand a company's environment, different political situations between countries and overall cultural differences that exist between two regions.



They can shape the way companies are developing, starting with their maturity levels to different roadmaps they can take towards their maturity. The fact that this is an under-investigated area of BPM research is giving high relevance to answering the main research question. The main research question is:

What differences in process maturity roadmaps do companies in Eastern and Western Europe have?

The purpose of this work is to better understand the way companies are improving their maturity in Eastern and Western Europe. The goal is to analyze the current BPM maturity of companies and different capability areas that they are focusing on and that can lead to different maturity roadmaps. Furthermore, to present different paths of improvement for their business process maturity. Concerning the scientific relevance of this thesis, the results of different maturity paths will add new aspects to existing BPM theory and fill the gap that exists when it comes to comparing Eastern and Western European companies in the field of BPM. Empirical data will help researchers to better understand the reason why companies are following one or another maturity roadmap and why their priorities change in different stages of business process orientation (BPO) development. It is complemented with empirical evidence from real-life companies in Eastern and Western Europe in the second part of this thesis.

The first part of this work is covering the theoretical background of business process management, business process maturity models and capabilities, and BPM lifecycle. I have done a structured literature review in the first part of this paper to observe the literature in a field of BPM maturity, capability, and roadmaps to BPM maturity. Moreover, the practical part will be divided into several sections that will specify the research method, a description of the situation, analysis, findings, suggestions for improvements, and how the main findings relate to the findings in the literature. Finally, a summary of the main findings will be presented, including limitations, and suggestions for future research.

## **1 THEORETICAL BACKGROUND**

### **1.1 Business process management**

The overall goal of every company is to be more profitable, efficient and to adapt to new challenges in the business environment. All businesses operate in a global economy where competition is getting tougher and customer expectations are rising. As a result, companies are increasing their quality and flexibility in order to satisfy customer's needs but at the same time, they have to be efficient and effective. To become more efficient, companies model, manage and improve their business processes.

The business process (BP) can be defined as “a collection of inter-related events, activities and decision points that involve a number of actors and objects, and that collectively lead to an outcome that is of value to at least one customer” (Dumas, La Rosa, Mendling, & Reijers, 2013, p. 5). Business processes are largely determining quality, productivity, and degree of innovation. When effective, they are considered to be critical corporate assets that account for the company’s costs, market share, and decision-making capabilities (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017).

The company’s processes are now more focused on clients with people and technology integrated into operational and strategic activities (Macedo de Morais, Kazan, Dallavalle de Padua, & Lucirton Costa, 2013). “Business Process Management (BPM) is a body of methods, techniques, and tools to discover, analyze, redesign, execute, and monitor business processes.” (Dumas, La Rosa, Mendling, & Reijers, 2013, p. 5). It can also be defined as “supporting business processes using methods, techniques, and software to design, enact, control, and analyze operational processes involving humans, organizations, applications, documents, and other sources of information” (Weber, 2009, p. 17).

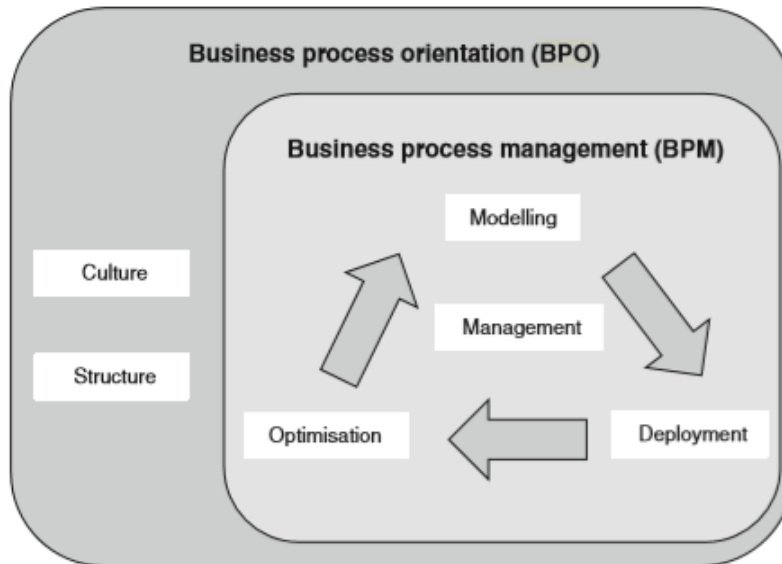
Companies that are performing in highly competitive markets should prioritize BPM because studies conducted in that field show a positive correlation between BPM and organizational success (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017). BPM does not put the focus on improving individual activities but more on entire chains of events that are adding value to the company and customers (Dumas, La Rosa, Mendling, & Reijers, 2013). It can be described from purely organizational to a more technical perspective in other words from the IT aspect as well as a strategic way of managing the organization’s processes (Van Looy, Poels, & De Backer, *Defining Business Process Maturity. A Journey Towards Excellence*, 2011).

Business process activities can be performed manually by the employees or with the help of information technology. IT has an important role in BPM since a large number of the processes in the companies are supported by information technology and even some activities are performed only by information systems. Therefore, for the company to improve its processes, people and information systems need to have effective collaboration (Weske, 2007).

When compared with business process orientation (BPO), BPM refers to characteristics of business processes i.e. traditional business process lifecycle, while BPO adds organization-specific characteristics i.e. culture and structure (Van Looy, 2014). McCormack defines Business process orientation as an organization that emphasizes process, a process-oriented way of thinking, outcomes and customers as opposed to hierarchies (McCormack & Johnson, 2001). A BPO organization is referred to as a horizontal organization, and it improves flows of information and activities that support resource management across departments (Christiansson & Rentzhog, 2019). When defining business processes the focus is usually on process modeling, deployment, business process optimization and management. On the other

hand, BPO combines all that and adds process-oriented culture and process-oriented structure (Figure 1.).

Figure 1. Structure of BPM and BPO



Source: Van Looy (2014).

In a survey done by (Pritchard & Armistead, 1999) BPM has been seen as a major issue for European businesses. Eighty-two percent of respondents said that BPM is very important to their company while only 15 percent said it is fairly important. A very small number, 3 percent of respondents said that they had not yet started BPM. Most of the companies were at the early stage of BPM (Pritchard & Armistead, 1999). It could happen that companies are giving small importance to BPM due to the problems that lead to failure in BPM implementation. Another more recent research (vom Brocke, Becker, Braccini, & Butleris, 2011) was conducted not just to present the importance of BPM but also to show the future issues that companies could have and how to solve them.

Researchers from eight European countries (Czech Republic, Finland, Germany, Italy, Liechtenstein, Lithuania, Poland, and Switzerland) were participating in a workshop in order to identify and improve top BPM issues. One of the major problems they have found is difference between process modeling and execution. Even though, the processes are designed properly it could happen that in the future the model process and the real process fall apart. The reasons are usually high transaction costs and failure in the transfer of innovative ideas between stakeholders. They usually cease to transfer information and ideas about innovations because it takes too much time, or they do not if their ideas will be realized, or if they will be rewarded (vom Brocke, Becker, Braccini, & Butleris, 2011). Collaboration has to be equally important in theory and practice to make the improvement of business processes easier for the companies.

BPM enables companies to be more flexible and to adapt easier to changing conditions in the global market. However, certain studies (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017) showed a high failure rate that is between 60-80% for BPM programs. BPM initiatives often fail to deliver value because of a lack of effort to link individual projects in a broader BPM program (vom Brocke, et al., 2014). The reasons for that are lack of positive organizational culture, lack of support of senior management, the absence of clear roles and responsibilities, insufficient budget and unavailable resources (de Boer & Müller, 2015). To avoid that mindset organizational culture in a company must be supportive of BPM (vom Brocke, et al., 2014). Thus, there is a need to establish more theoretical initiatives and better practical applications of BPM (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017). Strategically implementing BPM inside companies, assigning process-related responsibilities, and understanding process management culture is highly important. Moving beyond departmental boundaries can help to bring BPM benefits inside the whole company (de Boer & Müller, 2015).

## **1.2 Business process maturity models**

Business processes are seen as assets that require investment and development as they mature. Over the years different approaches have been developed to guide an organization in reaching its maturity level (Ongena & Ravesteyn, 2019). Recently, a lot of focus has been given to BPM in general but also BPM maturity and capability. Some articles are focusing on the development of BPM capabilities (Plattfaut, Niehaves, Pöppelbuß, & Becker, 2011), while others on capability areas for BPM maturity as well as the maturity models with an improvement path to organizational processes (Van Looy, De Backer, & Poels, 2014).

Moreover (Ongena & Ravesteyn, 2019) observe empirical evidence in a relationship between BPM maturity and organizational performance. Since the companies are trying to improve their processes, the authors proposed step-by-step roadmaps that can lead to process excellence. Those roadmaps are called business process maturity models (Van Looy, Poels, & De Backer, 2011). Development models for BPM exist under term BPM maturity models (Plattfaut, Niehaves, Pöppelbuß, & Becker, 2011). “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” (Tarhan, Turetken, & Reijers, 2016, p. 1).

By the authors (Niehaves, Poepelbuss, Plattfaut, & Becker, 2014) concept of maturity implicitly relies on life cycle theories, where the BPM life cycle outline stages through which the company develops and it is different for each company. On the other hand, business process maturity models (BPMs) are allowing seeing how good a company is in managing its processes. Maturity models are benchmarks by which one company can compare itself against others (Szelagowski & Berniak-Woźny, 2019). It aims to systematically improve the

capabilities of business processes and to bring higher performance over time. BPM maturity has two aspects. First one is to assess to what extent company has the processes that are ideally expected from it. The second aspect is to see to what degree processes are documented and supported (Dumas, La Rosa, Mendling, & Reijers, 2013, p. 40).

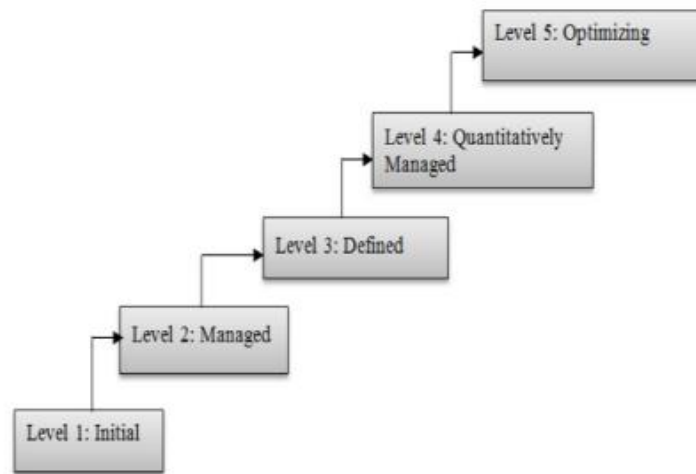
Some articles (Niehaves, Poeppelbuss, Plattfaut, & Becker, 2014) are mentioning a single path to business process maturity. Also (Plattfaut, Niehaves, Pöppelbuß, & Becker, 2011) mention that BPM maturity models are adopting a lifecycle perspective following a unified stage pattern of capability development. Maturity models employ lifecycle perspectives meaning that companies are developing linearly along the predetermined sequence of steps. They are mentioning that the company starts at a low maturity level and progressing towards high maturity, integrated and collaborative BPM. On the other hand (Van Looy, Poels, & Snoeck, 2017) suggest that the highest maturity levels are not an end goal of BPMs but the capability improvements and performance improvements.

The purpose of maturity models is typically descriptive, prescriptive, and comparative. The maturity model serves a descriptive purpose if it can be applied for as-is assessment. It serves a prescriptive purpose if it can identify desirable future maturity model levels and provides guidance on how to implement them. A maturity model serves a comparative purpose if allowed for internal and external benchmarking (Szelagowski & Berniak-Woźny, 2019).

The maturity model measures progress in all capability levels together. Maturity levels guide the evolution of companies with poorly defined and incoherent practices to the level of continuous optimization (Szelagowski & Berniak-Woźny, 2019). Moreover, there are two types of business process maturity where first is for the management of specific business processes based on Capability Maturity Model Integrated (CMMI) (the CMMI example Fig. 2.) and the second one is the maturity of BPM, the management of all business processes in the organization (Van Looy, 2014). One of the most used frameworks for assessing process maturity is CMMI. It provides support for maturity assessment in five CMMI maturity levels starting from Initial to Optimizing (Dumas, La Rosa, Mendling, & Reijers, 2013, p. 40). The most popular BPM maturity models consist of five (i.e. CMM, CMMIv2.0, BPMM, BPOMM) to six maturity levels (i.e. ISO/IEC 33020). According to the authors (Van Looy, De Backer, & Poels, 2014), there are three maturity types:

- business process management maturity- focusing on BP modeling, deployment, optimization and management;
- business process orientation maturity- combinations of BPM maturity and process-oriented culture and structure;
- intermediate BPO maturity- it is BPO maturity that is limited to some process-oriented aspects, usually culture.

Figure 2. BPMM CMMI example



Source: Keshta (2019).

The early roots of business processes can be found in a period of industrial revolutions and growing factories. Over time, the importance of business processes has become more significant. In the late 1980s and early 1990s, studies about BP were focused on end-to-end business processes, and from that moment starts modern business literature. In the twenty-first century, the success of CMM and CMMI inspired researchers to develop other maturity models. In the last two decades, there have been proposed tens of maturity models with various focuses and depth.

The most popular are (Szelagowski & Berniak-Woźny, 2019):

- Process Performance Index (PPI)
- BPR Maturity Model
- Business Process Maturity Model
- BPM Maturity Model
- Process and Enterprise Maturity Model (PEMM)
- Process Maturity Ladder
- Business Process Maturity Model (BPMMLee)
- BPO Maturity Model (BPOMM)
- Business Process Maturity Model (BPMMOMG) and
- Process measurement framework for the assessment of process capability

Today's literature aims at increasing organizational performance by managing and continuously improving business processes. It takes into consideration the technical side but also the human side where it is not enough to do IT change only but organizational change too. The human side is reflected in People CMM and integrated BPMs. The bigger focus is also on organizational characteristics like culture and structure which are defining organizational performance and the way processes can be improved and reorganized (Van Looy, 2014).

### 1.3 BPM capability and capability areas

“Capability is unanimously described as the extent or the range of expected results by following a process” (Van Looy, Poels, & De Backer, 2011, p. 10). The question of BPM capability development is becoming central in contemporary research such as (Kerpedzhiev, König, Roeglinger, & Rosemann, 2020). They are mentioning how capability frameworks have shaped up as an effective management tool. In their research, the authors aimed to compile an updated capability framework there are different perspectives on how capability should be developed. One of them is BPM capability development from a maturity model perspective. BPM capability maturity refers to the development of BPM routines from companies that use ad hoc BPM to highly developed BPM routines. It goes through phases of process discovery, design, deployment, and execution (Niehaves, Poepplbuss, Plattfaut, & Becker, 2014, p. 93). BPM capability maturity models start from immature to highly developed BPM routines. In the early stages, BPM routines are ad hoc and organizational structure is still based on traditional functions.

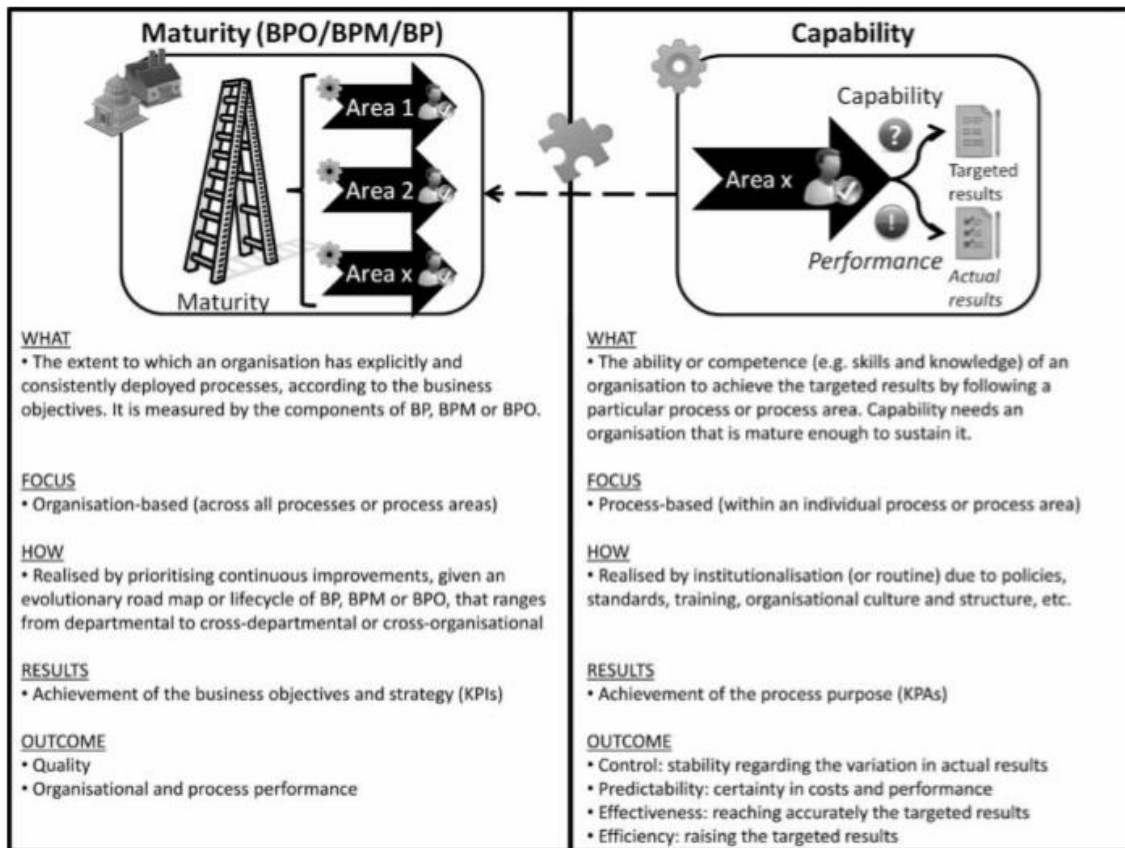
On the other hand, according to (Niehaves, Poepplbuss, Plattfaut, & Becker, 2014) environmental and organizational characteristics could influence capability development. Capabilities can help a company to gain a competitive advantage by using its resources which are hard to imitate. Moreover, there are dynamic capabilities that help a company to reconfigure its resources to effectively respond to fast-changing environments. Ordinary capabilities help companies in the short term while dynamic capabilities are extending ordinary capabilities and directly influence resources and their use within a company (Killen & Hunt, 2013). Contingency theory says that the company needs to achieve a “fit” with its environment to stay competitive. Thus, if low market pressure and a stable company are setting within the network, there is a low need for process change and process management capabilities. Therefore, companies with low dynamic environments should aim at an intermediate BPM maturity level when using the classic maturity model (Niehaves, Poepplbuss, Plattfaut, & Becker, 2014).

