Project of Improvement HR Processes for Chosen Company Using Bizagi

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MASTER'S THESIS ASSIGNMENT
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Thesis Guidelines:

Introduction

Define the objectives and the application methods used in the Master thesis.

    I. **Theoretical part**

- **Prepare literature review focusing on methodology of business proces improvement and HR processes.**

    II. **Practical part**

- **Briefly introduce chosen company in general and its process management.**
- **Analyze and evaluate the current situation of HR processes of chosen company.**
- **Prepare a comprehensive project of improvement HR processes for chosen company, evaluate the risk, cost, and time nature of the project.**
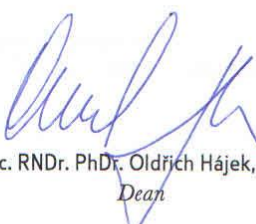
Conclusion

Thesis Extent: cca 70 stran

Appendices:

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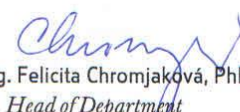
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ABSTRAKT

Aspekty oblasti lidských zdrojů jsou s příspěním Business Process Managementu (BPM) relativně málo řešeny, i proto pro mne bylo zajímavé zjistit reálnou možnost jak vylepšit výběr lidských zdrojů tzn. procesy v oblasti HR. Zaměstnanci z oblasti lidských zdrojů vysvětlují často tento nedostatek nemožnosti použít BPM v HR, složitostí HR procesů. Na druhou stranu, zákazníci HR procesů, například liniový manažeři nejsou často spokojeni s přispěním HR k podnikové strategii. Z tohoto důvodu se můj výzkum soustředil na zlepšení HR procesů.

Primárním cílem této diplomové práce je zlepšení procesu důležitých lidských zdrojů specificky procesu - "organizace výběru a náboru" vybrané společnosti. **Hlavním cílem tohoto projektu je snížení doby cyklu procesu "organizace výběru a náboru" s důsledkem prokazující použitelnost procesu a zajištění společnosti, že má správný počet, správný druh lidí na správném místě a ve správný čas. Vzhledem k záměru otevřít nový výrobní závod, jeden z nejdůležitějších cílů vybrané společnosti je mít vysoce vizualizované HR procesy; vlastněný, zvládal to, měří a neustále zlepšovat.**

Projekt zkrácení doby cyklu procesu "organizace výběru a náboru" do společnosti byl velmi úspěšný a použitelný. V důsledku toho se doba cyklu procesu "výběru kandidáta a jeho přijetí" – jako subprocesu, na jedno volné pracovní místo sníží cca na polovinu (z 889,5 pracovních hodin na 443,5 pracovních hodin). **Realizace projektu je pro firmu také považována za nezbytný krok, aby nadále probíhaly projekty zlepšování HR procesů dle požadované priorotizace ze strany firmy.**

Klíčová slova: Business Process Management, personální management, doba cyklu

ABSTRACT

As long as human resource aspects are relatively under-stated in the Business Process Management (BPM) literature, it would be of interest to find out the real possibility to improve selected Human Resources (HR) process. HR employees explain this lack of BPM with a complexity of HR processes. On the other hand, customers of HR processes, such as line managers are not satisfied with contribution of HR to the business strategy. Therefore, the research is concentrated on improving HR processes.

The primary focus of this Master's Thesis is improvement of the most important HR process for the chosen company – "Organize recruitment and selection**". The main goal of this project is reducing the cycle time of "Organize recruitment and selection" process by improving the usability of process and ensuring the company that it has right number, right kind of people at the right place and at the right time. Due to a plan to open a new production site, one of the most important goals of the selected company is to have highly visible HR processes; owned, managed, measured and continuously improved.**

The project of reducing cycle time of "Organize recruitment and selection" process of the company was very successful and applicable. As a result, the cycle time of "Select candidates and hire" sub process per one vacancy is reduced 2 times (from 889,5 working hours to 443,5 working hours). **The implementation of the project for the company is also considered as a necessary step to continue conducting HR process improvement projects according to the estimated prioritization.**

Keywords: Business Process Management, Human Resources Management, cycle time

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CONTENTS

INTRODUCTION

There can be no doubt that business process improvement helps companies to solve significant issues, especially during reorganization, changes in the way of company and employees working, mergers and acquisitions. The result of these issues can be even the loss of quality of the company's products and services, and thus the loss of customer loyalty. To diagnose the causes of these issues without a detailed study of the company's activity impossible. Therefore, investigation in business process improvement are very important and attracting many researchers.

However, human resource aspects are relatively under-stated in the BPM literature. Its focus is on elements such as the reasons for a BPM project; process analysis; the influence of IT; tools and techniques; or implementation (John, Edwards, 1999). Nowadays this lack of investigation continues to be, researchers found out that there is a gap in body of knowledge that there is no comprehensive business process approach for human resources management field (Abbas, Madni, 2013). In my opinion, this gap affected the current situation of companies' HR processes. Most of HR departments never implemented BPM into their operations. HR employees explain this lack of BPM with a complexity of HR processes. On the other hand, customers of HR processes, such as line managers are not satisfied with contribution of HR to the business strategy. Even if HR implementing BPM they are starting to complicate their processes and thus increasing customers' dissatisfaction. Consequently, it would be of interest to find out the real possibility to improve selected HR process.

Objective of the Master's Thesis

The primary focus of this Master's Thesis is improvement the most important HR process for the chosen company – "Organize recruitment and selection". The main goal of this project is reducing the cycle time of "Organize recruitment and selection" process by improving the usability of process and ensuring the company that it has right number, right kind of people at the right place and at the right time. Due to a plan to open a new production site, one of the most important goals of the selected company is to have highly visible HR processes; owned, managed, measured and continuously improved.

The thesis is organized as follows:

Theoretical part covers the introduction of BPM, methodology of BPM, modeling business processes using BPMN and introduction to HR management processes.

The analysis part introduces firstly a brief history and strategy of a chosen company. SWOT analysis is used to evaluate strengths and weaknesses of the company. The current situation of HR processes described in order to prioritize processes to start the process improvement project. Then, the project of reducing cycle time of "Organize recruitment and selection" process will be discussed in more detailed. The project part lastly comes to break down other important factors in the process improvement, which is cost, time, and risk analysis.

I. THEORY

1 INTRODUCTION TO BPM

According to Berman (2014), BPM is a highly effective, budget-sensitive way to achieve greater productivity, reduced time to market, and improved efficiency and flexibility. This was stated many years ago. Gerstner Jr. (2002) believed that innovation in process – how things get done in an enterprise – will be as important as innovation in the products a company sells.