All six main capability areas must be assessed in order for the company to fully reach the business process maturity. The main six capability areas are (Van Looy, De Backer, & Poels, 2014):

- Modelling- methods and IT for design and analysis of business processes.
- Deployment- methods and IT for implementation and enactment of the business process.
- Optimisation-comprises methods for evaluation and improvement of business processes.
- Management- daily management for business processes with corresponding skills and training.
- Culture- values that favor business processes.
- Structure- shift in the organization chart to visualize horizontal business processes.

Moreover, these capability areas are addressed by the business process lifecycle theories and organization management theories. The first three capability areas are closely connected to the lifecycle theories and the other three are supported by organization management theories. Also, the first two capabilities support a specific business process while the final two represent characteristics of an organization and they impact the whole portfolio of companies (Van Looy, De Backer, & Poels, 2014)

Figure 3. Maturity and Capability comparison



Source: Van Looy, Poels & De Backer, (2011).

The capability focuses on narrowing the gap between targeted and actual process results (Figure 3.). Maturity, as a result, has the achievement of the business objectives and strategy (Van Looy, Poels, & De Backer, 2011). As capability focuses on individual processes or areas to achieve actual results it needs to use proper resources depending on the environmental changes as mentioned before. Therefore, the operational capability is operating in a stable environment, dynamic capability in mid-level environmental changes, and in unpredictable events, the improvisational capability takes place (Ma, Lang, Sun, & Singh, 2020). All that in order to achieve targeted results efficiently and effectively. While maturity focuses on all organizational processes and process areas to achieve quality process performance. Capabilities are also used to propose maturity models with a help of measurement instruments,



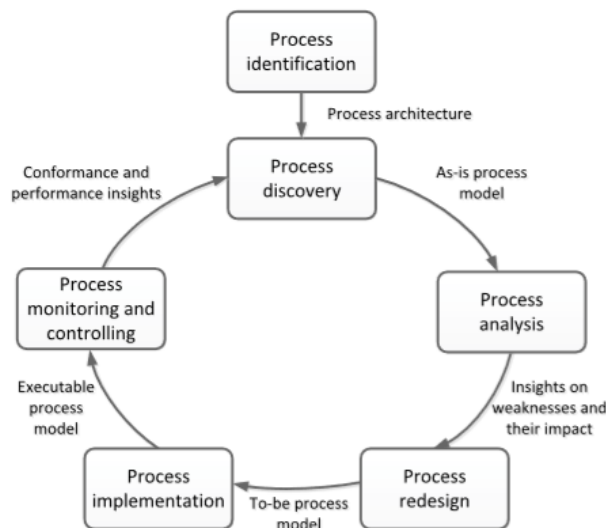
and different maturity models have a different set of measurements and capabilities (Niehaves, Poepplbuss, Plattfaut, & Becker, 2014).

#### 1.4 Life cycle theory

The main task of BPM is to make a balance between individual process components, outputs, inputs, resources and management. If such balance exists the overall quality of processes within the company should be improved and the efficiency of the entire company. Balance can sometimes be achieved through a single initiative, but the iterative approach forms a process management lifecycle, which helps companies to sustain and improve process qualities (Ruževičius, Milinavičiūtė, & Klimas, 2012). BPMs typically adopt a life cycle perspective across diverse capabilities, indicating a unified pattern of capability development. Hence, this perspective outlines a single path that organizations follow in their way of reaching a higher level of maturity (Plattfaut, Niehaves, Pöppelbuß, & Becker, 2011). Usually, in companies that have not been engaged with BPM before, the BPM team needs to start identifying problems, define a scope of processes and relationships between processes.

That initial phase of the BPM initiative is called process identification. The reason why companies are engaging in the BPM initiative in the first place is the idea that the processes that are covered with the BPM initiative are leading to constantly positive outcomes. They should deliver maximum value to their organization and serve their clients. Measuring value is crucial in BPM and performance measurements are generally seen as a part of the process identification phase. A typical BPM lifecycle comprises six phases, starting with process identification, followed by continuation analyzing the current business processes and designing new processes, process implementation, monitoring and control, and at the end refining (also shown in Figure 4.) (Dumas, La Rosa, Mendling, & Reijers, 2013).

Figure 4. BPM lifecycle



Source: Dumas, La Rosa, Mendling, & Reijers (2013).

BPM life cycle phases explained more in detail (Dumas, La Rosa, Mendling, & Reijers, 2013):

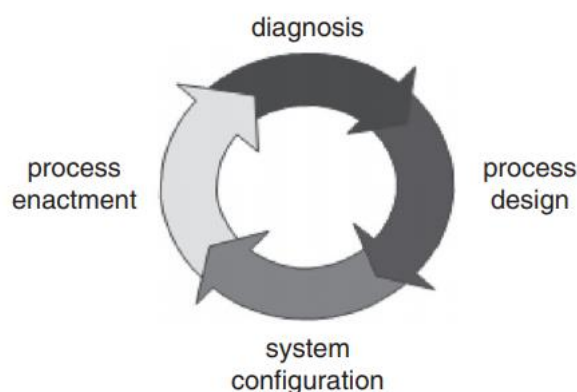
- Process identification. The problem is posed in this phase, and all the processes which are relevant to the problem are being addressed. This leads to process architecture which is typically in the form of a collection of processes and relations between those processes. Not only that relevant processes are being addressed but also process performance measures are being identified. The outcome of processes architecture is new and updated process architecture. It provides an overview of processes in the organization and their relationships.
- Process discovery (also called as-is process modeling). Once performance measure has been identified processes are needed to be understood in detail. The current state of relevant processes is documented in the form of as-is process models. These as-is models reflect an understanding of people in a company how work is done. As-is models are meant to facilitate communication between stakeholders in that way they have to be easy to understand.
- Process analysis. Issues of the as-is process are identified and documented in this phase. The output of this phase is a structured collection of issues. They are usually prioritized in terms of the impact and effort needed to solve them.
- Process redesign (also called process improvement). In this phase, the goal is to identify changes that will address issues previously documented. Multiply change options are analyzed and compared and the most promising change options are combined, leading to the design process. A business analyst is usually the one who creates the process models with the help of modeling tools. They can specify information i.e. what tasks in the process are supposed to do and by whom they are expected to be performed. The output of this phase is the to-be process model. Process models created in this phase are hard for execution because of the lack of technical information, binding IT service (Wetzstein, et al., 2007). The necessary changes in the way of working and IT systems should be implemented so that the to-be model can be put in execution.
- Process implementation. This phase covers two aspects which are organizational change management and process automation. Organizational change management refers to the set of activates required to change the way of working of all participants. It includes explaining the changes to process participants, putting in place a change management plan so that stakeholders know when the change will affect them, and training users to a new way of working. While process automation refers to the development and deployment of the IT system. This system should support the to-be model and participants in the performance. This can include assigning tasks to process participants, helping process participants to prioritize their work and provide participants with the information they need to perform a task.
- Process monitoring and controlling. Once the whole process is redesigned, relevant data is collected to see how well the process is running. Process monitoring displays information on the running process instances i.e. wherein the control flow process halted after a failure.

Monitoring can be also done on a business level, where the business analyst can specify key performance indicators of the process during its modeling and then gets them evaluated and presented in form of dashboards (Wetzstein, et al., 2007). If there are some deviations and bottlenecks they are corrected. Lack of continuous process monitoring and controlling leads to degradation.

There are different lifecycle models proposed in the literature. One of them is proposed by Van der Aalst and includes four steps (Fig. 5.):

- Process design- it starts with the construction of AS-IS and TO-BE models for a better understanding of company's processes
- System configuration- it is the phase in which company's systems are prepared for configuration and implementation of newly designed processes
- Process enactment- execution of configured system
- Diagnosis- diagnosis similar to the previous model includes monitoring and controlling of newly implemented processes in the search for problems (Macedo de Morais, Kazan, Dallavalle de Padua, & Lucirton Costa, 2013)

*Figure 5. BPM life cycle proposed by Van der Aalst*



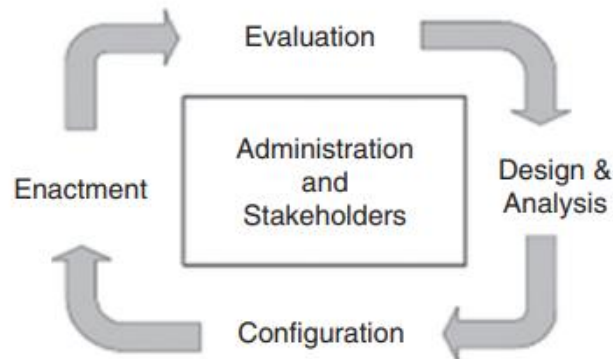
*Source: Macedo de Morais, Kazan, Dallavalle de Padua, & Lucirton Costa (2013).*

Another lifecycle model by Weske. It is quite similar to previous models with four steps (Fig. 1.6):

- design and analysis- it includes identification and modeling of business processes
- configuration- selecting, implementing, and testing processes
- enactment- it is the phase where monitoring and maintenance of processes happens
- evaluation- evaluating performance of business processes (Macedo de Morais, Kazan, Dallavalle de Padua, & Lucirton Costa, 2013)

In comparison to the other BPM lifecycle models, this author emphasizes management and stakeholder's participation in the BPM lifecycle. He underscores the importance of alignment of business strategy with company's performance.

*Figure 6. BPM life cycle proposed by Weske*



*Source: : Macedo de Morais, Kazan, Dallavalle de Padua, & Lucirton Costa (2013).*

In order to improve business processes, it is not only important to follow the right steps, but also to involve the right employees in different phases of BPM adoption. A typical BPM initiative involves managers on different levels in the organization, administrative workers, business and system analysts, and IT teams. The following roles within the company are directly or indirectly involved in BPM initiatives (Dumas, La Rosa, Mendling, & Reijers, 2013).

- **Management Team.** The Chief Executive Officer (CEO) is responsible for the overall success of the company. Chief Operations Officer (COO) is responsible for defining the way operations are set-up. Chief Information Officer (CIO) for the efficient operation of an information system, and usually redesign projects are done by CIO. The Chief Financial Officer (CFO) is responsible for the financial performance of the company. The Chief Process Officer is responsible for standardizing and harmonizing processes in the company. Another manager's position involved in the BPM life cycle is the human resources ('HR') manager. The whole management team is responsible for overseeing all processes, initiating redesign, providing resources, and doing strategic guidance. A team member can be different in different companies according to their strategy. The individual member can be assigned to different units and projects but the overall goal is to achieve proper governance, tools and methodologies (Hrabal, Tuček, Molnár, & Fedorko, 2020).
- **Process Owners.** A process owner is responsible for the efficient and effective process. He is responsible for planning, organizing, monitoring, and controlling. In the phases of planning and organizing, the process owner defines performance measures and leads to improvement projects. They have to secure resources so that processes can run smoothly.

In their monitoring and controlling role, they focus on ensuring that objectives are met and on guiding participants on how to resolve errors. Process owners are considered to be one of the key pillars for a process-oriented organization. They are improving organizational capability (Hernaus, Bosilj-Vuksic, & Indihar Štemberger, 2016)

- Process Participants. They are participating in everyday activities of business processes. Process participants should follow the standards and guidelines of the company and they are coordinated by a process owner. Process participants are mostly doing routine work while the process owner is dealing with more responsible and non-routine process aspects.
- Process Analysts. Process identification, analysis, discovery, and redesign are conducted by the process analysts. They coordinate process implementation, monitoring, and controlling. Process Analysts are responsible for supporting performance measurement system, writing process documentation, and ensuring alignment between tools. They are often a connection between business and information technologies (Hrabal, Tuček, Molnár, & Fedorko, 2020).
- System Engineers. They are involved in the process redesigning and implementation. Together with process analysts, they capture system requirements.
- The BPM Group. Companies that have been involved in BPM for a longer period would have accumulated knowledge and documentation about BPM projects. BPM group is responsible for preserving this knowledge that would help the company to reach its strategic goal. Members of the BPM group are usually process analysts, process architects, managers and internal experts with detailed knowledge of what the company is doing today in terms of BPM. They are responsible for maintaining process architecture, prioritizing process that needs to be redesigned and giving support to process owners.

According to Weske (2007) business engineers have an important role in the business process lifecycle as they are responsible for defining strategic goals and organizational business processes. Moreover, the author is mentioning process designers, process participants, and knowledge workers who are designing, conducting actual work on processes, and use a software system to perform activities in business processes.

These stakeholders need to cooperate closely to designing processes and enacting them. Engaging in the BPM initiative and following the BPM lifecycle theory can enable previously separated business units, who were responsible for different sections of work, to work together. Also, both business and IT employees using common language to understand how to achieve business objectives.

## **1.5 Comparison of business practices and IT in Eastern and Western European companies**

In order to compare BPM maturity roadmaps between Eastern and Western European countries different business practices and level of IT development needs to be presented first. The main difference in business practices came from different political systems in the past between these two regions. Eastern European countries switched from planned to market economies, they have experienced high growth in GDP and many multinational companies moved into Central and Eastern Europe (CEE) in the last two decades. The transition to an open market and new business practices are still visible. Generally, the business environment in CEE countries is not as dynamic as in Western European countries (Brewster & Bennett, 2010).

In the survey conducted by (Brewster & Bennett, 2010) in CEE countries 91% of respondents said that CEE economies and their managers are far from the desired standards of management. Many formal organizational skills such as teamwork, planning, and time management are at a low level. Also, customer orientation, selling skills, and customer services could be improved. Comparing to Western European countries it is not easy to find well-trained managers in Eastern Europe. Moreover, business and commerce are not enough customer orientated and business, in general, is not as organized and efficient as it should be. Deadlines and timetables are taken more seriously in Western Europe (Brewster & Bennett, 2010). Moreover, according to (Buzady, 2016) CEE has huge potential for development since multinational enterprises started to grow after the fall of the communist period. Even though communist influence can still be felt, local managers and staff are improving gradually and a new generation of local managers are bringing new management experience and improving the overall work of CEE companies.

IT development is also important especially in IT support of business processes. In Western Europe, responsibility for effective IT design lies within the company's IT management (Becker, Knackstedt, & Pöppelbuß, 2009). On a worldwide basis development in IT is growing fast in developing countries. One-third of IT spends are in North America, Western Europe, and Japan. Western European countries comparing with CEE countries have bigger budgets and bigger IT projects in companies (Talwar & Back, 2009).

Moreover, differences in management style between CEE companies and Western European companies exist. Managers in transition economies rely less on hard data compared to their colleagues in developed countries. This can be explained by the absence of historical data and a fast-changing environment. Also, in CEE companies managers identify themselves less with a company (Kowal & Roztock, 2012).

There is an overall different business culture between CEE and Western Europe. In CEE countries the importance of friendship with colleagues is valued compared with Western Europe where formal relationships are more common. There is a high correlation between

transparency and organization and planning. The more transparent the company's culture is the more organized and planned are its managers. (Brewster & Bennett, 2010) compared six CEE countries with Ireland and Portugal and they have got interesting results in terms of organization and culture. Portugal lags behind all CEE countries in the category of organization and planning and Ireland is at the top in most categories. That suggests that as bad as CEE results appear the quality of management does not completely differ from Western Europe.