1.1 Definition of BPM

1.1.1 What is a BPM?

"BPM – is the discipline of managing processes as the means for improving business performance outcomes and operational agility. Processes span organizational boundaries, linking together people, information flows, systems and other assets to create and deliver value to customers and constituents" (Sinur et al., 2013).

According to Gerth (2013), BPM is a management approach, which includes creation, development, maintenance and optimization of business processes. The focus of BPM is the automation and optimization of business processes, as well as the support of human interaction with the use of IT.

A more comprehensive and practical definition of BPM formulated by Jeston and Nelis (2014). This defines BPM as the achievement of a company's objectives through the improvement, management and control of essential business processes. Thus, BPM is an integrated part of general management – management of business processes. Harmon (2005) defined BPM "as a management discipline focused on improving corporate performance by managing a company's business processes".

According to Jeston and Nelis (2014) "BPM is:

- More than just software.
- More than just improving or reengineering processes – it also deals with the managerial issues.
- Not just hype – it is integral part of management.
- More than just modeling – it is also about the implementation and execution of these processes, which requires analysis".

1.1.2 What is a BPI?

BPI is a systematic approach to help organizations to achieve significant changes in the way they do business (Forster, 2006).

According to Page (2010), there are three objectives of BPI:

- Effectiveness – denotes the quality of the business process. This can be measured whether the process produce the desired results and meet the client's needs.
- Efficiency – signifies the productivity of the process. This can be measured whether the process minimize the use of resources, improve cycle time, and eliminate bureaucracy.
- Adaptability – describes the flexibility of the business process. This can be measured whether the process flexible in the face of changing needs.

1.1.3 What is a Process?

According to Berman (2014), "a process is a set of interrelated activities designed to transform inputs into outputs". Thus, process is a set of activities documented in a procedure.

1.1.4 What is a Procedure?

According to Berman (2014), "a procedure is a way of carrying out a process". Consequently, procedure is a standardized, documented set of ordered activities. Procedures usually shows responsible persons of process activities and sequence of process activities.

1.2 Key relations of BPM

"BPM inherits from the continuous improvement philosophy of TQM, embraces the principles and techniques of operation management, Lean and Six Sigma, and combines them with the capabilities offered by modern information technology, in order to optimally align business processes with the performance objectives of an organization" (Dumas et al., 2013).

1.2.1 BPM and TQM

Much of the literature concerning TQM implementation programs suggests that there is a positive correlation between TQM practices and performance both operational and organizational and they bring numerous and varied benefits to the organizations that have suc-

cessfully adopted them (Lam et al., 2011; Rahman and Sohal, 2002; Douglas and Judge, 2001).

According to Dumas et al. (2013), TQM is an approach that both historically preceded and inspired BPM. The main goal of TQM is continuous improvement of products and services; therefore, TQM is similar to BPM. In fact, BPM is focusing on the continuous improvement of processes that create products and services. On the contrary, Dumas et al. (2013) indicates that TQM is oriented to manufacturing companies, and BPM more oriented to the service companies.

1.2.2 BPM and Lean

Lean is a business strategy focused on removing waste or non-value-added activities to the client in a company. Common value of TQM and BPM – customer orientation, in addition, many of other principles and values have been acquired from BPM. Another difference is that BPM puts more emphasis on the use of IT as a tool to improve business processes (Dumas et al., 2013).

1.2.3 BPM and Six Sigma

Six Sigma is another set of practices that originate from manufacturing, in particular from engineering and production practices at Motorola. The main characteristic of Six Sigma is its focus on minimization of defects. Nowadays, many of the techniques of Six Sigma are commonly applied in BPM as well (Dumas et al., 2013).

Six Sigma is a methodology for process improvement. Process management, in the world of Six Sigma, means developing an overview of the companies' processes, linking it with corporate strategy, and using it to prioritize process interventions (Harmon, 2014).

1.3 Main drivers and triggers to initiate BPM project

Jeston and Nelis (2014) categorized main drivers and triggers to start BPM project as a possible solution from organizational, management, employee, customer/supplier/partner, product or service, process and IT perspectives. The table 1 shows main drivers and triggers that may cause an organization to consider BPM.

Table 1: Drivers and triggers to start BPM project

Category	Drivers and triggers
Organization	• High growth – difficulty coping with high growth or proactively planning for high growth • Mergers and acquisitions • Reorganization – changing roles and responsibilities • Change in strategy – deciding to change direction to operational excellence, product leadership or customer intimacy
Management	• Lack of reliable or conflicting management information • The need to provide managers with more control over their processes • The need for the introduction of a sustainable performance environment • The need to create a culture of high performance • Budget cuts
Employees	• High turnover of employees • Low employee satisfaction • The expectation of a substantial increase in the number of employees

Customers/ suppliers/ partners	• Low satisfaction with service, which could be due to:
	   o High attrition rates of stuff
	   o Staff unable to answer questions adequately within the required timeframes
	• An unexpected increase in the number of customers, suppliers or partners
	• Long lead times to meet requests
	• Major customers, suppliers and partners requiring a unique process

Product and services	• Each product or service has its own processes, with most of the processes being common or similar

Category	Drivers and triggers
	• Products or services are complex
Processes	• Too many hand-offs or gaps in a process, or no clear process at all • Unclear roles and responsibilities from a process perspective • Quality is poor and the volume of rework is substantial • Processes change too often or not at all • Lack of process standardization • Lack of clear process goals or objectives
Information technology	• The introduction of new systems, for example CRM, ERP, billing systems • The purchase of BPM automation tools (workflow, document management, business intelligence), and the organization does not know how to best utilize them in a synergistic manner • A view that IT costs are out of control or too expensive • The introduction of web services

Source: Jeston and Nelis, 2014

Berman (2014) added to the list of drivers and triggers presented on the Table 1 low level of productivity of a new employee.

2 METHODOLOGY OF BPM

According to Harvard Business School (2010), the main steps of BPI projects are:

1. Analyze current situation of processes
2. Prepare for the BPI project
3. Map and analyze as-is process
4. Design to-be process
5. Implement improved process
6. Improve process continuously

Detailed explanation of each step of BPI project will be given below.

2.1 Analyze current situation of processes

2.1.1 Create process system

"If an organization is at the very start of turning into a process-centered organization, the first difficult task it faces is to come up with meaningful enumeration of its existing processes" (Dumas et al., 2013). According to Berman (2014) a process system is a map of how a company works, which represents a big picture of hierarchical relationship of all processes of a company, including interfaces among processes on the same level and how they relate to each other.

"A process system provides a map that company can use to have a shared version of the big picture and to manage improvements, keeping them coordinated and compatible" (Berman, 2014).

There are different categorizations for business processes. According to Dumas et al. (2013), one of the most essential is Michael Porter's Value Chain model. It distinguishes two categories of processes: core processes and support processes. Core processes cover the essential value creation of a company, that is, the production of goods and services for which customers pay. Support processes enable the execution of these core processes.

2.1.2 Prioritize processes

Prioritization of processes is an essential point in BPI project. According to Page (2010), in order to determine which business process should be improved first, a process prioritiza-

tion table needs to be created. In this step it is important to create prioritization criteria. Detailed prioritization table created in Chapter 6.1.

2.2 Prepare for the BPI project

2.2.1 Create project team

At this step it is necessary to form a project team. There are many researchers on the subject of team working. Dr. Meredith Belbin studied teamwork for many years, and he famously observed that people in teams tend to assume different team roles. He defined a team role as "a tendency to behave, contribute and interrelate with others in a particular way". According to Dr. Meredith Belbin there are people, action and thought oriented roles.

2.2.2 Establish project scope

At this step it is important to provide basic information required to start the BPI project. This information can include process name, process owner, purpose of the process, process scope, process responsibilities, clients and clients' needs, key stakeholders and their interests, measurement of success (Page, 2010).

2.2.3 Create a project schedule

By creating a solid schedule at the start of the project, project managers can help curb cost overruns, resource shortages or excessive change requests. A panel of project scheduling professionals offer seven tips for creating a solid project schedule (Aramburu and Colodzin, 2009):

1. Realize the importance of the schedule.
2. Identify the availability of team members.
3. Build the schedule around deliverables.
4. Include regular milestones.
5. Expect that the schedule will change.
6. Have a process for managing change.
7. Watch for predecessors and successors.

2.2.4 Evaluate project risks

All projects have risks. According to Rajman (2014), if a potential risk of the project is not identified early, then the project will be at a high risk to complete as per schedule, within budget and to meet the expected quality.

As stated in PMBOK, there are some specific tools and techniques for identifying risk as listed below:

- Documentation Reviews.
- Information Gathering Techniques - Brainstorming, Delphi Technique, Interviewing, Root cause analysis.
- Checklist analysis - previous similar project.
- Assumption analysis.
- Diagramming Techniques - cause and effect diagram, system and process flow chart, influence diagrams.
- SWOT Analysis.
- Expert Judgment.

2.2.5 Evaluate project cost

Many techniques, books and software packages exist to help with estimating project costs. According to Haughey (2012), there are a few simple rules for creation an accurate and realistic cost evaluation:

- Assume resources will only be productive for 80 percent of their time.
- Resources working on multiple projects take longer to complete tasks because of time lost switching between tasks.
- People tend to be optimistic and often underestimate how long tasks will take.
- Get an expert view.
- Include time management in any estimate.
- Always build in contingency for problem solving, meetings and other unexpected events.
- Cost each task in the Work Breakdown Structure to arrive at a total, rather than costing the project as a whole.
- Communicate any assumptions, exclusions or constraints you have to your customer.

2.3   Map and analyze as-is process

2.3.1   Draw the process map

"Process map is a visual representation of a series of connected activities that, when strung together, deliver a meaningful outcome to the client. By drawing the process map, it will help to identify, how business processes work as well as where the handoffs occur between departments" (Page, 2010).

According to Dumas et al. (2013), there are many languages for modeling business processes diagrammatically. One of the oldest ones are flowcharts. The Figure 1 presents standard flowchart symbols.

Figure 1: Standard flowchart symbols

| Process step | Decision | Input or output | Terminator (process beginning or end) | Link to another process |
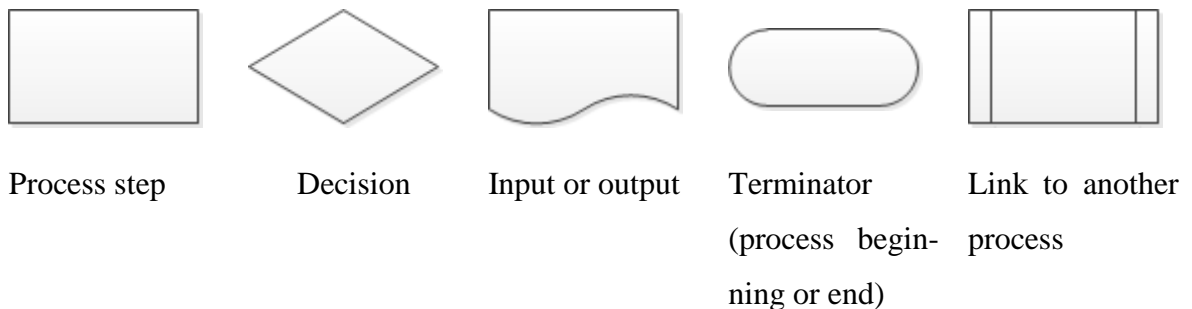
Source: Page, 2010

Next modeling language – UML. In general, UML activity diagrams are cross-organizational flowcharts. Another language for process modeling are EPCs. EPCs have some similarities with flowcharts but they more focused on events. Other languages used for process modeling include data-flow diagrams and IDEF (Dumas et al., 2013).

One of today's most powerful mean of business process modeling language is the Business Process Model and Notation (BPMN). BPMN is the widely used standard for process modeling. It is a graphical notation for expressing business processes in a Business Process Diagram. The objective of BPMN is to support business process management by providing a notation that is intuitive to business users yet able to represent complex process semantics (Kotsev, 2011). BPMN will be described in the Chapter 3.

Process map can be either high-level or detailed level. It is necessary to draw high-level process map, if the process (Page, 2010):

- Is a complex process.

- Is a highly variable process.

- Has may sub processes.

- Is undefined and little shared understanding exists.

It is important to draw detailed level process map, if the process (Page, 2010):

- Is used often by many people.

- Is a sub process of another business process.

- Experiences high turnover among process workers.

2.3.2 Estimate process and cycle time

According to Page (2010), process time is the time required to complete a single activity in a process. Cycle time is the time required to complete an entire process, from its beginning to the end. Cycle time includes waiting time between activities. Greatest opportunity for improvement lies with the cycle time, because clients see only cycle time.

In order to analyze process and cycle time, it is crucial to collect information about the time spent in each task of the process, including both the amount of time that process participants spend actually doing work and the waiting time (Dumas et al., 2013).