## **1.6 The search and selection process for studies in databases (SLR)**

Structure literature review (SLR) is “a form of secondary study that uses a well-defined methodology to identify, analyze and interpret all available evidence related to a specific research question in a way that is unbiased and (to a degree) repeatable” (Kitchenham, 2007, p. 6). It aims to present a research topic by using a trustworthy methodology. Benefits of SLR are (Kitchenham, 2007):

- To summarize the evidence of the benefits and limitations of a specific method.
- To identify any gaps in current research.
- To provide a framework in order to position new research.

The reason why researchers decide to write SLR is that it allows them to make a well-define methodology which makes it less likely that results will be biased (Kitchenham, 2007). SLRs have their foundations in medicine but are recently used in business and social areas and are highly suitable for literature improvements. When writing an SLR, it is typical to follow an SLR protocol that starts with the definition of research objectives, determination of the sources of information, and identification of the criteria for the article selection (Prodanova & Van Looy, 2019). The protocol used in this research is presented in Table 1.

In order to make a proper selection of the articles, my search has been focused on articles with keywords like BPM, business process maturity models, maturity roadmaps, and BPM lifecycle. In a respect of inclusion and exclusion criteria, only the peer-reviewed articles have been taken into consideration. The databases that have been used for a search are Emerald, JSTOR, Science Direct, Springer Link, IEEE Explore, Taylor & Francis, and EBSCO. Most of the articles were from the same area of business and information technology but with different research subjects. There was no publication time limit since the goal was to find as many articles focusing on business process maturity paths, and lifecycle theory.

Table 1. SLR protocol in this research

Protocol elements	Translation to this study
Research question	What differences in process maturity roadmaps do companies in Eastern and Western Europe have?
Searched sources	Emerald, JSTOR, Science Direct, Springer Link, IEEE Explore, Taylor & Francis, EBSCO
Search terms	BP, BPM, BPMM, maturity roadmaps, BPM lifecycle, Eastern and Western Europe
Search strategy	Peer-reviewed journals and conference papers, books, no publication date limit, based on search terms (i.e. BPM in Eastern and Western Europe, BPMM in Eastern and Western Europe, maturity roadmaps in Eastern and Western Europe)
Inclusion criteria	Only papers with keywords, only papers in English
Exclusion criteria	Articles without full access, articles not related to the topic (i.e. articles related to Eastern and Western European companies but not BPM related)
Quality criteria	Only peer-reviewed literature, only articles from academic databases

Source: Own work.

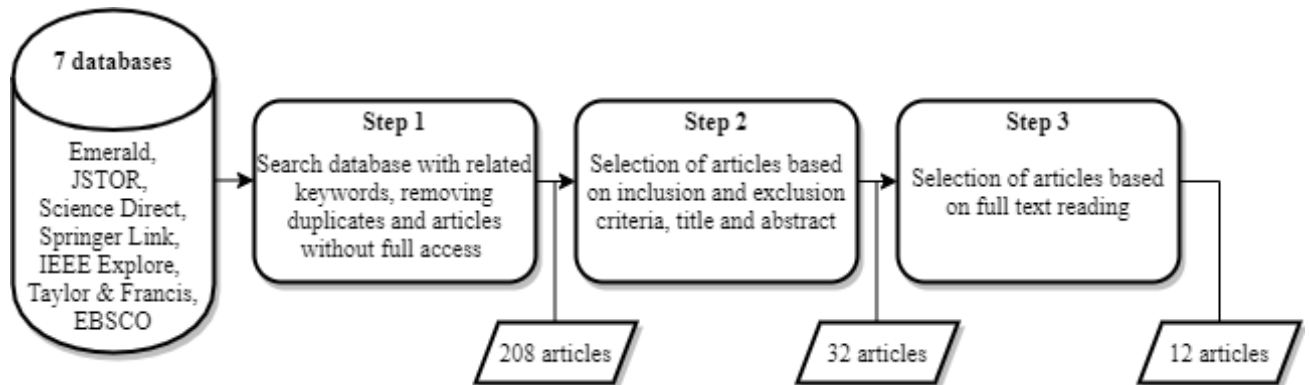
In the first stage, all the articles containing the keywords “BPM”, “BPMMs”, and “BPM lifecycle” in combination with “maturity roadmaps”, and “Eastern and Western Europe” were searched. Also, full names i.e. “business process management” were used as a keyword. After conducting an automatic search there were 3,627 articles in the beginning. After excluding articles that were mistakenly classified as peer-reviewed articles, remove duplicates and articles without full access to, there 208 have been articles with mentioned keywords in a title or abstract. Two papers are considered as duplicates if the title, author, and publication date are the same, if there are different versions of the paper the most recent one was kept.

Not all the articles were relevant to the topic therefore in the second stage inclusion and exclusion criteria were applied. Articles in the area of business and information technology were researched excluding other sciences i.e. medicine or mechanical engineering. Even after that a lot of articles were mentioning BPM in general or exploring Eastern and Western



European companies in different business and economic fields. Therefore, once the articles not completely suitable for the topic were removed there were 32 articles. After applying inclusion and exclusion criteria and full-text reading to determine the actual research subject in the articles, the final number of the articles that were researching business process management in Eastern and Western European companies was 12, where only 3 were comparing BPM between Eastern and Western European companies (Fig 7.).

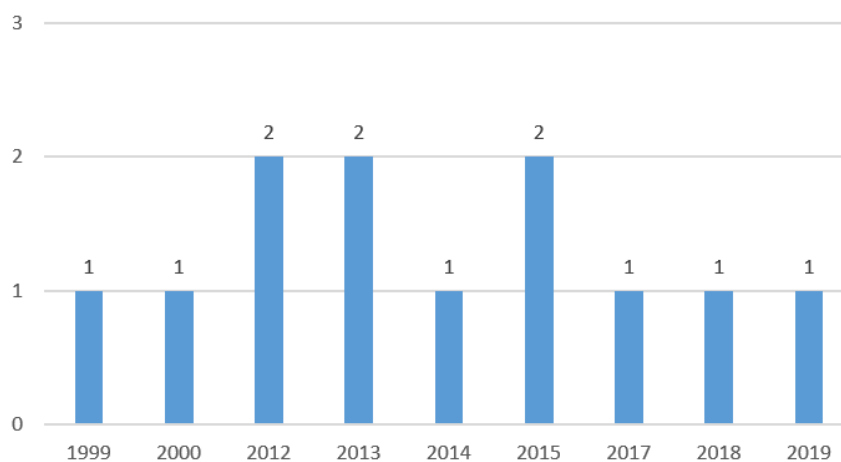
Figure 7. Search and selection of articles considered for this study



Source: Own work.

When it comes to the time horizon, there were no specific limitations. The remaining 12 articles were sorted by the year of publishing (Figure 8.). A possible reason for the low number of articles is that majority of articles are focusing on one country or even one company, probably because covering a larger geographical area, especially 20 years ago, would require more time and resources to do research. Therefore, there is a significant lack of large-scale research in the CEE region and comparison of CEE and Western European companies. Since finding the best way for companies to reach their business process maturity is an ongoing topic it is possible to expect that even more articles regarding this topic will be published in upcoming years.

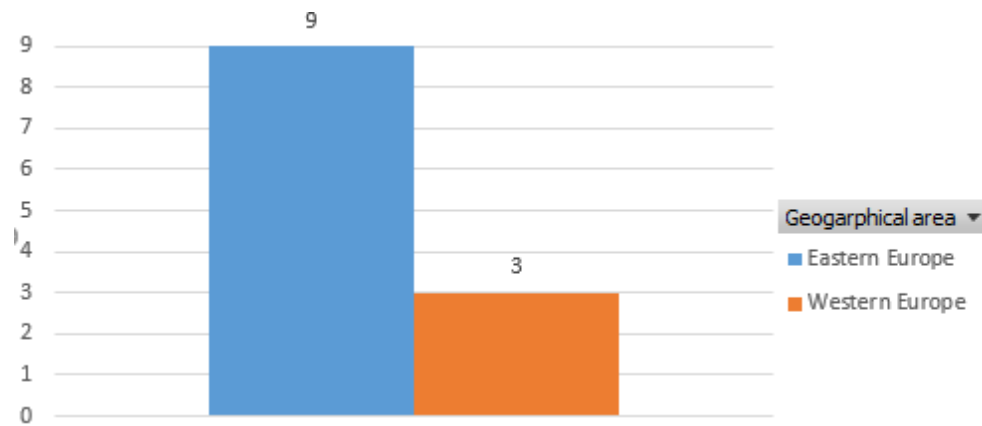
Figure 8. Publishing frequency and publication type



Source: Own work.

Figure 9. is showing the geographical location of the papers based on their first author. Since the uptake in recent years of the papers in the BPM area but not all of them are focused on Eastern and Western European companies.

*Figure 9. Distribution of the authors of articles*



*Source: Own work.*

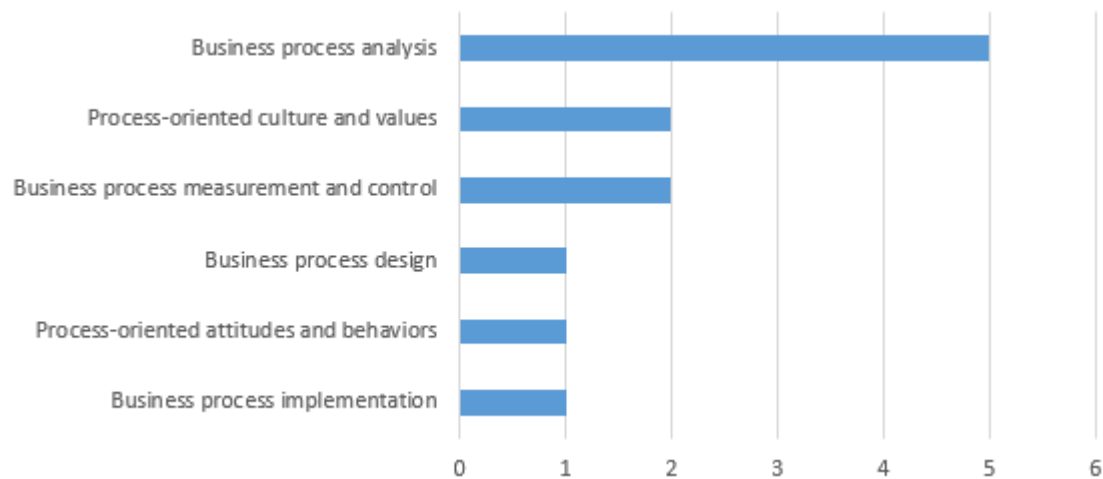
The biggest number of articles have been published by authors from Eastern Europe (9), while Western European countries have 3. The interesting thing is that while conducting SLR most articles that appear were from the western world. They have by far the most number of articles focusing on BPM, in general, indicating higher interest in BPM which also can be explained by its long tradition of measuring work (i.e. the birth of process thinking Ford-Mazda 1980s, USA) (Dumas, La Rosa, Mendling, & Reijers, 2013). But when it comes to comparison of companies in Eastern and Western Europe, Eastern European authors were more interested in comparison mostly to learn how BPM can be improved in their countries.

In order to gain in-depth information about maturity and capability, all the articles were analyzed by the specific area of researching maturity and capability. The biggest number of papers have focused on BPM capability areas (8). Next to the capability areas are papers that focus on maturity models, maturity models, and IT (3). That is not surprising since with the development of digital technology each business process has a digital counterpart which leads to a strong link between IT and business strategies (Froger, Bénaben, Truptil, & Boissel-Dalli, 2019). Only one paper has focused on the traditional BPM lifecycle and only 3 of them were comparing BPM between Eastern and Western European companies.

From the perspective of the content of the papers where selected articles belong (Figure 10.), 5 articles are focusing on business process analysis. Next to it, 2 articles are focusing on process-oriented culture and 2 on values and business process measurement and control. The least number of articles are focused on business process design, process-oriented attitudes, and business process implementation. This illustrates that most of the papers are comparing current as-is models between companies in Eastern and Western Europe. Also, a comparison of the

difference in business process measurement and control in companies from those regions as well as process-oriented culture.

Figure 10. Content of the selected articles



Source: Own work.

Looking at the above-mentioned data, most of the articles regarding the topic are focusing on capability areas and maturity models. Some articles are focusing on exploring all the existing theories on BPM maturity and trying to explain BPMs in detail while others are providing a framework for the companies on how to reach their business process maturity. Furthermore, only twelve articles were focusing on BPM in European companies, where three of them were comparing Western and Eastern European approaches to BPM. Eight of them have been comparing only one Eastern European company with the Western European approach to BPM or have been comparing BPM level between different Eastern European companies. Moreover, one of them has researched European companies in general.

Considering a small number of the articles found on this topic there is a great opportunity for covering the literature gap. While the majority of articles cover different theories of BPM and BPM maturity and capability, many opportunities still exist to explain BPM more in detail. There are opportunities for further enhancement not only in theory but when it comes to empirical validation too. There is a lack of research in comparison to companies and their approaches to BPM in Eastern and Western Europe. Most of the articles that were comparing Eastern and Western Europe were focusing on comparing the country's economies instead of business practices in the company and the development of business processes. Also, there is a lack of empirical evidence when it comes to different maturity paths among different companies. This gap will be researched empirically further in this work to verify if there is an actual difference in BPM adoption between different European companies and what is the reason behind it.

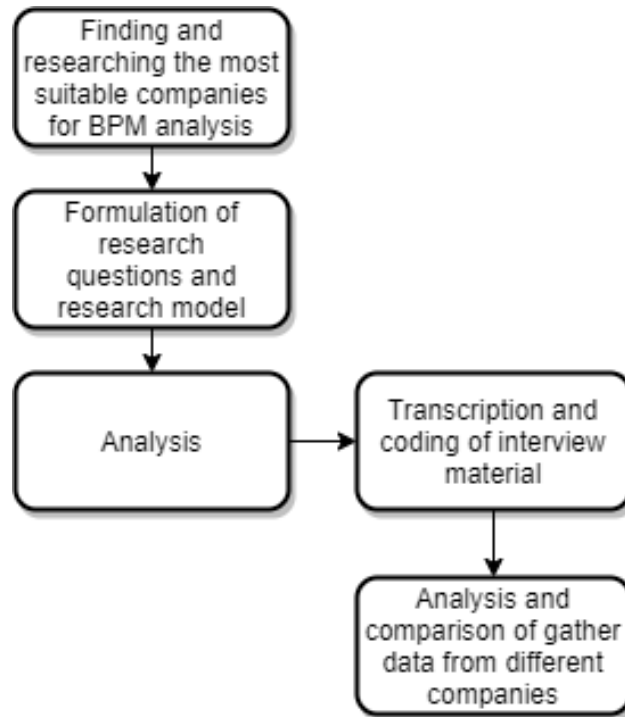
## 2 RESEARCH METHODOLOGY

Besides the theoretical part about BPM maturity roadmaps and capability, a structured literature review, I have conducted empirical research. The most appropriate method for empirical research of maturity paths in different Eastern and Western European companies is semi-structured interviews. According to (Brinkmann, 2013), an interview is a “face-to-face” verbal exchange, in which one person, the interviewer, attempts to elicit information or expressions of opinion or belief from another person or persons” (Brinkmann, 2013, p. 1).

The semi-structured interviews are giving flexibility for the interviewer to be able to ask questions in their own words. They enable probing more information comparing to the structured interviews. I also consider other methods of data collection, for instance, case studies. Case studies are good at capturing organizational activity and culture but comparing them with semi-structured interviews, they are more time-consuming. Since my research is time-limited and requires more than one company in different regions of Europe, semi-structured interviews are a better fit compared with case studies. Moreover, using semi-structured interviews and interviewing people on different functions from the same company will allow seeing the same topic from different angles and perspectives which will be a good method to use in this research (Brinkmann, 2013).

The interview questions were focused on different stages of the BPM lifecycle. It started with process identification in order to see if companies are analyzing their processes and if they are trying to connect problems that can occur in company with the process that is causing them, which is crucial according to (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017). It continued process discovery, analysis, and design with a focus on process documentation and redesigning of current processes where according to (Dumas, La Rosa, Mendling, & Reijers, 2013) depending on the result of the analysis there might be a need for process redesign. Finally, there were questions related to process implementation, monitoring, and controlling in order to see how company is explaining changes to process participants and do they measure the performance of old and newly implemented processes (Ongena & Ravesteyn, 2019). The research strategy of conducting a semi-structured interview is presented in the diagram below, and it contains four phases.

Figure 11. Research phases



Source: Own work.

The first phase was to find appropriate companies from Eastern and Western Europe suitable for BPM research. The time limitation of this research affects the number of companies included in the research. I chose five Eastern and five Western European companies from different industries and sizes. Secondly, it was important to formulate questions for the semi-structured interview. The questions were focused on discovering different BPM maturity levels of companies and seeing how well they are identifying problems, defining a scope of processes and relationships between processes. An additional set of 11 questions from (McCormack, 2001) were added. (McCormack, 2001) broke down BPO into three measurement variables and they are using 11 measurement items. Those variables are:

- Process management and measurement (PMMS) - they are process measures that are focused on output quality, cycle time, process cost, and variability.
- Process jobs (PJ) - if companies are focusing more on product development process owners rather than research managers.
- Process view (PV) - well-structured documentation and understanding of all processes from beginning to end

The previously discussed 11 measurement items were measured on a five-point Likert scale (with 1 = completely disagree, to 5 = completely agree).

Table 2. BPO measurement variables

Variables	Item
Process View	1. The average employee views the business as a series of linked processes.
	2. Process terms such as input, output, process and process owners are used in conversation in the organization.
	3. The business processes are sufficiently defined so that most employees know how they work.
Process Jobs	1. Jobs are usually multidimensional and not just simple tasks.
	2. Jobs include frequent problem solving.
	3. Employees are constantly learning new things on the job.
Process Management and Measurement	1. Process performance is measured.
	2. Process measurements are defined.
	3. Resources are allocated based on process.
	4. Specific process performance goals are in place.
	5. Process outcomes are measured.

Source: *McCormack (2001)*.

Moreover, after analyzing the BPO maturity level of the companies will be determined according to the following stages (McCormack & Johnson, 2001):

- Ad Hoc: The processes are unstructured and not defined enough. Process measures are not in place and the jobs and organizational structures are based upon the traditional functions, not horizontal processes.
- Defined: The basic processes are defined and documented. Jobs and organizational structures are still basically traditional and include a process aspect. Representatives from function (sales, manufacturing, etc.) meeting regularly as representatives of their traditional functions in order to coordinate activities.
- Linked: The breakthrough level. Managers employ process management with clear strategies. Now process jobs and structures in the company are put in place outside of traditional functions.
- Integrated: The company, its vendors and suppliers, take cooperation to the process level. Organizational structures and jobs are based on processes. Traditional functions begin to disappear. Advanced process management takes place.

The questions focusing on business process culture in companies as well as the customer orientated culture were included since by (McCormack, 2001) commitment to process improvement directly benefits customers. It is also important to discover if the organizational structure of companies included in the research is process-oriented, therefore, the process-oriented, therefore, the last set of questions is about organizational structure.

The last, third phase is the analysis of collected data that includes transcription and coding of interview material and analyzing and comparing gather data from different companies.

Transcription was the first step to do in the analysis phases in order to better understand the collected data. Transcription can powerfully affect how participants are understood and what information they shared. By the (Clausen, 2012) transcription of recordings is the raw material that is important for reliability, also for validity and transparency. Moreover, the quality of the records has a huge impact on reliability. Regardless of the type of transcript required, it is accepted that the process of transcription will require multiple rounds of listening and engagement with the audio file. Hence, it is validity and it helps to better understand and analyze collected data. It has two dominant modes, and those are *neutralism* in which every utterance is transcribed in detail, and *denaturalism* in which idiosyncratic elements of speech such as pauses, nonverbals, involuntary vocalization are removed (Oliver, Serovich, & Mason, 2005).

When it comes to data collection, the goal of this phase was to gather information about BPM maturity, organizational structure, and culture by interviewing employees from different companies. The companies have been chosen by criterium: companies based in Eastern and Western Europe, have a different number of employees and belong to different industries. It was expected that larger companies are having higher resources that can be invested in BPM comparing to small companies. It is also interesting to see which companies have a higher BPM maturity level when it comes to the industry they belong to.

Study participants were 30 managers and employees from 10 companies based in 6 European countries. Five companies are from Western Europe (3 Belgian, 1 French and 1 German company) and five are from Eastern Europe (2 Slovenian, 2 Croatian, and 1 Polish company). The name of the companies will not be mentioned in order to protect their privacy but a short summary of each company will be presented to get a better picture of them.

Company 1- is an engineering company specializing in innovative solutions for the optimization of production processes. It is a Belgian company doing business in the field of software engineering. With only 7 employees it is considered as a micro-small and medium-sized enterprise (SME) by the ( European Commission, 2003).

Company 2- is a software development company based in Croatia. They are building high-quality software with intuitive user experiences. Existing for over 5 years and have 30 employees which makes them a SME ( European Commission, 2003).

Table 3. Companies included in the research

<i>Companies</i>	<i>Industry</i>	<i>Employees number</i>	<i>Country</i>	<i>Region</i>
<i>Company 1</i>	Virtual engineering	7	Belgium	Western Europe
<i>Company 2</i>	Software development	30	Croatia	Eastern Europe
<i>Company 3</i>	Manufacturing, Industry 4.0	171 000	France	Western Europe
<i>Company 4</i>	Civil engineering	60	Slovenia	Eastern Europe
<i>Company 5</i>	Telecommunications	211000	Germany	Western Europe
<i>Company 6</i>	E-learning	37	Slovenia	Eastern Europe
<i>Company 7</i>	Information and Communication Technology	10000	Belgium	Western Europe
<i>Company 8</i>	Banking	400	Croatia	Eastern Europe
<i>Company 9</i>	Electronics industry	21000	Poland	Eastern Europe
<i>Company 10</i>	Digital technology	3600	Belgium	Western Europe

Source: Own work.

Company 3- is a company that designs, manufactures and distributes materials and that can be found everywhere in our daily life: in buildings, transportation, infrastructure, and in many industrial applications. They have a strong focus on sustainable construction, resource efficiency, and climate change. Company 3 is doing business in manufacturing and leaning toward industry 4.0. They are a French company that compared to the previous two has 171 000 employees which are considered as a large business enterprise.

Company 4- is a civil engineering company based in Slovenia. They perform construction for the market, construction for investors, executive engineering, professional supervision, consulting engineering, and other activities. With their 60 employees, they are considered to be medium-sized enterprises by ( European Commission, 2003).

Company 5- is one of the leading European telecommunication companies based in Germany. They provide mobile communications, fixed-network/broadband, Internet, and, and information and communication technology (ICT) solutions for business and corporate customers. They have the most employees from all 10 researched companies which are 211 000 and make them large business enterprises ( European Commission, 2003).

Company 6- is a Slovenian e-learning company with an idea to make fun application therapy for children with speech delays. They are a relatively new company that exists since 2016 and has 37 employees which makes them small business enterprises ( European Commission, 2003).



Company 7- is a Belgian company in the area of Information and Communication Technology. They are providers of automotive assistants, creating intelligent, flexible, and intuitive in-car experiences for the world's leading automakers. With their 10 000 employees, they are considered to be a large business enterprise.

Company 8- is a Croatian banking company. It provides a full range of banking services that include business with legal entities, citizens and financial institutions, business abroad, and investment banking services. Company 8 is established in 1998 and has over 400 employees and therefore consider to be a large business enterprise.

Company 9- is a Polish company doing business in the field of the electronics industry. It is founded in 1969 and is a specialist in European semiconductor distribution. Company 9 has over 21000 employees making them a large business enterprise.

Company 10- Belgian company working in the field of display technology. They are founded in 1934. Currently offering various products in areas of wireless conferencing, healthcare solutions, projectors, image processing, led displays, video walls, and more. With their 3600 employees are considered to be a large business enterprise.

Chosen ten companies are showing diversities when it comes to country, size and industry. Considering the number of employees, three companies have less than 50 employees, one has between 50 and 250, also one between 250 and 500 and four of them have more than 500 employees. Among them are small, medium, and large business enterprises where some of them are founded only five years ago while others have a long history and tradition behind them. In chapter four, a detailed analysis will be presented in order to see if the above-mentioned companies have different approaches to BPM as well as different BPM maturity paths, organizational structure and culture.

However, to better understand not only companies but data collection the interview process will be explained shortly. Firstly, in the written invitations to the participants, there were descriptions about the purpose of the interview and the study, as well as contact information (e-mail address and phone number) if participants want to learn more. When interview time and place were arranged, if the interview was in person or time only if it was an online interview, the topic, and purpose of the interview was explained more in detail together with the duration time, the fact that interview would be recorded, and at last sending questions upfront if participants requested it.

Secondly, all the interviews begin again with the purpose of the study. The questions were semi-structured and divided into 12 sub-themes with 2-5 questions per the theme. The already formed questions were also followed with open questions i.e., "Can you explain it more in detail?" or "What do you mean by that?" If the following question was already covered with the answer from the previous one it was not asked again. Moreover, if the participant did not completely understand the question, the question was explained more in detail. The intention

was to finish the interview within 30min, sometimes if participants were well-prepared it was even shorter, on average it was between 20-45 min per interview. After the collection of raw interview data, the analysis begins.

### 3 ANALYSIS

After conducting interviews with 30 managers and employees from 10 Eastern and Western European companies gathered data have been analyzed starting with transcription and coding.

In this analysis, I did denaturalized transcription, meaning that I removed all unnecessary words and pauses. An example of transcription can be seen in Table 4. By reading the transcripts it is easier to get familiar with data and it can make the coding process easier.

*Table 4. Transcription example*

Questions	As recorded on audio tape	As recorded on transcript
Have you clearly defined process performance measures? (i.e. cost-related measures, cycle time, error rate)	"Well...yes, our BPM software has something like...like a part for cycle time calculation and you can see if something is happening if there is some impediment that has not been solved...."	Yes, our BPM software has something like for cycle time calculation and you can see if something is happening if there is some impediment that has not been solved
Depending on the results of the business process analysis, there may be a need to design new processes. Are you trying to design a new version of processes in order to solve the issue? How many people in your company are doing that and what is their function?	"Hmm..yes..hmm.. Yes, we are doing redesigning quiet often..we noticed that sometimes good practices have been forgotten and on the other side depending on the results and if we notice bad habits there, it is necessary to remove them and modify them. Redesign usually starts from middle and top management, which is hmm...7 people."	Yes, we are doing redesigning quiet often..we noticed that sometimes good practices have been forgotten and on the other side depending on the results and if we notice bad habits there, it is necessary to remove them and modify them. Redesign usually starts from middle and top management, which is 7 people.

*Source: Own work.*

The next step that has been done is data coding. Coding aims to reduce data from transcripts into meaningful segments. Usually in qualitative research data coding means assessing labels to codes or a different section of text that is related to different problems (Akinyode & Khan, 2018). While conducting interviews, the questions were already organized in 12 sub-themes, in that way it was easier to group the collected data in already made themes or keywords. Basic themes and keywords can be seen in table 1.3. It starts with general answers about BPM to see how well companies are familiar with BPM. It continuous with organizational structure and culture, BPM life cycle phases, BPM adoption and ends with three BPO elements by (McCormack, 2001).

Table 5. Data coding

No	Key-words	Basic sub-themes
1	BPM in general	To see if the company already has some experience in BPM
2	Organizational structure	If organizational structure is process-oriented
3	Organizational Culture	Organizational culture is one of the most important factors in BPM adoption, it can support or hinder BPM efforts in companies
4	Process Identification	In order to see if companies are analyzing their processes or using any process performance measures
5	Process Discovery	If the company's current processes are documented and in which form
6	Process Analysis	If issues of the as-is process are not identified and documented, it affects the level of BPM maturity
7	Process Redesign	If the company is identifying changes that will address issues previously documented
8	Process Implementation	The way of implementing new processes gives information about BPM maturity as well
9	Process Monitoring and Controlling	If the company's processes are monitored and on which level
10	Process View	Well-structured documentation and understanding of all processes from beginning to end
11	Process Jobs	If companies are focusing more on product development process owners rather than research managers
12	Process Management and Measurement Systems	They are process measures that are focused on output quality, cycle time, process cost, and variability

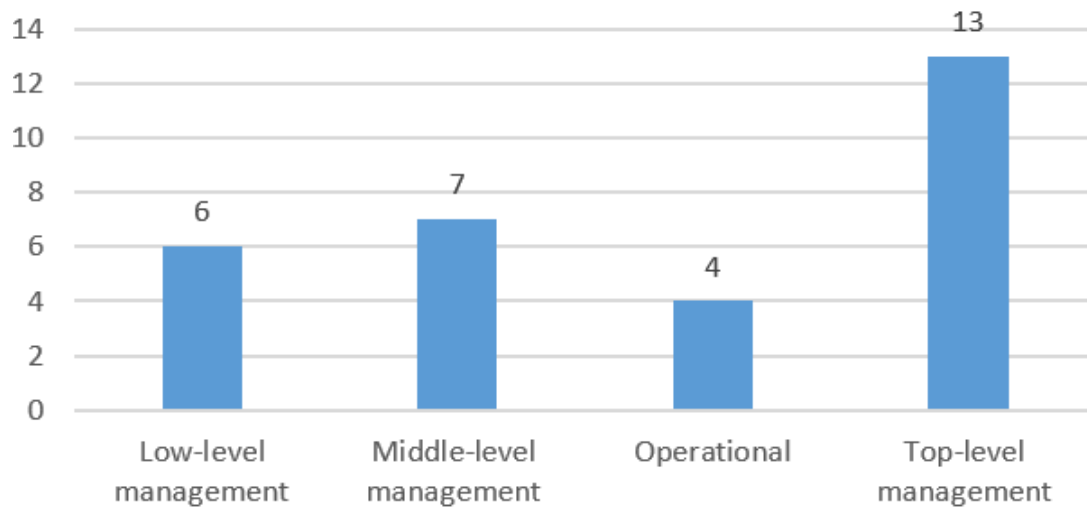
Source: Own work.

Numerous companies had different answers to the same questions but some of them were quite similar and in that way, they can be grouped in even more detailed themes under the same basic sub-theme. Since the basic principle of selecting the themes is “data saturation” where the majority of respondents were saying the same things to the same points referring to the same theme (Akinyode & Khan, 2018). Those answers are grouped and compared with each other in order to see different BPM approaches as well as BPM maturity levels of companies.

### 3.1 Familiarity with BPM

In this subchapter, the information about companies' familiarity with BPM will be analyzed as well as some basic information about the companies and participants (i.e. countries, industries, number of employees of companies, and current position in the company of participants).

Figure 12. Position of participants



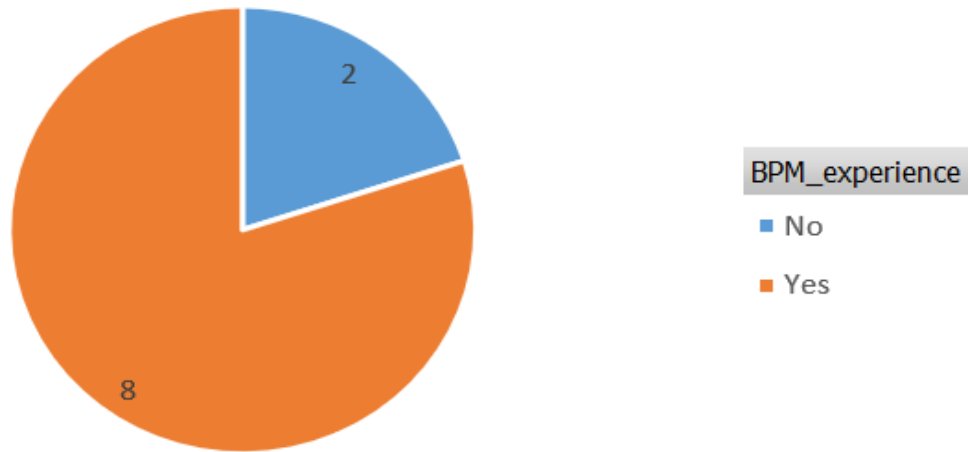
Source: Own work.

Before analyzing the BPM experience of the mentioned companies, the current position of research participants will be presented. It is assumed that employees in operational positions will know less about BPM and the way it functions in their company compared to Top-level management. Therefore the most participants, 13 of them are in Top-level management positions, 7 Middle-level management positions, 6 Low-level management, and 4 Operational positions.

Moreover, when participants were asked whether they think their company has some experience in BPM most of them answer yes. Overall interviewed employees (Figure 13) of 8 companies think their company has experience in BPM while only 2 of them think their company does not have much experience when it comes to BPM.