2.4 Design to-be process

2.4.1 Apply improvement techniques

According to Page (2010) key process improvement techniques are:

- Eliminate bureaucracy

- Evaluate value added and non-value added activities

- Eliminate redundancy and duplication

- Simplify process and forms

- Reduce cycle time

- Apply automation tool

The six improvement techniques mentioned above should be applied one at a time to insure that the business process is improved using a systematic approach. The figure below presents the process improvement technique wheel.
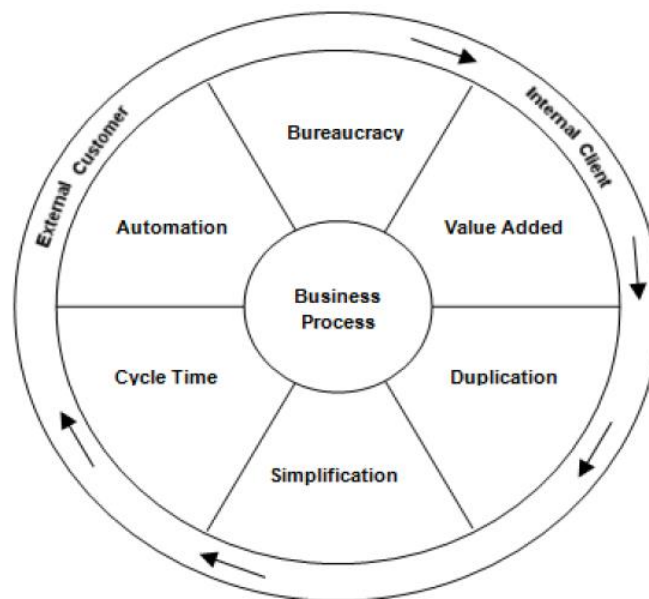
Figure 2: The process improvement technique wheel
Source: Page, 2010

2.4.1.1 Eliminate bureaucracy

According to Page (2010), there several questions to check the possibilities of bureaucracy elimination:

1. How many approvals do we have in place? Why?
2. Can we reduce the number required?
3. Do we make decisions at the right place?
4. Do we generate unnecessary paperwork?
5. How many copies of each document do we make?
6. Why do we keep hardcopies?
7. Do we understand what people do with the information or reports that we send them?
8. Does one person check the work of another? Why?
9. Can we eliminate any forms? Do we absolutely need them?

2.4.1.2 Value added

Because every activity in a business process adds to the cost of the end product or service and because every step adds labor, overhead, or other expenses, it is important to evaluate each activity to determine whether it adds value or not (Page, 2010).

2.4.1.3 *Eliminate duplication*

Duplication occurs when multiple groups get involved in a business process without any integration. In order to eliminate duplication it is necessary to establish a single source of data, eliminate two employees doing the same work and minimize document storage (Page, 2010).

2.4.1.4 *Simplification*

Simplification the process means reducing the complexity of an activity in a business process so that the process becomes easier to understand and more efficient. It is recommended to ask the next questions to simplify the business process (Page, 2010):

1. Can we simplify any step in the process?
2. Can we simplify any of the forms?
3. Do you see unnecessary handoffs?
4. Can we standardize a step, a report or a form to make it easier to understand?
5. Can we eliminate or combine any steps?
6. Does everyone understand the process?

2.4.1.5 *Reduce cycle time*

The following activities help to reduce the cycle time (Page, 2010):

- Reducing handoffs
- Optimizing activities that add value to the process
- Eliminating activities that do not add value
- Reducing cycle time of high cycle time activities
- Performing activities in parallel instead of one at a time
- Combining activities
- Benchmarking the industry standards

2.4.1.6 *Automation*

Automation is the use of control systems and information technologies, such as applications, portals and others, reducing the need for human intervention (Page, 2010).

2.4.2 Update process map

At this step as-is process map is updated according to applied improvements. A valid process map should accurately reflect the existing process.

2.4.3 Create tools and KPIs

According to Page (2010), tools are used to support the business process. Some examples of tools include checklists, system of records, custom forms in MS Outlook, software applications.

KPIs is developed to support the measurement of process success. KPIs are used to evaluate whether the process works as planned.

According to Berman (2014), it is important to follow the next rules in order to select right KPIs:

- KPIs should be reality based.
- KPIs should be oriented to the internal and external customers.
- KPIs should drive the proper behavior from employees.
- KPIs should be measured in a clear and visible way.
- KPIs should predict an issue before it becomes a serious problem.

2.4.4 Test the process

At this step, it is crucial to identify test group to validate that the process and tools work as expected. Testing helps to identify bottlenecks and provides the possibility to fix the problems before implementation of the process. The test plan should be created and covered the following questions: who should be involved in the testing, what items to test, where and when to conduct the testing (Page, 2010).

2.5 Implement improved process

In order to be able to have a successful implementation, it is important to identify who has to know about the change, what information need to be given, and how to communicate right information to the right people (Page, 2010).

2.5.1 Create communication plan

Communication of process changes include information transfer (Berman, 2014). The communication plan provides clarity about the change, who needs to know about the change, what and when they need to know and the best method of communication for each audience (Page, 2010). If process change affects a small group of people, it is better to deliver the information in person. If process change affects a large group of people, especially a group that is scattered around the world, communication is more difficult. In that case communication can be provided through email, teleconferences or computer-based training. (Berman, 2014).

2.5.2 Create training plan

"The training plan covers who requires training on what, who owns the responsibility to conduct the training, where the training will occur, when and how to deliver the training" (Page, 2010).

General guidelines for training according to Jeston and Nelis (2014):

- Specify explicit learning objectives and outcomes.
- Determine the specific audience.
- Communicate the objectives and expected outcomes to the audience well ahead of time.
- Start each training session by eliciting the expectations of the participants.
- All processes should be related as much as possible to the situation of the participants.

2.6 Improve process continuously

2.6.1 Develop continuous improvement plan

Continuous improvement – a term derived from the TQM, means monitoring a business process and adjusting it so that it continually improves overtime. Continuous improvement helps to sustain the effectiveness, efficiency and adaptability of the process (Page, 2010).

According to Page (2010), there are four stages in continuous improvement cycle:

1. Evaluate. Determine the opportunities.
2. Test. Make the change and try it out on a limited basis.

3. Assess. Determine whether the change worked.
4. Execute. Deploy the change on a wide scale.

3   MODELING BUSINESS PROCESSES USING BPMN

There is a widely used standard for process modeling, namely the Business Process Model and Notation (BPMN) (Dumas et al., 2013).

3.1   BPMN objectives

The primary goal of BPMN is to provide a standard notation that is readily understandable by all business stakeholders. These stakeholders include business analysts who create and refine processes, technical developers responsible for implementing processes, and business managers who monitor and manage processes. Consequently, BPMN is intended to serve as a common language to bridge the communication gap that frequently occurs between business process design and implementation (BPMN standard, 2013).