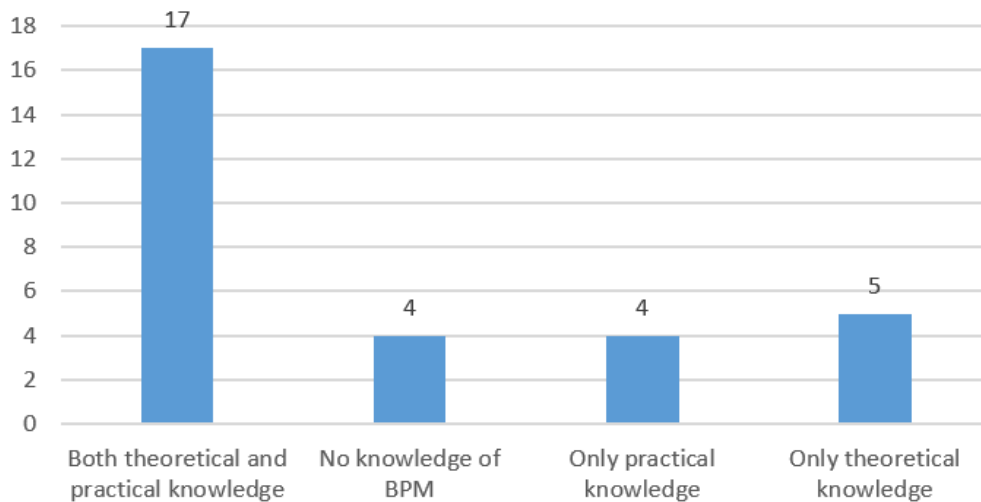
Participants were also asked to describe their knowledge of Business process management. The answers were different but grouped into four themes, and those are No knowledge of BPM, Only theoretical knowledge, Only practical knowledge and Both theoretical and practical. When it comes to respondents (Figure 14), 17 of them have both practical and theoretical knowledge, 4 of them have no knowledge or only practical and 5 of them have only theoretical knowledge of BPM.

Figure 13. BPM experience



Source: Own work.

Figure 14. BPM knowledge

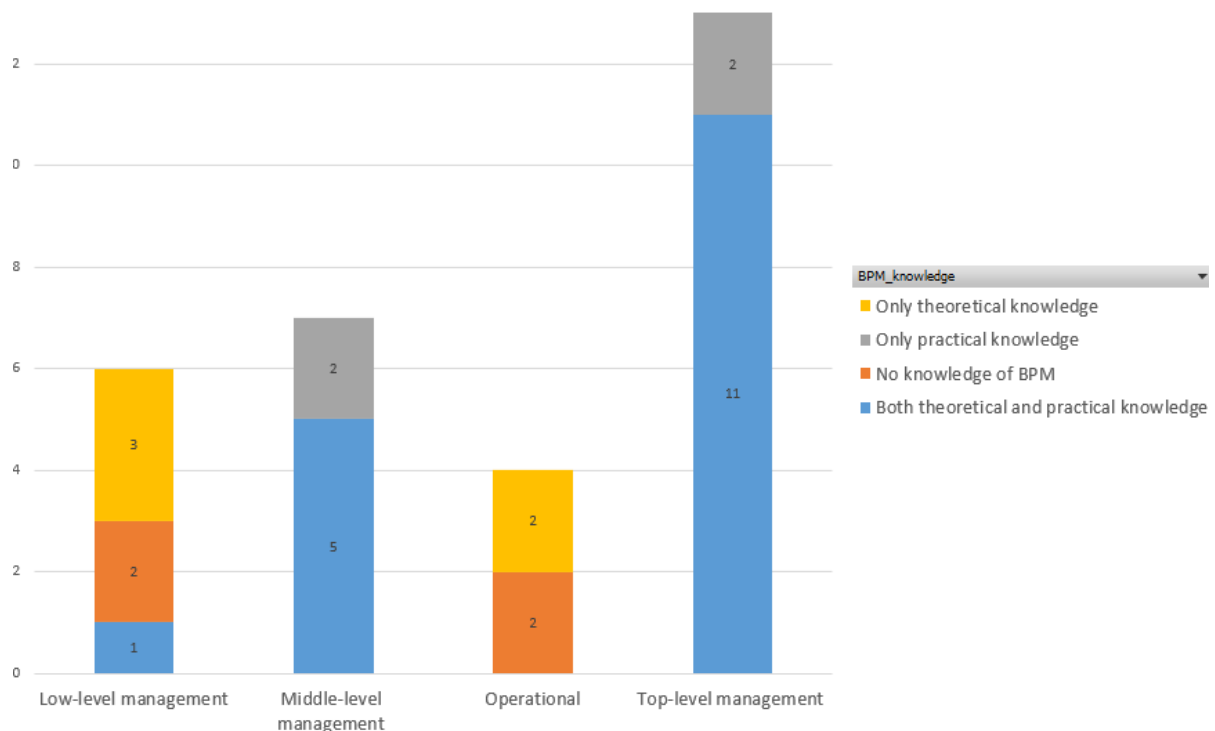


Source: Own work.

Moreover, a comparison of BPM knowledge by the participants' function in the company has been done in order to see how much the position of employees in their company affects their BPM knowledge. Even though, it is not only determined by the employee's position but many factors including overall BPM adoption in certain companies. Nevertheless, it is still interesting information to reflect on. Figure 15 is showing that low-level management has the most theoretical or no BPM knowledge at all while middle-level management both theoretical and practical or only practical BPM knowledge. Employees on operational functions have only

theoretical BPM knowledge or no BPM knowledge at all, and in top-level management, the majority of them have both theoretical and practical BPM knowledge.

Figure 15. BPM knowledge by participants



Source: Own work.

When it comes to the leadership commitment of BPM in the companies, most of the answers were positive. When I asked them, “why do you think that there is a leadership commitment?” most of them said because they have weekly or monthly reports of processes or because if some changes in processes happen they will be quickly informed either through meetings or internal companies web site. Some of the answers were that even though they think their leaders are committed to making business processes better they could still be improved. Interviewees from upper management positions mostly think that they are committed to improving the overall work of companies but people in lower management and operational positions think even though there is a leadership commitment that process could be defined better. Interview participant of one company in the operational position said that it happens that employees sometimes do not know what they are supposed to do. When I asked the participant if it is more because of the employees themselves or processes are not defined enough or even goals are

misplaced, the answer was both. Sometimes it is up to employees only but it could definitely help if processes are defined better.

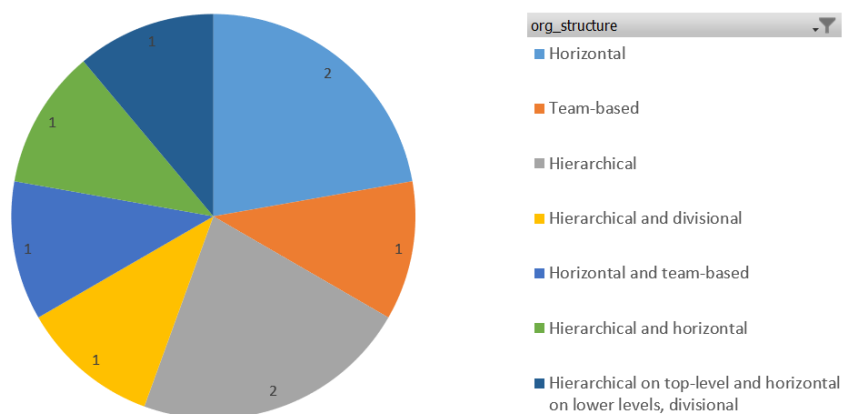
Moreover, the last question from familiarity with the BPM group was about BPM tools, do they use any tools and which ones. The answers were quite diverse. All the companies said that they are using some tools except for one in the banking sector, which is using different kinds of tools not so typical for BPM. Five out of ten companies said that they are using tools mostly for monitoring and assessing their processes, for software development company those tools were more focused on project management and agile methods. One company said that they are using a combination of commercial BPM software and software that is specifically standardized for their company. Polish Company 9 was focused more on software that standardizes for ERP applications and customer relationship management.

When it comes to general familiarity with BPM, most of the companies have at least basic knowledge about business process management. All of them except one are using tools for measuring their processes, moreover, all think that their leaders are committed to improve business processes. As mentioned before, organizational culture and structure have a strong influence on BPM maturity and it will be analyzed in the next sub-chapter.

### 3.2 Organizational structure and culture

One of the sub-themes in my data is organizational culture and structure. The way how the company is organized and organizational culture have a huge influence on BPM. Participants were asked to describe their organizational structure and culture in order to see how they influence their BPM maturity level. When it comes to organizational structure, the answers were diverse and most of them were a combination of already familiar organizational structures.

Figure 16. Organizational structure



Source: Own work.

Figure 16. is showing that five out of ten companies have a plain organizational structure that is not a combination of multiple different organizational structures. Two of them have the horizontal, two hierarchical, and one team-based organizational structure. The other five companies are a combination of all of them including divisional too.

Interview participant (IP)7: “We had a new transformation plan last year where a lot of things changed in a company including reducing the number of employees and changing the whole structure of the company. Before it was more hierarchical and now it is more horizontal where more power has been given to divisions while still keeping hierarchies in upper-level management in headquarters in France. One of the reasons for that change was introducing industry 4.0.”

IP 16: “I would say it is a combination of hierarchical and divisional. It is complicated with a lot of divisions and departments but when you look closely to only one division you can clearly see the hierarchy.”

IP26: “Our structure is very flat with not so many management levels. For us is very important that every employee can talk directly to the CEO or CTO.”

On the other hand, eight out of ten companies think that their organizational culture is BPM-oriented and customer-oriented. The answers were different between the different employees from the same company. IP11 and IP12 from Company 5 from Germany have different opinions about organizational culture. IP11 thinks it is BPM-oriented but not enough customer-oriented. On the other hand, IP12 thinks that their company is also BPM-oriented and customer-oriented since he thinks that they have good customer service. All IPs from Company 4 from Slovenia think that their culture could be more BPM-oriented. IP8 mentioned that their culture is BPM-oriented because business process improvements are important to them but they are also extremely customer-oriented. Moreover, they are constantly asking customers for feedback, while being transparent in their business actions and organizing meetings with customers presenting new products and innovations.

The next sub-chapters will be about BPM lifecycle adoption phases. It is important to see in what is BPM maturity level of companies and to compare the gained results between Eastern and Western European companies.

### **3.3 Process Identification**

The BPM life cycle adoption starts with the process identification phase. In that phase all processes are identified and if problems occur to, the goal is to find which process is causing the problem. Moreover, it is important to see if processes are measured and if those measures are defined. When it comes to defining processes and connecting them with a problem most of



the companies had different approaches but all of them are trying to identify what process is causing problems.

Firstly, participants were asked if they analyze their business processes and if problems occur are they trying to find which business process is causing the problem. The data shows that all companies are analyzing at least some of their business processes and if problems occur to they act on them. The answers that participants gave were quite similar, all ten companies are analyzing their business processes. Moreover, all companies are analyzing all business processes except one company that is focused only on one department. They have one person who is analyzing and documenting their processes for one only department while processes from the rest of the company have been neglected. Nine other companies had similar answers like IP4 from Company 2.

IP4: “Yes, we do analyze our business processes. We have regular meetings where we talk about processes and what can be improved. Also, we have a special platform that helps us organize and track business processes.”

IP5: “We mostly analyze business processes by ourselves but one time we also engaged an external consultant company to help us identify which business process caused a problem.”

The data shows that even though all of the companies said they are analyzing their business processes, more than half of them are not creating or using process diagrams which can make it difficult to assess current processes and connections between them. Also, one company that is only analyzing business processes for one department can be in a bad position when problems occur in other departments, and it is much harder for them to track what processes can be improved.

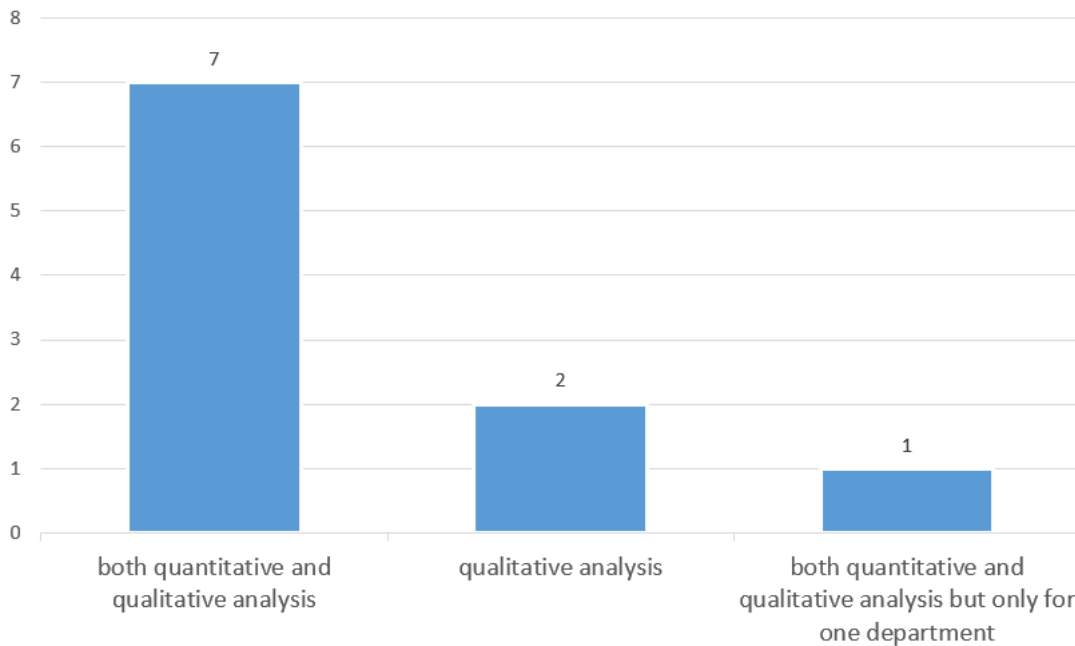
Moreover when it comes to identifying problems most of them said that problems were firstly reported to managers where they are trying to identify what process causes them. Also, two companies are doing it separately on team levels and on the level of the company. One company has an external advisor company that is helping them in general with BPM and defining processes as well as solving problems. While one company had more complex answers.

IP16:” From my point of view there are three ways for a company to address problems. Firstly, when the company itself notices there is something that needs to be changed, or more precisely someone sees that there is a problem or something that can be improved and reports that to managers. Secondly, there are systematic check-ups i.e. audits where they notice if the problem exists. Internal audits are happening quite often in my company. Lastly, business process changes are happening through defined transformation projects that are taking place in every division mostly every 2 or 3 years.”

For most companies, it is very important to discover and solve problems the fastest they could. As data showed, some companies have a better and more defined system of managing processes and identifying problems than others.

Moreover, when participants were asked if they use any quantitative or qualitative analysis most of them said yes (Figure 17.).

Figure 17. Process analysis and process analysis by countries



Source: Own work.

Again, one company said that they use both quantitative and qualitative analysis but only in one sector and not in the whole company. Two companies are using only qualitative analysis and seven of them are using both quantitative and qualitative analysis. When it comes to their approach participants from two companies said that they have weekly meetings where they are discussing about operational processes to see what can be improved. Another company mentioned that they have different approaches in different sectors.

PI17: “It depends on the department i.e. in technology we use the Lean and Kaizen method and artificial intelligence, depository transfer check (DTC) for finances and plan value control for other divisions.”

IP25: “Yes, we are using both quantitative and qualitative analysis and long-term KPIs. We have a special department called the *Department of enterprise effectiveness* that is in charge of BPM, controlling, and measuring business process effectiveness.”

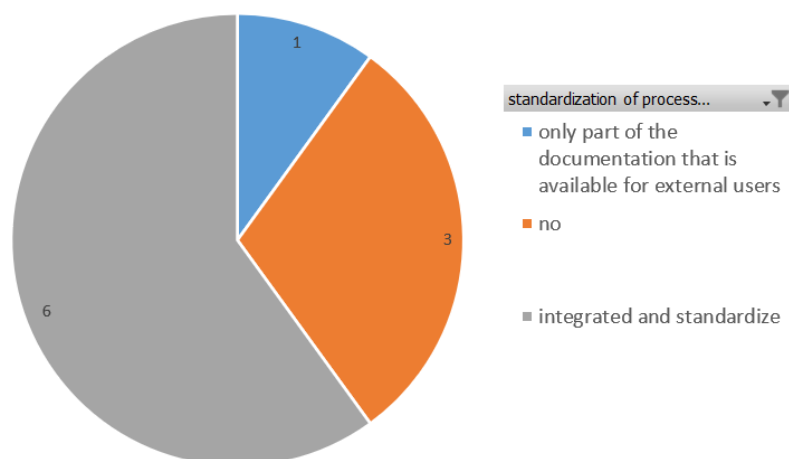
It would be ideal that all companies are using both qualitative and quantitative analysis. As data showed more companies are using qualitative analysis which can definitely help identify which processes are adding value and which not and to understand weaknesses and make improvements. But they should not neglect quantitative analysis that can additionally help in evaluating performance, assess financial instruments, and make predictions.

Moreover, participants were asked if their company is using any process performance measures. Data showed that all companies are using some process performance measures. Mostly those are cycle time and error rate. Three companies from the IT sector are also using agile and scrum measures i.e. sprint velocity which is project management methods. The interesting thing is that even though all companies are using some process performance measures some of them think that those measures are not defined enough. Except for time-related data of process work, all companies are measuring the quality of outcomes for customers.

### 3.4 Process discovery

The process discovery phase is also called the as-is process modeling phase since the current state of processes is documented in this phase. If a company is on a low process maturity level, they probably will not have any process documentation or it will be documented ad-hoc and documentation will be unintegrated.

Figure 18. Do companies document their business processes?



Source: Own work.

When participants were asked if their current state of processes is documented and in which form all of them said that processes are documented. All ten companies are doing it in their databases. One company has process documentation in databases and written form but they are doing it partly, not for all processes. One of the participants mentioned that some of the processes that are less important are less documented.

IP16: “We are documenting them in databases for every segment. If they are formal they are even publicly available for an external audit. For processes that are less important, they are less documented.”

When it comes to integration and standardization of their business process documentation the answers were different. Three companies said that their documents are not standardized at all but one company is try to standardize them now.

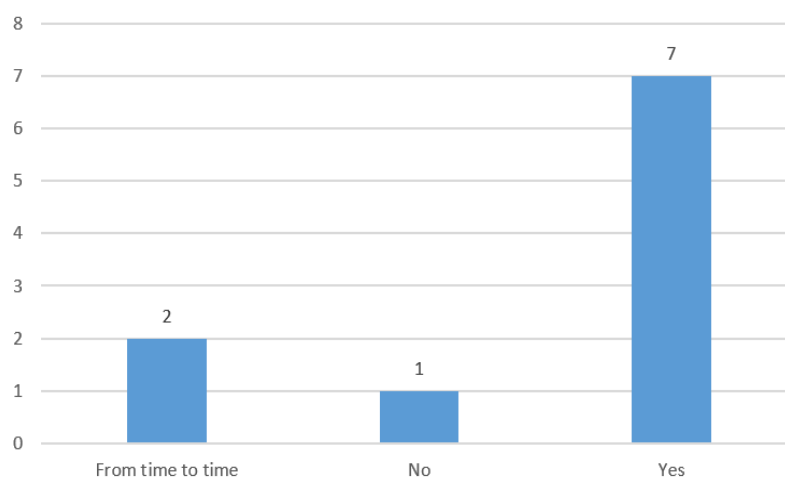
IP20: “No, but we are trying to standardize them. A few years ago we discovered that not all processes are properly described and now we made a team who is working on process standardization according to international norms.”

Moreover, 6 companies said that their documentation is integrated and standardized. In one company documentation is only partly standardized and that part is the one available to external users (Figure 19).

### 3.5 Process analysis and process redesign

Participants were asked if they identify and assess process issues in order to do some improvements. The output of this phase is a structured collection of issues.

Figure 19. Identifying process issues

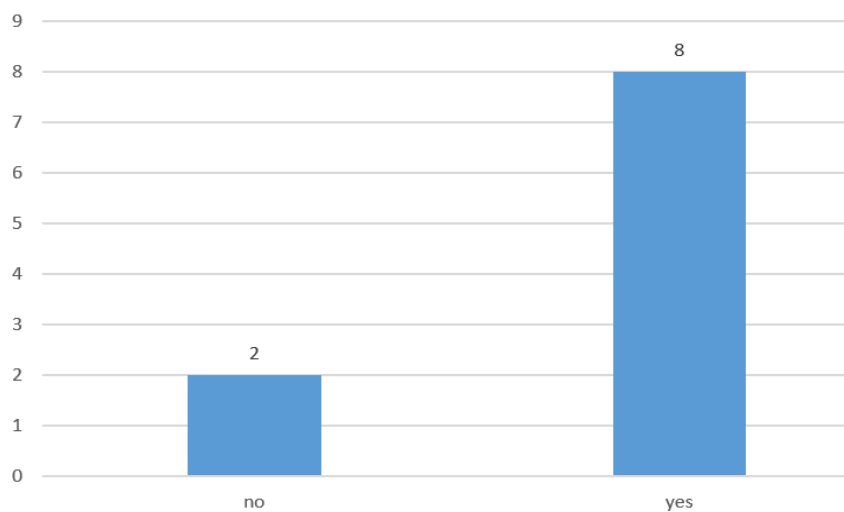


Source: Own work.

Most of the companies, 7 of them, said that they are identifying process issues in order to improve them. Two of them said from time to time, and one is not doing it at all.

When it comes to process redesign, the goal is to identify changes that will address issues previously documented. Multiple change options are analyzed and compared and the most promising change options are combined. Participants were asked if they are trying to redesign their processes if there is a need for it and how many people in their company are doing that.

Figure 20. Process redesign



Source: Own work.

Eight out of ten companies are doing redesign to some extension while two of them are not doing it at all (Figure 19). When it comes to the way how companies are doing process redesign, it is quite diverse. Four companies said that usually, top managers are in charge of redesign and those are small-size companies, while three companies have special teams in charge of that. Company 1 from Belgium, which has only 7 employees, has one person in charge of process redesign. Company 3 from France finished its process redesign in 2019 where 2000 people were involved, the head of the department, the CEO and managers, and engineers.

Company 2 from Croatia mentioned that usually middle-level management and CEO are in charge of process redesign. Furthermore, an interviewee from a middle-level management position mentioned the reason why process redesign is important to them.

IP4: "We are doing it because sometimes good practices may be forgotten, on the other hand, bad practices are around and needed to be changed."

All companies and participants who are doing process redesign are thinking that it is important not only to find better practices but to solve some problems and do overall process improvement.

But there are also other opinions. CTO from Company 5 from Germany mentioned a very interesting thing.

IP12: "Not all divisions and segments are equally organized but in every division, there is a specialized team for BPM and process redesign. In Germany, there is one BPM team in the technical department, another BPM team in the financial department, and so on. In my opinion, there are too many people involved in that process and too many resources allocated toward BPM compared to our core business."

In terms of the software used for the process redesign, again two companies that are not doing process redesign are not using that kind of software at all. The other eight companies are using the same software they usually use for Business process management and those were different for every company.

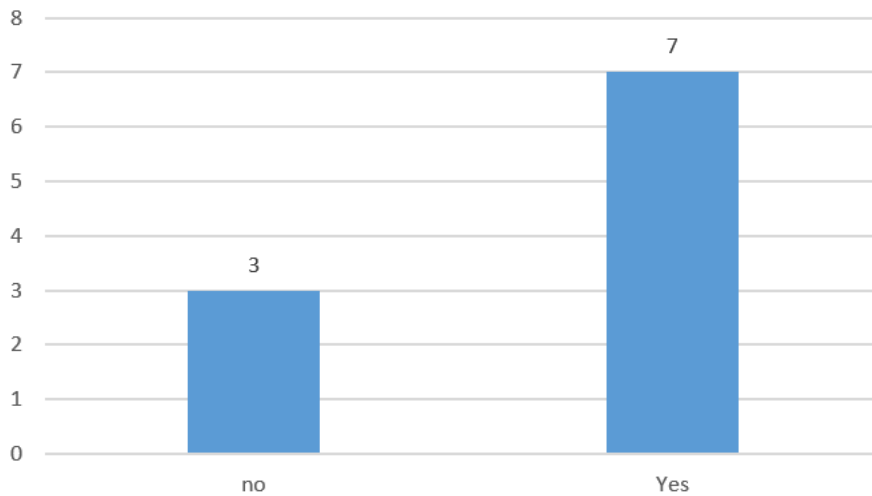
### **3.6 Process Implementation**

In the process implementation phase, participants were asked how are they explaining changes to process participants, do they have a change management plan and do they have any trainings for users to adopt easier to new ways of working. Four out of ten companies are usually informing participants through newsletters every month, having videos from CEO to employees to be aware of changes, and using the internal company's portal for publishing and explaining process changes. Company 3 from France also has a well-structured transformation plan.

IP8: "We are doing surveys with process participants, and all employees can have individual meetings with Human Resources (HR) if they want to better understand the changes. Moreover, the CEO is sending videos to all of us in which he is talking about changes and trying to explain them."

The other four companies usually have weekly meetings where the changes are explained and they use the company's internal website for informing employees. And the last two companies are doing only user trainings where HR is usually in charge of that.

Figure 21. Do you have a change management plan?



Source: Own work.

Furthermore, participants were asked about the change management plan where 7 companies have it and 3 do not have it (Figure 21). Company 2 from Croatia said that they are informing stakeholders only about changes that are important to them. Company 3 from France thinks that is very important that their stakeholders are informed about changes, especially customers. Their customers are sometimes even involved and well informed about all changes.

Moreover, companies were asked about user trainings for process participants in order to better understand changes. All companies have user trainings but the type of trainings they are doing are different. Five companies are doing in-house trainings. Two companies are doing group trainings, two of them online trainings, two companies are doing external and the least number of companies are doing internal and individual only.

IP5: “We have user training, and we call it study groups. In that way employees mostly learn in the group how to use certain software if it is newly implemented.”

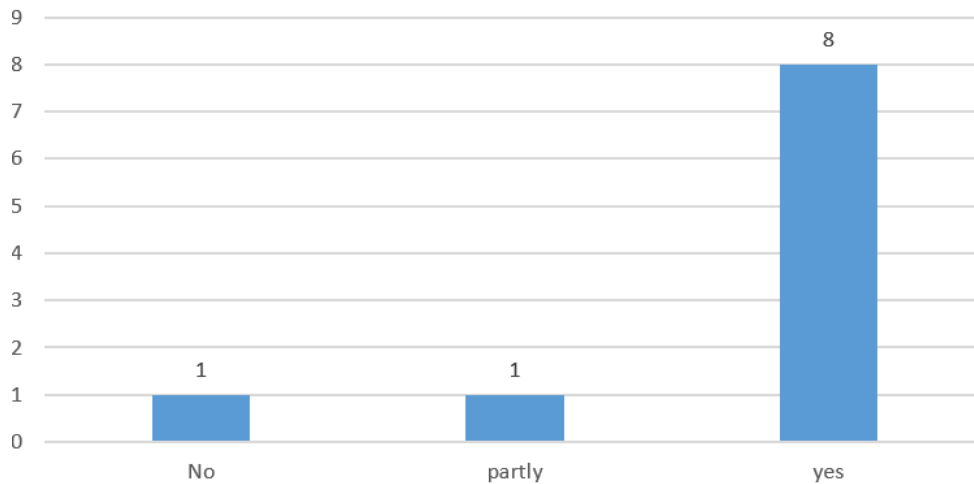
Some companies are pushing workers to do certain training once a year, no matter the changes in the company. That can help them improve their skills. In Company 5 where HR is in charge of training, they offer training for employees who want to change their working position in that way when the reorganization of the company was active they were already familiar with what kind of training they need to perform.

### 3.7 Process monitoring and controlling

Once the whole process is redesigned, relevant data is collected to see how well the process is running. It is necessary to constantly monitor processes and look if there is a need for

improvement. For this sub-theme interviewees were asked if they measure the performance of old and newly implemented processes and do they monitor business activities and how.

Figure 22. Process performance measuring



Source: Own work.

Most of the companies are doing performance measuring where eight of them said yes, one is not doing it at all, and one company is doing process performance measuring partly (Figure 22). Company 1 from Belgium is only measuring process performance partly because they are measuring it for only one department. Company 2 from Croatia mentioned that they are doing it retrospectively measuring if the new process is working better than the old one. Company 5 from Germany is doing weekly and monthly performance measures, they use both quantitative and qualitative analysis.

IP16: “We are doing it to see to what extension we managed to improve our processes and how that influenced the quality of our product.”

Lack of process monitoring can lead not only to degradation in product quality but also lower company performance.

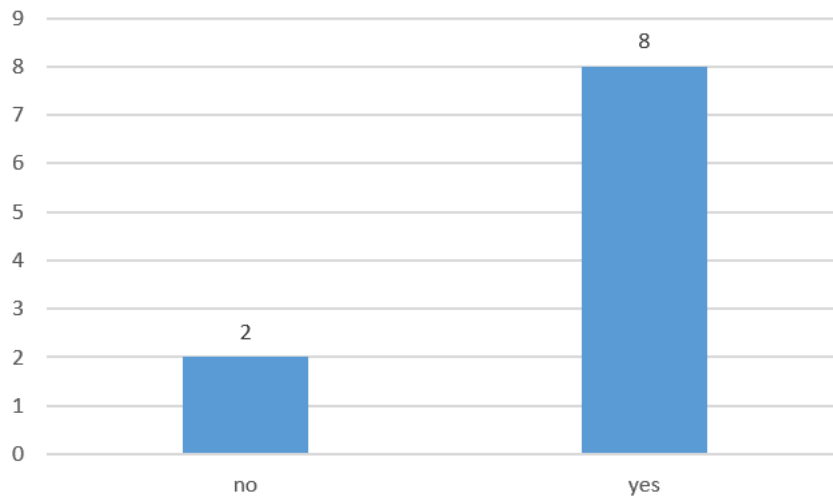
Company 8 from Croatia measures process performance but not often, they are mostly comparing the results with last year's measurement data. Furthermore, when companies were asked whether they monitor their processes eight companies said yes and two no (Figure 23). Most of the companies said that they are using dash-board reports, written reports, and calculations with a help of software they use for BPM.

IP20: “I get 100 reports monthly and a lot of KPIs. I am trying to focus on the most important ones. Sometimes I ask for specific analysis to get a better picture of certain issues or processes.”



That comment showed how business process monitoring in big companies can be challenging. Sometimes the business analyst can specify key performance indicators of the process during its modeling and then gets them evaluated and presented in form of a dashboard.

Figure 23. Process monitoring



Source: Own work.

### 3.8 McCormack's BPO measurement variables

As previously mentioned McCormack divided BPO into three measurement variables with 11 measurement items. The answers on the five-point Likert scale that respondents could choose were analyzed. By McCormack, the gathered results from the measurement variables can show different BPO levels. In Table 1.5 it can be seen that the average mean of BPO measurement variables for the companies is between 3.36 and 4.50. BPO level for companies with a score lower than 4 and higher than 3 is between second and third BPO level, or more precisely between defined and linked BPO level (Škrinjar, Hernaus, & Indihar Stemberger, 2006). While companies with scores 4 and above are between linked and integrated. The highest score has Company 5 from Germany 4.50.

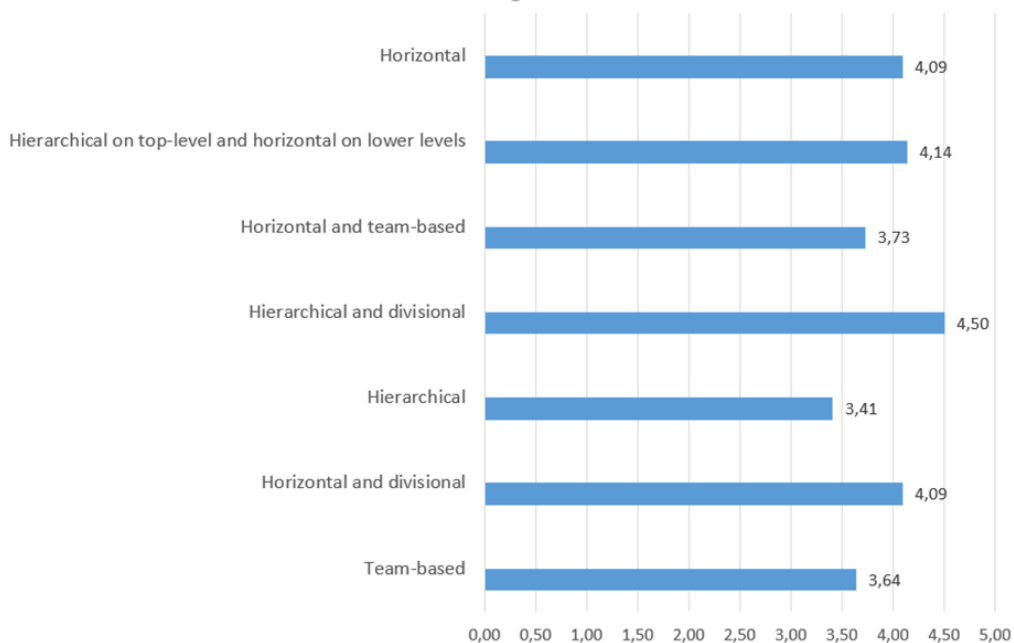
Table 6. Mean of BPO measurement variables by company

Country	Companies	Mean
Belgium	Company 1	3,91
Croatia	Company 2	3,64
France	Company 3	4,09
Slovenia	Company 4	3,36
Germany	Company 5	4,50
Slovenia	Company 6	3,73
Belgium	Company 7	4,27
Croatia	Company 8	3,45
Poland	Company 9	4,27
Belgium	Company 10	4,00

Source: Own work.

Moreover, average BPO measurements can be seen by the organizational structures (Figure 24). When it comes to the average score of BPO measurements and organizational structure, it can be seen that from companies with the plain structure, the horizontal organizational structure has the highest result 4.09 next to it is team-based with 3.64 and the lowest result from all organizational structures is hierarchical 3.41. When it comes to the combination of different organizational structures, the highest score has hierarchical and divisional 4.50.

Figure 24. Average BPO measurements by the organizational structure



Source: Own work.

Even (McCormack, 2001) said that companies that are structured in broad teams have less internal conflict and stronger team spirit comparing to companies organized in narrow functional departments.