3.2   Basic BPMN elements

The five basic categories of elements are (BPMN standard, 2013):
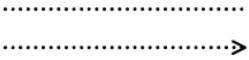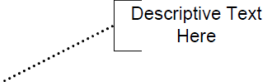
1. Flow Objects:
   - Events
   - Activities
   - Gateways
2. Data:
   - Data Objects
   - Data Inputs
   - Data Outputs
   - Data Stores
3. Connecting Objects:
   - Sequence Flows
   - Message Flows
   - Associations
   - Data Associations
4. Swimlanes:
   - Pools
   - Lanes
5. Artifacts:

- Group
- Text Annotation

Table 2 displays a list of the basic modeling elements that are depicted by the notation.

Table 2: Basic modeling elements of BPMN

Element	Description	Notation
Event	An Event is something that "happens" during the Process. These Events affect the flow of the model and usually have a cause (*trigger*) or an impact (*result*). Events are circles with open centers to allow internal markers to differentiate different *triggers* or *results*. There are three types of Events, based on when they affect the flow: Start, Intermediate, and End.	
Activity	An Activity is a generic term for work that company performs in a process. The types of Activities that are a part of a Process Model are: Sub-Process and Task, which are rounded rectangles.	
Gateway	A Gateway is used to control the divergence and convergence of Sequence Flows in a Process and in a Choreography. Thus, it will determine branching, forking, merging, and joining of paths. Internal markers will indicate the type of behavior control.	
Sequence Flow	A Sequence Flow is used to show the order that Activities will be performed in a Process.	
Message Flow	A Message Flow is used to show the flow of Messages between two Participants that are prepared to send and receive them.	

Element	Description	Notation
Association	An Association is used to link information and Artifacts with BPMN graphical elements. Text Annotations and other Artifacts can be Associated with the graphical elements. An arrowhead on the Association indicates a direction of flow (e.g., data), when appropriate.	
Pool	A Pool is the graphical representation of a Participant. It also acts as a "swimlane".	
Lane	A Lane is a sub-partition within a Process. Lanes are used to organize and categorize Activities.	
Data Object	Data Objects provide information about what Activities require to be performed and/or what they produce, Data Objects can represent a singular object or a collection of objects.	
Message	A Message is used to depict the contents of a communication between two Participants.	
Group (a box around a group of objects within the same category)	A Group is a grouping of graphical elements that are within the same Category. This type of grouping does not affect the Sequence Flows within the Group. Categories can be used for documentation or analysis purposes.	
Text Annotation (attached with an Association)	Text Annotations are a mechanism for a modeler to provide additional text information for the reader of a BPMN Diagram.	Descriptive Text Here

Source: BPMN standard, 2013

4 HUMAN RESOURCE MANAGEMENT

"It has become increasingly clear that HR in the future must operate strategically—not as the currently popular "partner to the business," but as a business in and of itself" (Alvares, 1997). While HRM is associated with the integration of its activities at the horizontal level, strategic HRM is more concerned with integrating HRM activities vertically (Banfield and Kay, 2012). Nowadays, services, provided by HR departments, are growing.

High quality HRM can provide significant improvements of the operation of companies that are primarily reflected in the increased performance and efficiency of the system as well as the competitive advantage on more and more turbulent market during the time (Wall and Wood, 2005; Collins and Clark, 2003).

4.1 Definition of HRM

According to Armstrong (2006) Human Resource Management (HRM) is defined as a strategic and coherent approach to the management of an organization's most valued assets – the people working there who individually and collectively contribute to the achievement of its objectives. From this definition, we can deduce that HRM or simply HR is a function in organizations designed to maximize employee performance in service of their employer's strategic objectives (Johanson, 2009). HR departments and units in organizations are typically responsible for a number of activities, including employee recruitment, training and development, performance appraisal, and rewarding (Paauwe and Boon, 2009).

A more comprehensive and practical definition of HRM formulated by Catholic Relief Services (2011) "HRM is the organizational function that deals with issues related to all the people in the organization who individually and collectively contribute to the achievement of the organization's objectives. Among these issues are staffing and recruitment, compensation and benefits, performance management, safety, well-being, communication, spirituality, employee motivation, development, and growth".

4.2 Main HR functions

According to Sali (2014), there are the following HR functions:

- **Compensation and Benefits.** On the compensation side, the HR functions include setting compensation structures and evaluating competitive pay practices.

- **Recruitment.** Recruitment process is measured by the number of positions they fill and the time it takes to fill those positions.

- **Employee Relations.** Employee relations is the HR discipline concerned with strengthening the employer-employee relationship through measuring job satisfaction, employee engagement and resolving workplace conflict.

- **Compliance.** Compliance with labor and employment laws is a critical HR function. Noncompliance can result in workplace complaints based on unfair employment practices, unsafe working conditions and general dissatisfaction with working conditions that can affect productivity and ultimately, profitability.

- **Training and Development.** Employers must provide employees with the tools necessary for their success which, in many cases, means giving new employees extensive orientation training to help them transition into a new organizational culture.

- **Safety.** One of the main functions of HR is to support workplace safety training and maintain federally mandated logs for workplace injury and fatality reporting.

4.3 Recruitment and selection process

The organization must plan what type of staff and positions are needed in the short and long term, based on organizational goals and action plans. This plan informs recruitment decisions and helps new hires integrate into the organization's culture; engender trust, cooperation, and motivation; and be effective in contributing to the organization's achievements. This is the process that introduces new hires to the systems, structures, policies, and communication flow in the organization (Catholic Relief Services, 2011).