Lastly, when comparing the size of the companies or a more precise number of employees by the average BPO measurement score, the companies with more than 500 employees have an average BPO measurement score of 4.29 while companies with less than 500 employees have an average score of 3.65. It could mean that larger companies have more resources to engage in BPM and having more processes could mean a bigger need to organize them more strictly. Furthermore, it has been noticed that some companies (i.e. Company 6 from Slovenia and Company 1 from Belgium) have lower BPO measurement scores but they are also doing business in a low competitive environment where according to respondents they do not have much competition in their business field. This also confirms the theory of (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017) that companies who are performing in highly competitive markets should prioritize BPM, and companies in low market competitiveness can be satisfied with lower BPM levels. In the next chapter, a detailed comparison of results between Eastern and Western European companies will be presented.

#### **4 COMPARISON OF MATURITY PATHS BETWEEN EASTERN AND WESTERN EUROPEAN COMPANIES**

To summarize the results from previous sub-chapters, I made a comparison of collected data between Eastern and Western European companies. There will be presented both answers from previous chapters and results of McCormack's BPO measurement variables (Table 7).

Firstly, when it comes to McCormack's BPO measurement variables, the data gathered from the two samples were analyzed using descriptive statistics and the independent samples t-test. Observing already calculated the mean of measurement variables there is a visible difference. Based on two samples a compound measure of BPO for Eastern European companies is 3.69 and for Western European companies 4.15. Even though the difference between values does not seem big, it is statistically significant ( $t(8) = 2.431$ ,  $p < 0.05$ ). The result is expected taking into consideration the geopolitical situation of Eastern European countries in the last decades, the companies from this region started with Business process management later than companies from Western Europe.

Table 7. BPO McCormack's BPO measurement variables - Descriptive statistics

	Eastern Europe		Western Europe	
	Mean	Std. Deviation	Mean	Std. Deviation
PV1	4,000	1,2247	4,100	<b>0,2236</b>
PV2	3,000	1,2247	3,900	0,8944
PV3	3,600	<b>0,5477</b>	4,000	<b>1,4142</b>
PJ1	<b>4,600</b>	<b>0,5477</b>	4,500	0,5000
PJ2	3,700	0,6708	4,500	0,8660
PJ3	3,900	0,7416	4,200	0,4472
PMMS1	3,200	<b>1,6432</b>	3,800	1,0954
PMMS2	<b>2,700</b>	1,2042	4,400	0,8944
PMMS3	3,400	0,8944	3,900	1,0247
PMMS4	4,000	0,7071	<b>3,700</b>	1,2042
PMMS5	4,500	0,7071	<b>4,700</b>	0,4472

Source: Own work.

In order to better understand the differences in maturity level between companies in Eastern and Western Europe the results of measurement items individually are examined. Descriptive statistics of 11 measurement items are presented in Table 7. The highest results are marked red and the lowest ones are presented in bold. The highest mean in Eastern Europe has the item PJ1, or statement “Jobs are usually multidimensional and not just simple tasks”. This means that there is a need for wide knowledge and skills in order to participate in different tasks and areas of a process. While the lowest mean is item PMMS2 or the statement “Process measurements are defined.” When looking at the answers from the process analysis sub-theme, the interesting thing is that all five Eastern European companies said that they are doing both quantitative and qualitative analysis. On the other hand, all Eastern European companies are using process performance measures but not all companies defined them well enough. Only 3 Eastern European companies have defined process performance measures while 2 of them do not have defined process performance measures at all.

IP4: “Some process performance measurements are defined and some not. Especially when looking at the measurements on the company level and not only at one department.”

Even though, all examined Eastern European companies are doing process performance measuring, not well-defined process performance measures could show results that are not accurate. That can explain the lowest mean in PMMS2.

On the other hand, Western European companies have the highest mean in the item PMMS5, or “Process outcomes are measured” and the lowest mean in item PMMS4 or “Specific process performance goals are in place”. It can be seen that results of processes are highly important in Western European companies therefore outcomes are measured but specific performance goals are not in place. Employees are doing processes without actually knowing what they want to achieve. They cannot have the realistic result of performance outcomes if performance goals are misplaced. PMMS1, PMMS2, and PMMS5 are enabling companies to monitor the efficiency and effectiveness of the processes and with that information making the improvement efforts possible. In both Eastern and Western European companies one of these factors is at a low level making it hard to do further process improvements.

Moreover, by looking at a standard deviation of individual items, it can be seen that in Eastern European companies lowest variation have items PV3 (“The business processes are sufficiently defined so that most employees know how they work.”) and PJ1 (“Jobs are usually multidimensional and not just simple tasks”), while the most variability has PMMS1 (“Process performance is measured”). This result of PV3 differs from previous questions since standardized documentation can help in defining processes and three out of five Eastern European companies do not have it. But this can be explained by McCormack's statement that documentation alone does not have to have a major impact, it can only help in process organization and measurement but it is not the main reason for good process organization. He said that researchers thought that: “Documentation alone does not have a major impact. Documentation just provides a foundation that can be used to organize jobs and measures.” (McCormack, 2001, p. 55)

When looking at the answers about process performance measurement from Eastern European companies only one company said that they do not measure process performance and all the others do. Most answers were similar to IP26 and IP5.

IP26: “Yes we measure process performance, and we have special software that helps us monitor KPIs and we use dashboards.”

IP5: “At the retrospective, we measure if the new process is working better than the old one. We use software that supports a variety of monitoring features.”

But considering a small sample even one negative answer influences the mean and standard deviation of the PMMS1 measurement variable. Nevertheless, measuring process performance is extremely important because in that way we can compare old and new processes and see if the overall processes are performing well.

In Western European companies the lowest variation has the item PV1 (“The average employee views the business as a series of linked processes”), while the item that is deviating most from the mean is PV3 (“The business processes are sufficiently defined so that most employees know how they work”). This was expected since process performance goals are not in place

for all the companies. They can improve this with better process documentation and standardization and better defining process performance goals.

High variation of PV3 can also be confirmed with data collected from previous questions. As mentioned interview participant from a Western European company said that it happens that employees sometimes do not know what they are supposed to do. When I asked the participant if it is more because of the employees themselves or processes are not defined enough or even goals are misplaced, the answer was both. Sometimes it is up to employees only but it could definitely help if processes are defined better.

Additional analysis can be made when comparing process-specific areas between Eastern and Western European companies (i.e. process management) and organization wide-capabilities (i.e. process-oriented structure and culture). In that way, we can see if they decided to focus on different areas in their path towards process maturity. Some of the questions related to process management and process-oriented structure and culture are questions about leadership commitment, process performance goals, use of process terms in companies and overall data gather about organizational structure.

Firstly, when asked if their leaders are committed to improving the business processes all eastern European companies said yes.

IP21: "Absolutely! We are constantly gathering feedback from employees and talk about improvements in weekly meetings."

Furthermore, if their companies are trying to redesign their processes in order to solve problems or make them better three Eastern European companies said yes while two companies said they are not doing it so often.

IP26: "Process redesign in my company is always different depending on which process you want to redesign. We always make a special team in charge of that."

By looking at the McCormack measurement variables, as previously mentioned, variables with the lowest results in Eastern European companies are PMMS1 ("Process performance is measured") and PMMS2 ("Process measurements are defined"). In that way, managers could put more focus on making processes more understandable and documented while defining process performance measures.

Table 8. Measurement variables that influence process management, organizational culture and structure

	Eastern Europe		Western Europe	
	Mean	Std. Deviation	Mean	Std. Deviation
PV1	4,000	1,2247	4,100	<b>0,2236</b>
PV2	3,000	1,2247	3,900	0,8944
PMMS1	3,200	<b>1,6432</b>	3,800	1,0954
PMMS2	<b>2,700</b>	1,2042	4,400	0,8944
PMMS4	4,000	0,7071	<b>3,700</b>	1,2042

Source: Own work.

Moreover taking into consideration process-oriented culture in Eastern European companies I compared McCormack variables with participant's answers about organizational culture. Looking at the mean of McCormack measurement variable PV2 (“Process terms such as input, output, process and process owners are used in conversation in the organization”) it was 3 while the mean of PMMS2 is 2.7 (Table 8). In addition, a standard deviation of PMMS1 is 1.64 while for the PV2 is 1.22. One more measurement variable that can tell more about process-oriented culture is PV1 (“The average employee views the business as a series of linked processes”). PV1 has a mean of 4 which is again higher than the mean of PMMS2 2.7, while its standard deviation is 1.22 which is also lower than the PMMS1 standard deviation of 1.64. Another important piece of data that can give more information about process management capabilities in Eastern European companies is the mean of variable PMMS4 (“Specific process performance goals are in place”) which is 4. Compare to all the other variables that have an influence on process management capabilities PMMS4 has the highest mean. Thus, most of the Eastern European companies think their process performance goals are in place.

Furthermore, when asked companies if they think that their culture is process-oriented four said yes and one said no. When looking at organizational structure three of them have a flat structure and two of them hierarchical. A more detailed analysis could be made but from McCormack variables, it can be seen that better results have variables that influence organizational culture in comparison to the other measurement variables. Eastern European companies are putting more focus on process-oriented culture while wide-capabilities are lacking. On the other hand, from open interview questions, it can be seen that all companies think their leaders are committed to improve business processes. Likewise, a majority of them think their culture is process-oriented but organizational structure could be less hierarchical and more process-oriented. Moreover, from an analysis of open interview questions, it can be seen that not all companies are going through all phases of process analysis, planning, designing, monitoring, and controlling. Overall, results are showing that Eastern European companies on their business process maturity path were focusing slightly more on process-

oriented culture in comparison to other areas. Again this cannot be generalized to all Eastern European companies.

Furthermore, looking at the leadership commitment in Western European companies again all companies said that they think their leaders are committed. All companies are doing process redesign comparing to Eastern European companies.

The Lowest McCormack variables in Western European companies are is PV3 (“The business processes are sufficiently defined so that most employees know how they work”) and PMMS4 (“Specific process performance goals are in place”). Even though all companies think their leaders are committed to improving processes it still happens that process performance goals are misplaced and employees are not sure how all processes work.

Moreover, when comparing the same variables PV1 and PV2 that can influence organizational culture it can be seen that means from both variables are higher than means of PV3 and PMMS4 that influence process management, indicating a higher focus on organizational culture in comparison to other areas (Table 1.6). Answers from open interview questions about organizational culture show that four companies have process-oriented culture and one company does not have it. Organizational structure is more complex but overall is more hierarchical than flat. Similar to Eastern European companies, not all of the 5 companies are doing all the activities related to process analysis, planning, designing, monitoring, and controlling. One company is doing it partly, only for one department putting their process-specific capability areas on a low level. Analyzing McCormack's questions it can be seen that better results have an organizational culture in comparison to organization structure and process management. On the other hand results from open interview questions are showing similar results for both process-specific capability areas and organization-wide-capability areas.

The overall conclusion is that companies are focusing slightly more on organizational culture in comparison to other areas. Some companies (Company 4 and Company 8) are lagging behind the organization-wide capability areas, on the other hand, collected data showed that they have a process-oriented culture and structure. Similarly, one company (Company 1) is only doing process-related activities for one sector, but it is still successful in its business sector.

## **5 DISCUSSION**

The findings of this study present deep insights into the BPM maturity of companies from Eastern and Western Europe. Starting with a literature review, it can be seen a lack of research papers in comparison to companies and their approaches to BPM in Eastern and Western Europe. Most of the articles that were comparing Eastern and Western Europe were focusing on comparing the country's economies instead of business practices in the company and the



development of business processes. This made this paper more challenging but also interesting in providing new data that can be further used in future research.

Furthermore, when it comes to empirical research, open interview questions showed that not all companies are putting equal resources and effort into improving their processes. Some of them are not even analyzing all their processes but just processes of one sector. This can also be confirmed with results of McCormack measurement variables where a statistically significant difference in BPM maturity exists between Eastern and Western European companies. One of the reasons for that difference is definitely different geo-political situation between these two regions. Eastern European companies in comparison to their western competitors just recently started implementing BPM strategies and putting more effort into improving their processes. Overall, looking at the companies from both Eastern and Western Europe there is still a lot of space for their BPM improvement.

Based on my findings, there are several areas that companies could pay more attention to in order to improve their processes (Figure 25). In Eastern European companies that is process performance measuring. Not all companies are doing it and not all process measurements are defined. Western European companies on average had problems with defining process performance goals and consequentially employees had a hard time understanding how processes are functioning.

Examining the key differences in BPM between Eastern and Western European companies (Figure 25) it can be seen that the Western European market is more dynamic and that Western European companies have more resources to invest in IT and BPM according to (Brewster & Bennett, 2010). In a more dynamic market, there is a bigger need for higher BPM maturity but in the last decade, the Eastern European market is becoming more dynamic than it was before. Overall, companies in certain industries will experience less competition and a less dynamic market comparing to other industries. On the other hand, my research showed that bigger budgets are not related to regions but more to the sizes of companies, where bigger companies had more resources and overall more processes to manage, therefore bigger needs to invest in BPM. A good example of this is Company 9 from Eastern Europe that is considered to be a large company and has a higher maturity level than small size Company 1 from Western Europe.

Figure 25. The main differences and similarities in BPM and business culture between Western and Eastern European companies

Western European companies	Eastern European companies
<b><u>BPM and business environment</u></b>	
<i>More dynamic business environment</i>	Multidimensional tasks and wide knowledge and skills
<i>More experience in BPM</i>	Started later with BPM due to different geo-political situation
<i>Business processes are not defined enough</i>	Well defined processes
<i>Better at defining and measuring process performance</i>	Better at defining process performance goals
<i>Highly value result of processes and focusing on outcome measurement</i>	Managers rely less on hard data, process documentation is not defined enough
<i>Lack of change management plan</i>	Lack of change management plan
<b><u>Business culture</u></b>	
<i>Bigger focus on one capability area in comparison to other BPM areas</i>	Bigger focus on one capability area in comparison to other BPM areas
<i>A formal relationship with colleagues</i>	Higher importance of friendship with colleagues
<i>Frequent use of process terms</i>	Lack of use of process terms

Source: Own work.

My results indicate the difference in the overall experience of BPM between regions. One fact that was mentioned before and that had a considerable influence on BPM development between regions is a different geo-political situation in Eastern and Western Europe. In Eastern Europe, the communist regime had a different set of institutional mechanisms compared to firms in a capitalist economy (Sahadev & Demirbag, 2010). While in Western European companies employees were trying to improve their activities to be more efficient, employees from Eastern European companies in various departments had a responsibility to monitor activities for the communist parties. Therefore, the change that happens in Eastern European countries from planned system to market one had an influence on their BPM experience or lack of it. In recent years that is changing but as the results of my research showed, there is still a significant difference in maturity levels between Eastern and Western European companies.

Moreover, Western European companies had a problem with defining their processes in comparison to Eastern European companies. Employees from some Western European companies had a problem understanding what they need to do. Also, they are lagging behind Eastern European companies in terms of defining processes performance goals. On the other hand, Western European countries are putting more focus on measuring process outcomes in

comparison to Eastern European companies and there are overall better at process performance measurements. There are several reasons for that. Firstly, according to (Brewster & Bennett, 2010) managers rely less on hard data. That goes in line with my findings where Eastern European companies are in lack of process documentation or their documentation is not standardized enough. Having standardized process documentation can help in a great way with process measurements. On the other hand, Eastern European companies that exist for a long time could have a lack of historical data in terms of process documentation. Nevertheless, measuring process outcomes is extremely important and can encourage a company to be more efficient and improve their BPM maturity level.

I observe no difference between regions in terms of the change management plan. On average companies from both regions could pay more attention to change management plan. Bigger companies showed better results in that field in comparison to the small companies. Moreover, I have determined differences in business culture between regions. The research results showed that Western European companies are more prone to use process terms in everyday conversation comparing to Eastern European companies. Lack of use of process terms can show that employees do not perceive their company as process-oriented. On the other hand, when they were asked in interview questions if they have experience in BPM and is there a clear leadership commitment in terms of BPM most of the answers were positive. It can be concluded that this factor is more specific to some companies rather than others.

According to (Kowal & Roztocki, 2012) managers of Eastern European companies are identifying themselves less with a company in comparison to their western competitors. My findings are showing that this is not a rule for all companies, even more, all of them think that their leaders are committed to improving company's processes and they recognize their business culture as BPM and customer-oriented. Moreover, looking at individual answers from open interview questions there also other things that could be improved and those are standardization of processes documentation, identification of process issues, processes redesign.

These various areas, that could be improved, are leading to different conclusions. Firstly, two companies (Company 1 and Company 6) that show low results in the above-mentioned areas and by McCormack are on lower BPM maturity level compared to the other companies are still very successful in industries they are doing business in. They have two common things, and those are that are both small and medium-sized companies, and both are performing in low market competitiveness. This shows that this research is in line with theoretical assumptions of (Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017) that companies in highly competitive markets should prioritize BPM adoption but on the other hand it can be seen that those performing in low market competitiveness can be satisfied with lower or moderate BPM maturity level.

Secondly, as mentioned previously some of the areas that are showing poor results (i.e. having standardized process documentation) do not have a high influence company's performance. They can help a company to better understand processes and to easier connect processes with problems if they occur but as (McCormack, 2001) mentioned documentation alone does not have a major impact.