Figure 3 illustrates the relationship between the two connected fields of "recruitment" and "selection". The bubbles on the left show the types of consideration to be made at each stage and the boxes on the right list some of the typical documentation required at each stage of the process.
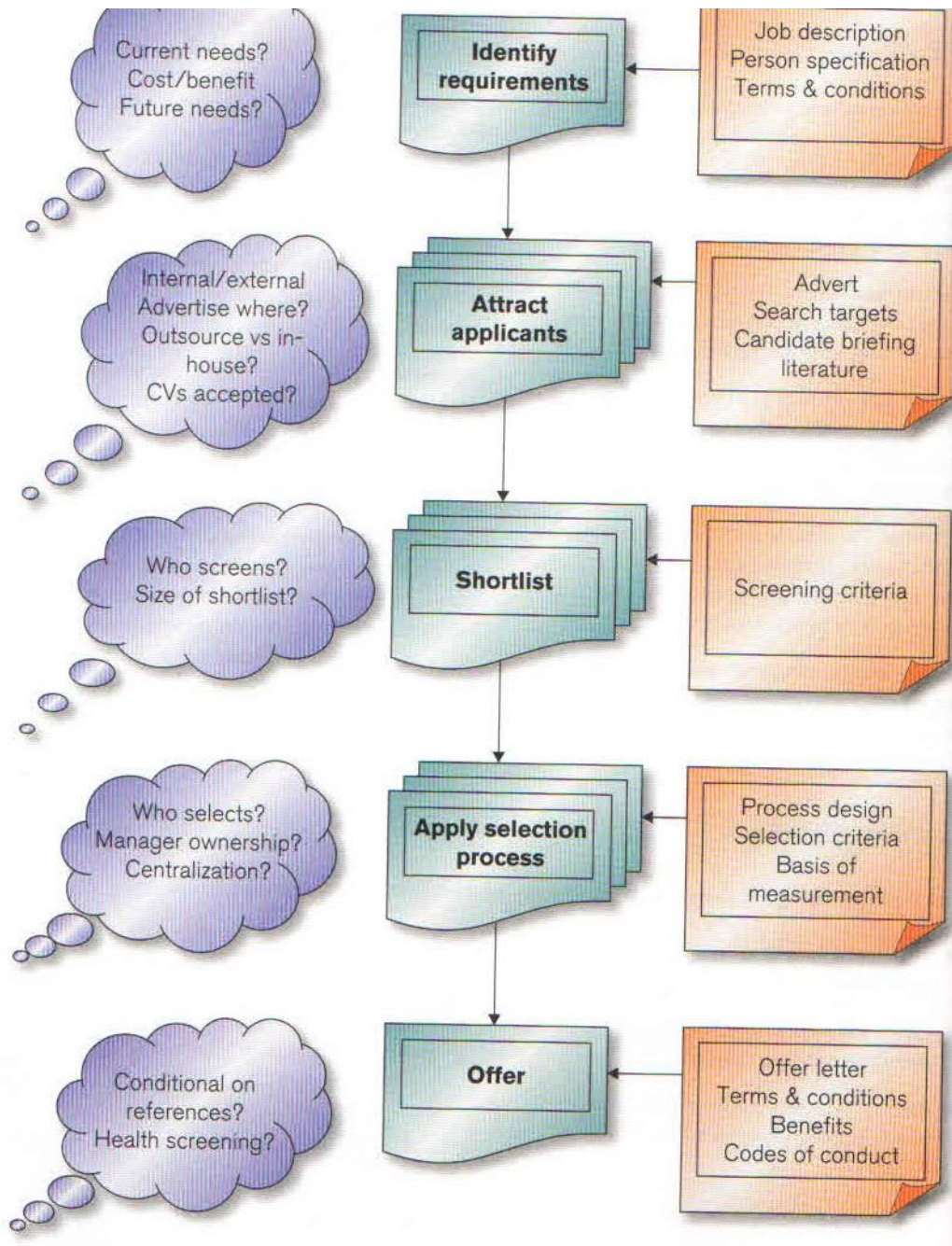
Figure 3: Relationship between "recruitment" and "selection"
Source: Banfield and Kay, 2012

4.3.1   The importance of recruitment and selection process

No matter how sophisticated the systems, processes, and technology of an organization, it is the capabilities and commitment of its employees that ensure its success. It is essential to the success of the organization to ensure that recruitment and selection is effective, and delivers the highest caliber of employees at optimum cost. As many writers have maintained (Grafton, 2000; Michaels et al., 2001), by the beginning of the twenty-first century, an increasing number of managers had become aware that the only unique and sustainable

source of competitive advantage came from the inspiration, knowledge, and effort of employees; that is, of the organization's "human capital" (Banfield and Kay, 2012).

The recruitment and selection process is important because (Banfield and Kay, 2012):

- Each employment decision can add to, or subtract from, the overall quality of the workforce.
- The ability of managers to continuously generate greater levels of added value from each employee is heavily influenced by what each new recruit brings into the organization and what each is capable of becoming.
- As a result of the increase in employment protection rights, it has become more difficult to correct mistakes in employment decisions once a person has been offered, and has accepted, a contract.
- Employees who fail to meet the performance and behavioral expectations of managers can have a detrimental impact on the performance of others.
- The process of correcting a hiring mistake can be difficult, prolonged, and costly to all those involved.
- Employing new and better qualified members of staff to replace those that are unwilling or unable to adapt to new requirements is often the only effective long-term strategy for improving the operational performance of functions and departments.

The solution to many so-called "people problems" is often associated with improving the effectiveness of the recruitment process, discriminating between potential stars and potential problem employees, and providing a workforce that delivers against current and future requirements (Ryan and Tippins, 2004).

4.3.2   Calculating recruitment costs

Fitz-Enz (2002) holds the view that the hiring decision is often made too lightly; few organizations have stopped to figure out how costly the decision to hire a new employee is. Every time the recruitment system cycles, the company incurs a cost and runs the risk of making a poor hiring decision. Even if the new hire is good, there is a productivity loss as the person moves up the learning curve.

An economic approach to recruitment and selection must reflect the fact that decisions to appoint and reject an applicant will (Banfield and Kay, 2012):

- Affect the financial value of the contribution directly related to the newly employed worker over the duration of his or her employment.
- Involve expenditure and costs.

Fitz-Enz (2002) offers the following formula for the calculation of what he calls "cost per hire" (CPH):

$$CPH = \frac{AC + AF + RB + TC + RE + RC + NC + 10\%}{H}$$

Where:

AC – advertising costs.

AF – agency fees.

RB – referral bonus.

TC – travel costs.

RE – relocation costs.

RC – recruiter costs.

NC – the costs of processing unsolicited CVs.

H – the number of hires.

4.3.3 Identifying recruitment requirements

Two important documents are used to define recruitment requirements (Banfield and Kay, 2012):

- The job description, gives details of the purpose or the job, and of the tasks and responsibilities of accountability that are assigned to the jobholder.
- The person specification details the skills, knowledge, and attitudes that should ideally be possessed by the jobholder to ensure he or she can meet objectives, while feeling that the job holds sufficient challenge and opportunity to growth.

4.3.3.1 *Job description*

A job description is the document used to record what it is that an employee should be doing. At more junior levels, it is likely to be primarily concerned with the tasks that the postholder is required to carry out on a day-to-day basis. At more senior levels it becomes

harder to define the exact details of actions required and job descriptions at this level are more likely to be primarily concerned with the overall responsibilities for which the employee is accountable (Banfield and Kay, 2012).