Finally, not all companies are equally focusing on all capability areas. Some are more focused on process-oriented culture while process redesign and even monitoring of process activities are missing. The fact that there is an inconsistency between process-specific areas and organization-wide capability areas are showing that these companies are not on a high BPM maturity level, which was already presented by comparing the average mean of BPO measurement variables. Moreover, the fact that not all companies are equally focusing on the same capability areas in their BPM development is showing different maturity paths that they are taking. In order to improve their BPM maturity, they would have to improve all the capability areas. Companies that showed better results from interview questions and McCormack variables, in both process management, as well as process-oriented structure and culture, are on a higher BPM development level (i.e. Company 5 from Germany).

Figure 26. Comparison of factors that influence BPM maturity paths and overall regional differences

<b>Factors that influence BPM maturity path</b>	
<b>Eastern European companies</b>	<b>Western European companies</b>
<b>McCormack variable that one capability area (organizational culture) have slightly better results in comparison to the other measurement variables</b>	McCormack variable that one capability area (organizational culture) have slightly better results in comparison to the other measurement variables
<b>Open interview questions show that not all companies are doing all the activities related to process analysis, planning, designing, monitoring, and controlling</b>	Open interview questions show that all companies think their leaders are committed to improve business processes and their culture is process-oriented.
<b>Their culture is process-oriented but organizational structure could be less hierarchical and more process-oriented</b>	Organizational structure is more complex but overall is more hierarchical than flat
<b>Overall regional differences (BPM and business culture)</b>	
<ul style="list-style-type: none"> <li>• <b>Multidimensional tasks and wide knowledge and skills</b></li> <li>• <b>Started later with BPM due to different geopolitical situation</b></li> <li>• <b>Well defined processes</b></li> <li>• <b>Better at defying process performance goals</b></li> <li>• <b>Lack of use of process terms</b></li> </ul>	<ul style="list-style-type: none"> <li>• More dynamic business environment</li> <li>• More experience in BPM</li> <li>• Business processes are not defined enough</li> <li>• Better at defining and measuring process performance</li> <li>• Highly value result of processes and focusing on outcome measurement</li> <li>• Frequent use of process terms</li> </ul>

Source: Own work.

Looking at the overall results of the research, it can be seen that differences in terms of BPM exist between Eastern and Western European companies. However, as indicated before factors that influence maturity paths (Figure 26) or more precisely focus on different capability areas, phases of BPM lifecycle, organization culture, and structure are very similar between both regions. On average companies are focusing slightly more on organizational culture. On the other hand, looking at the overall disparity between regions in terms of BPM and business culture and factors that influence maturity paths, there is still a higher difference in overall executions of BPM and business culture in comparison to maturity paths. This is somewhat expected considering different geo-political situation between the two regions that had a major influence on the company's development and overall BPM experience.

However, it is arguable that all differences are strictly connected to regions but more to companies individually. As previous results indicated bigger companies and those in a higher competitive market have higher BPM maturity no matter the region. Some authors (Brewster & Bennett, 2010) argue that the Western European market is more dynamic in comparison to the Eastern European one and that can push companies to reach higher maturity level. Then again, not all companies are aiming to reach higher maturity levels since they are already very successful in lower or moderate BPM maturity level (i.e. companies performing in low market competitiveness).

Looking at the results of companies individually, the difference in their BPM maturity is noticeable. Moreover, they showed better results in the execution of some phases of the BPM lifecycle and lack of knowledge and practical application of others. This leads to a certain conclusion where difference in BPM maturity level, as well as differences in the business environment and business culture, exists between Eastern and Western European companies. But looking at different maturity paths or areas that some companies are focusing on more than others instead of following one predetermined path is more distinguishable between companies individually in comparison to the actual regional differences.

## **6 LIMITATIONS AND FUTURE RESEARCH**

The present study has several limitations that could be addressed in future research. Firstly, the time limitation of research had to limit the number of researched companies making a sample small. Even though the sample is small, it is also heterogeneous and companies from different European regions are giving more perspective to this research as opposed to having company from only one country or industry sector. Further research could address this problem by taking a bigger sample and companies from the same industry which can provide another perspective in researching BPM maturity paths. Moreover, theoretical background when it comes to comparing Eastern and Western European companies in a field of BPM was lacking and therefore was more challenging to make this study overall. Due to fact that this research has a

small sample, it is hard to generalize the results of the research. There is no universal answer to the research question.

Secondly, limited research time influence decision on the researched approach which in this study were the in-depth interviews. This can make the respondent's answers biased and not fully objective due to the nature of the research. Even though I attempted to minimize this by taking more respondents from the same companies, further research could definitely focus on doing case studies instead of just in-depth interviews. In that way, more information can be gained about the company's BPM initiative. Moreover, I did not question fundamental concepts of BPM or more precisely capability areas. Taking common concepts benefits an easier understanding of BPM differences between companies. Hence, it needs to be highlighted that capability areas are not leading to benefits by themselves but are presenting differences in the company's maturity paths.

Lastly, the fact that data was collected at a single moment at the time cannot precisely define through which maturity paths companies were going through but more their BPM maturity level at present time and capabilities areas that they are focusing on now. Hence, longitudinal research could give better results in terms of their development journey.

## **CONCLUSION**

This study is addressing different maturity paths between Eastern and Western European companies. Considering a small number of papers in this area, this study provides insights that can help to better understand differences in BPM between Eastern and Western European companies as well their maturity paths. Even though, considering a small sample, the presented study showed that there is a statistically significant difference between BPM maturity levels of Eastern and Western European companies. This research showed multiple factors that lead to overall differences between regions and companies individually. Starting with a different geopolitical situation in history between two regions to more specific differences in terms of measuring process performance and outcomes.

There are different areas that can be improved in companies from both regions. In Eastern European companies that is process performance measuring. Not all companies are doing it and not all process measurements are defined. Western European companies on average had problems with defining process performance goals and consequentially employees had a hard time understanding how processes are functioning.

Looking at the findings of this research and presented differences between companies, I came to a conclusion about differences in process maturity roadmaps in companies in Eastern and Western Europe based on open interview questions and McCormack variables. Firstly, companies individually are better at the execution of some phases of the BPM lifecycle in comparison to other phases no matter the regions where companies are based to. Even though,

results showed that Western European companies have a higher maturity level than Eastern European companies it can be seen that some Western European companies are only analyzing BPM processes in one department instead of processes in the whole company. This only makes it harder to generalize results based merely on BPM lifecycle theory.

On the other hand, looking at the capability areas, companies have been devoting slightly more attention to BPM culture in comparison to process management. This leads to inconsistency between process-specific areas and organization-wide capability areas. It can be seen that companies that are giving equal attention or at least trying to, to both process management and wide-capability areas are having a higher BPM maturity level than the others. Moreover, this study showed that companies that are not on a high BPM maturity level but are operating in low market competitiveness and are small and medium-sized companies are successful in their business area. Therefore, they can be satisfied with low or moderate BPM maturity level.

To conclude, not all differences are connected to regional differences but more to companies individually. Differences in BPM maturity, implementation of BPM lifecycle and focus on different capability areas are showing that not all companies are the same in their path towards higher maturity level no matter the region they are based to. This research provides insights and a better understanding of BPM maturity paths as well as different BPM maturity levels between Eastern and Western European companies.

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## **APPENDICES**

## **Appendix 1: Povzetek (Summary in Slovene language)**

Podjetja se nenehno soočajo s poslovnimi izzivi, kot sta mednarodna konkurenca in povečan pritisk na stroške, zaradi zahteve po zadovoljivosti kupcev in sprejetju najnovejših tehnologij. Vključevanje novih tehnologij brez spreminjanja poslovnega modela ni učinkovito in lahko povzroči več težav kot prednosti. Zato se podjetja osredotočajo na upravljanje svojih poslovnih procesov s pomočjo BMP- upravljanje poslovnih procesov (ang. Business Process Management). Namen tega dela je bil, z raziskavo desetih podjetji iz vzhodne in zahodne Evrope, dobiti boljše razumevanje, kako podjetja izboljšujejo svojo poslovno zrelost. Cilj dela je bil tako analizirati trenutno zrelost BPM podjetij in različna področja zmogljivosti, na katera se osredotočajo in, katera lahko vodijo do različnih zrelostnih načrtov, kot tudi, predstaviti različne poti izboljšanja zrelosti njihovih poslovnih procesov. Z izvajanjem strukturiranega pregleda literature (SRL) je bilo opaženo pomanjkanje raziskovalnih člankov v primerjavi s podjetji in njihovimi pristopi k BPM v vzhodni in zahodni Evropi, s čimer lahko ta študija tudi pomaga, zapolniti ta vrzel, ki obstaja pri primerjavi vzhodno in zahodnoevropskih podjetij na področju BPM. Podatki o podjetjih so bili, poleg SRL, pridobljeni z odprtimi intervjujskimi vprašanji, s 3 (tremi) zaposlenimi iz vsakega podjetja. Kljub majhnemu vzorcu, je predstavljena študija pokazala, da obstaja statistično pomembna razlika med stopnjami zrelosti BPM v vzhodnih in zahodnoevropskih podjetjih.

Raziskava je pokazala več dejavnikov, ki vodijo do splošnih razlik med regijami in podjetji posebej, od različnih geopolitičnih razmer v zgodovini med obema regijama, do natančnejših razlik v merjenju učinkovitosti procesa in rezultatov. Obstajajo različna področja, ki jih je mogoče izboljšati v podjetjih iz obeh regij. V vzhodnoevropskih podjetjih je to izvajanje merjenja uspešnosti procesov. Tega ne počnejo vsa podjetja in niso določene vse meritve procesov. Zahodnoevropska podjetja so imela v povprečju težave z določanjem ciljev učinkovitosti procesov in posledično so zaposleni težko razumeli, kako procesi delujejo. Poleg tega imajo podjetja, ki dajo enako pozornosti ali vsaj poskušajo, tako vodenju procesov, kot področjem s široko zmogljivostjo, višjo stopnjo zrelosti BPM kot druga. Ta študija je tudi pokazala, da so podjetja, ki niso na visoki stopnji zrelosti BPM, vendar poslujejo z nizko konkurenčnostjo na trgu in so majhna in srednje velika podjetja, uspešna na svojem poslovnem področju. Zato so lahko zadovoljni z nizko ali zmerno stopnjo zrelosti BPM. Magistrsko delo ponuja različne teorije, na katera področja zmogljivosti se lahko podjetja osredotočijo. Primerja tudi stopnjo zrelosti podjetij med regijami. Naloga je le kvalitativna raziskava, vendar kljub temu pokriva zanimivo področje zrelosti BPM med različnimi evropskimi državami in predlaga različne teorije, ki bi lahko bile osnova za podrobnejše raziskave v prihodnosti.

## Appendix 2: Interview questions

Variable	Interview questions	Sources
<b>Organizational structure</b>	How would you describe your organizational structure?	(Van Looy, 2014)
		(Ongena & Ravesteyn, 2019)
<b>Culture</b>	Would you describe your organizational culture as process and customer orientated?	(Plattfaut, Niehaves, Pöppelbuß, & Becker, 2011)
	How are you trying to improve your processes in order to benefit customers?	(Mamoghli, Cassivi, & Trudel, 2018) (vom Brocke, et al., 2014)
<b>Process Identification</b>	Do you analyze your process? Do you use quantitative or qualitative analysis?	(Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017)
	If you have any operational problems, do you know which business processes are causing them? Have you identified the scope and relationship between those processes?	(Dumas, La Rosa, Mendling, & Reijers, 2013)
	Have you clearly defined process performance measures?	(Dumas, La Rosa, Mendling, & Reijers, 2013)
		(Bernardo, Vasconcelos Ribeiro Galin, & Dallavalle de Pádua, 2017)

<b>Process Discovery</b>	Is your current state of processes documented and in which form?	(Dumas, La Rosa, Mendling, & Reijers, 2013) (McCormack, 2001)
	How complete, integrated, and standardized is your process documentation?	(Dumas, La Rosa, Mendling, & Reijers, 2013) (McCormack, 2001)
<b>Process Analysis</b>	Do you usually identify and assess process issues and opportunities for improvement?	(Prodanova & Van Looy, 2019) (Dumas, La Rosa, Mendling, & Reijers, 2013)
<b>Process Redesign</b>	Depending on the results of the business process analysis, there may be a need to design new processes. Are you trying to design a new version of processes in order to solve the issue? How many people in your company are doing that and what is their function?	(Dumas, La Rosa, Mendling, & Reijers, 2013) (Weske, 2007)
	What redesign tools and software do you use? Do you prefer graphical and illustration or written tools?	(Dumas, La Rosa, Mendling, & Reijers, 2013)
<b>Process Implementation</b>	How and does your company explaining changes to the process participants?	(Macedo de Morais, Kazan, Dallavalle de Padua, & Lucirton Costa, 2013)
	Do you have a change management plan for stakeholders?	(Dumas, La Rosa, Mendling, & Reijers, 2013)
	What kind of user training do you have in your company?	(Dumas, La Rosa, Mendling, & Reijers, 2013)
<b>Process Monitoring and Controlling</b>	Do you measure the performance of old and newly implemented processes?	(Ongena & Ravesteyn, 2019)
	Do you monitor business activities and how?	(Dumas, La Rosa, Mendling, & Reijers, 2013)
<b>Process view</b>	The average employee views the business as a series of linked processes.	(McCormack & Johnson, 2001)
	Process terms such as input, output, process and process owners are used in conversation in the organization.	

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	The business processes are sufficiently defined so that most employees know how they work.	
<b>Process Jobs</b>	Jobs are usually multidimensional and not just simple tasks.	(McCormack & Johnson, 2001)
	Jobs include frequent problem-solving.	
	Employees are constantly learning new things on the job	
<b>Process Management and Measurement Systems</b>	Process performance is measured.	(McCormack & Johnson, 2001)
	Process measurements are defined.	
	Resources are allocated based on the process.	
	Specific process performance goals are in place.	
	Process outcomes are measured.	

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### Appendix 3: The final list of sampled papers

<b>NAME</b>	<b>YEAR</b>	<b>DATABASE</b>	<b>JOURNAL</b>	<b>TYPE</b>	<b>COUNTRY</b>	<b>GEOGRAPHICAL AREA</b>
<b>BUSINESS PROCESS MANAGEMENT - LESSONS FROM EUROPEAN BUSINESS</b>	1999	Emerald	Business Process Management Journal	Journal article	UK	Western Europe
<b>EXPLORING THE STATE OF BUSINESS PROCESSES MANAGEMENT IN THE BULGARIAN ENTERPRISES</b>	2012	Science Direct	Procedia - Social and Behavioral Sciences	Journal article	Bulgaria	Eastern Europe
<b>CONTRASTS IN CULTURE: RUSSIAN AND WESTERN PERSPECTIVES ON ORGANIZATIONAL CHANGE</b>	2000	EBSCO	Academy of Management Perspectives	Journal article	Russia	Eastern Europe
<b>ASSESSMENT OF PROCESS MANAGEMENT MATURITY IN DEVELOPING COUNTRIES BASED ON SAW METHOD</b>	2013	Taylor & Francis	Journal of Business Economics and Management	Journal article	Serbia	Eastern Europe

<b>BUSINESS PROCESS MANAGEMENT SUCCESS FRAMEWORK FOR TRANSITION ECONOMIES</b>	2018	Taylor & Francis	Information Systems Management	Journal article	Poland	Eastern Europe
<b>MODERN METHODS OF PROCESS MANAGEMENT USED IN SLOVAK ENTERPRISES</b>	2015	Science Direct	Procedia Economics and Finance 23	Conference paper	Slovakia	Eastern Europe
<b>BUSINESS PROCESS PERFORMANCE MANAGEMENT PRINCIPLES USED IN SLOVAK ENTERPRISES</b>	2013	Science Direct	Procedia - Social and Behavioral Sciences	Conference paper	Slovakia	Eastern Europe
<b>THE ROLE OF PROCESS PERFORMANCE MEASUREMENT IN BPM ADOPTION OUTCOMES IN CROATIA</b>	2015	EBSCO	Economic and Business Review	Journal article	Croatia	Eastern Europe
<b>B.P.M. IN TRANSITION ECONOMIES: JOINT EMPIRICAL EXPERIENCE OF SLOVENIA AND SERBIA</b>	2017	Taylor & Francis	Economic Research- Ekonomska Istraživanja	Journal article	Serbia and Slovenia	Eastern Europe

The Level of Process Management Principles Application in SMEs in the Selected Region of the Czech Republic	2014	Semantic Scholar	Serbian Journal Of Management	Journal article	Czech Republic	Eastern Europe
Comparative Analysis of the Implementation of BPM in Public Administration in Germany and Switzerland	2012	Semantic Scholar	Conference: PoEM 2012	Conference paper	Austria	Western Europe
Lessons from the “BPO journey” in a public housing company: toward a strategy for BPO	2019	Emerald	Business Process Management Journal	Journal article	Sweden	Western Europe