One of the questionable practices found in certain public sector organizations, in which there are many similar kinds of job, is the use of generic job descriptions. This has the advantage of simplifying the process of producing and amending job descriptions, but its disadvantage is that the distinctiveness and unique characteristics of each job are ignored (Banfield and Kay, 2012).

4.3.3.2 Person specification

Typically the person specification will describe the skills, knowledge, and attitudes required to carry out the job, the level and amount of experience necessary, the level of education and training required, and the person qualities and competence of the ideal candidate (Banfield and Kay, 2012).

Once a person specification has been agreed upon, this then becomes the basis of the assessment process, where evidence about applicants from different sources is assessed against the requirements and standards contained with the person specification (Banfield and Kay, 2012).

4.3.4 Employer branding

For many years organizations have invested in marketing their products and services to their customers, to help maintain loyalty to their brand, corporate image, or identity or to promote the services that they provide. Employer branding involves using a similar approach to human resources issues and is used to describe how an organization promotes what it has to offer to current and potential employees. This is an area of growing importance. Employer branding is therefore central to employee engagement and attracting a wide pool of talented applicants for any potential vacancy that arises (Banfield and Kay, 2012).

The CIPD (2007) defines employer branding as "a set of attributes and qualities – often intangible – that makes an organization distinctive, promises a particular kind of employment experience, and appeals to those people who will thrive and perform to their best in its culture".

4.3.4.1 Recruitment advertising

The mostly used method for attracting applicants is recruitment advertising and the biggest change in recent years has been the move to online recruitment. The use of newspapers and trade journals for advertising has declined in popularity and it has become rare to not use an internet-based solution to advertise a vacancy. Online advertising tends to be cheaper than the traditional methods and the switch away from printed media to online advertising was perhaps accelerated through the recent economic downtime due to the costs pressures faced by organizations (Banfield and Kay, 2012).

4.3.4.2 CV

A CV or resume is a document prepared by the candidate as part of his or her application, giving personal details, education and employment history, and other relevant information (Banfield and Kay, 2012).

4.3.4.3 Social networking sites

Social networking sites have grown rapidly in popularity and there are an array of sites competing for members from more formal sites encouraging business networking such as Linkedin to more informal sites such a Twitter and Facebook (Banfield and Kay, 2012).

4.3.4.4 Other checks

Organizations may have other obligations for checks, such as criminal record checks, checking eligibility to work, checking references, and health screening. Checks such as these can occur at different stages in the recruitment process, but they should always be applied consistently and fairly to avoid the risk of indirect discrimination (Banfield and Kay, 2012).

4.3.5 Selection interviews

The most widely used method of selecting candidates is interviewing. The CIPD (2009) identified that the competency-based interview is the most commonly used method, followed by interviews following a CV and structured panel interviews (Banfield and Kay, 2012).

4.4 Process management in HR

"It has been lot of work in relation to HRM processes but to-date no one has contributed significantly towards development of business process model for HR. The human resource management aspect of business process improvement is under-reported in the literature". (Abbas and Madni, 2013).

Reasons to improve HR processes

According to Sharma (2013), the reasons to improve HR processes are the process chaos due to bureaucracy, increasing customer orientation, undivided and non-designed processes, involvement of too many minds on process design and the Concerns about the past performance of the HR functions.

Issues arising during improvement of HR processes

According to Sharma (2013), there are some issues arising during improvement of HR processes:

- *Recruitment and Selection:* HR managers have greater responsibility for authorizing vacancy, job descriptions, short listing, selection and end of probation interview. The line manager decides the skill sets duly required for the job. The HR managers designed the original process but the line managers did improvement, which leads to the process optimization.

- *Training and Development:* Training and Development adds value to the skill of employees while rendering their services. The responsibility of training and development is shared between the line managers and HR with a higher responsibility. HR is heavily involved with the training programs while the responsibility of the line managers is to decide the trainees and oversee the participation.

- *Pay and Benefits:* When cost cutting became the most important issue in HR optimization. The need for cost optimization shifts to the employees. This in turn effects the value addition that happened in the organizations as a regular process. For optimization, line managers were always consulted for annual pay awards. Wherever performance related pay has been introduced and pay is based on staff appraisal markings by line managers and employees, HR usually provided the framework, guidance and monitoring, leaving the decisions on individual pay increases to the line managers.

II. ANALYSIS

5 COMPANY ANALYSIS

This section of the thesis focuses on the analysis of strategy and HR processes of selected company.

The company is a flexible packaging manufacturer located in Russia. They are among the top 20 largest flexible packaging companies in Europe, with approximately 400 professionals producing innovative packaging designs that meet the most stringent requirements of brand owners in the food and beverage, pharmaceutical, pet food and household chemicals industries. The company specializes in multilayer barrier films for packaging. The production capacity and all the workflow processes are certified under the ISO 9001:2008 (IQNet) international standards.

5.1 History

Company was founded in 2001.

In 2004 company obtained the ISO 9001:2000 international standard certification. This company assumed a leading position among packaging manufactures in the fat-and-oil industry. It entered the Top 10 largest producers of flexible packaging in Russia.

Testing laboratory accredited in technical competence by Federal Technical Regulation and Metrology Agency in 2005. Company entered the Top 3 largest flexible producers in Russia.

In 2008 company becomes the market leader in Russia by volumes of flexible packaging produced.

In 2010 company obtained International food safety standard certificate BRC/IOP and started up the new production site.

In 2011 the production capacity and all the flow processes of the company certified according to the ISO 9001:2008 (IQNet) international standards.

5.2 Strategy

Company is a modern, rapidly growing enterprise — indeed, one of the largest plants in Russia and Eastern Europe.

At the end of 2016 company will open a new production site for 200 employees.

5.2.1 Mission and Values

The company's mission is to provide a superior product and service for their partners, establishing long-term relationships grounded in mutual respect and sustainable development.

Values

Respect for the individual. Company works as a team and shows respect for the efforts of each other. They unlock and support their talents and enjoy their achievements together.

Progress and Development. They are proactive and decisive. Company values every idea and always tries to look at things from a new angle. Company undertakes ongoing training concerning their contribution to the sustainable future.

Good Faith and Responsibility. They preach a client-oriented approach and are fully assured that their good faith towards the partners, employees, investors and society is the most essential thing.

Improve Business Performance. The company optimizes its packaging solutions so that, together with its maintenance service and technical support, it can help cut customers' costs.

5.3 SWOT analysis

SWOT Analysis is a detailed analysis of the company's strengths, weakness, opportunities and threats. Gaining key insights into the company by understanding the company's core strengths and weaknesses equip the management board with information that enables them to define direction for the company, sharpen strategies and transform business operations profitably. Opportunities and threats from external environment that the company can explore are sized up and stay updated to foresee possible occurrences that can happen and influence company marketing objectives, and then formulate effective strategies to adapt to the environment. The main strengths, weaknesses, opportunities and threats that company have and faced are as follows:

Strengths

- On the market for 15 years
- Supportive and strong management
- Good brand name

- Cooperation with Global Leaders

- Good customer service and marketing ideas

- Post-sales technical support

- Independent raw materials storage

Weaknesses

- Cost of equipment (imported)

- Weak HR Policy

Opportunities

- Expected growth in packaging industry

- Protected intellectual property

Threats

- High competitive environment

- Lack of qualified employees for the new production site

- Political volatility

- Vulnerable market in Russia

5.4 Company Data

5.4.1 Production volume

It was produced 15 325 tons final products in 2015, which is 23% higher than the production volume of previous year. The production volume in 2014 increased by 38% compared with 2013 and in 2013 increased by 38% compared with 2012. Figure 4 shows production volume in tons for 2012-2015 according to quarters.
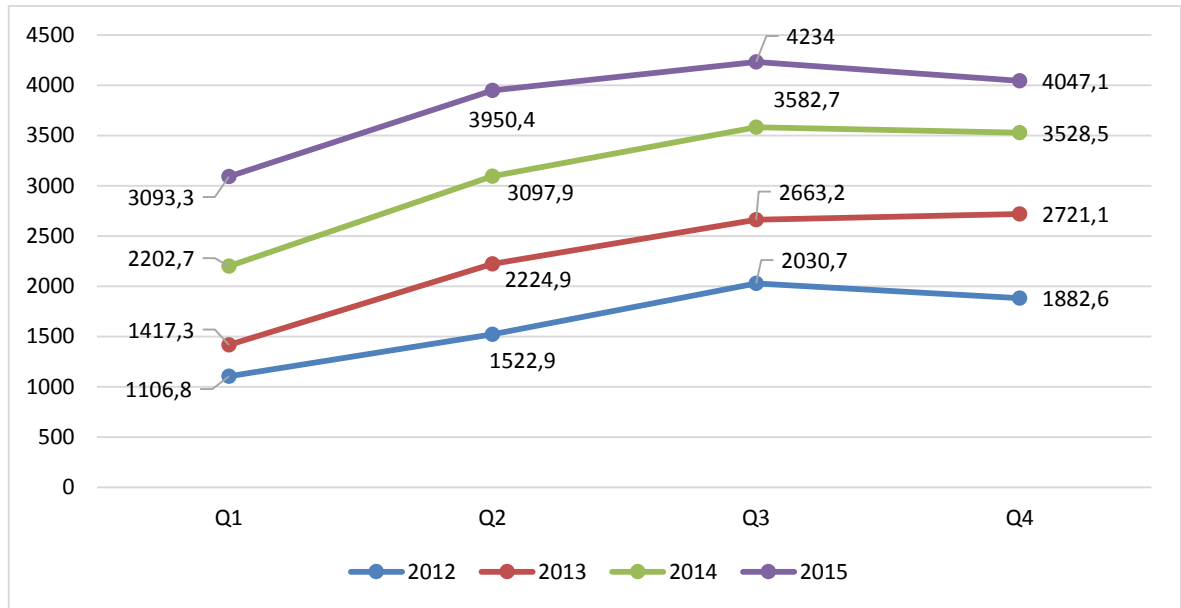
Figure 4: Production volume in tons for 2012-2015 according to quarters
Source: Company materials

5.4.2 Quality

5.4.2.1 Customers complaints

The majority of complaints pertaining to the quality of lamination – 47%, quality of printing – 18%, quality of cutting – 16%, quality of transport services – 9%. Figure 5 indicates types of complaints received from customers in 2015.
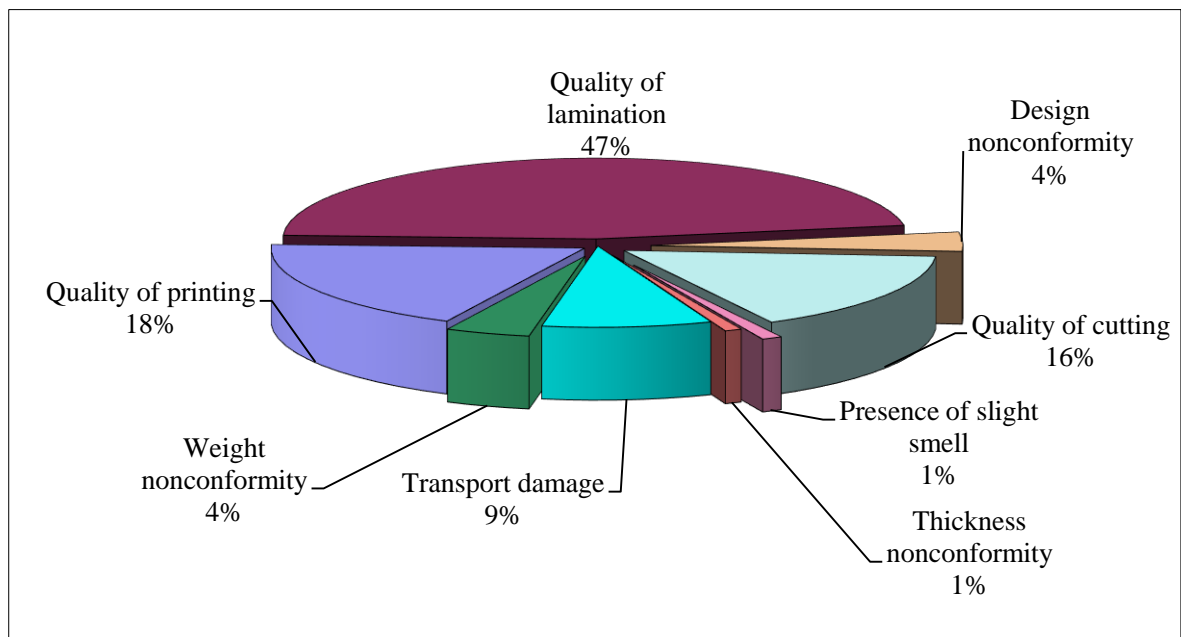
Figure 5: Types of complaints received from customers in 2015
Source: Company materials

5.4.2.2   *Reasons of complaints*

According to the Figure 6, reasons for 53% complaints were inattention of personnel.

Reasons of complaints in 2015

Nonconformity of technological process; 12%

Corrections during the production; 7%

Imperfection of equipment; 6%

Inattention of personnel; 53%

Defective raw materials; 20%

Imperfection of technology; 2%
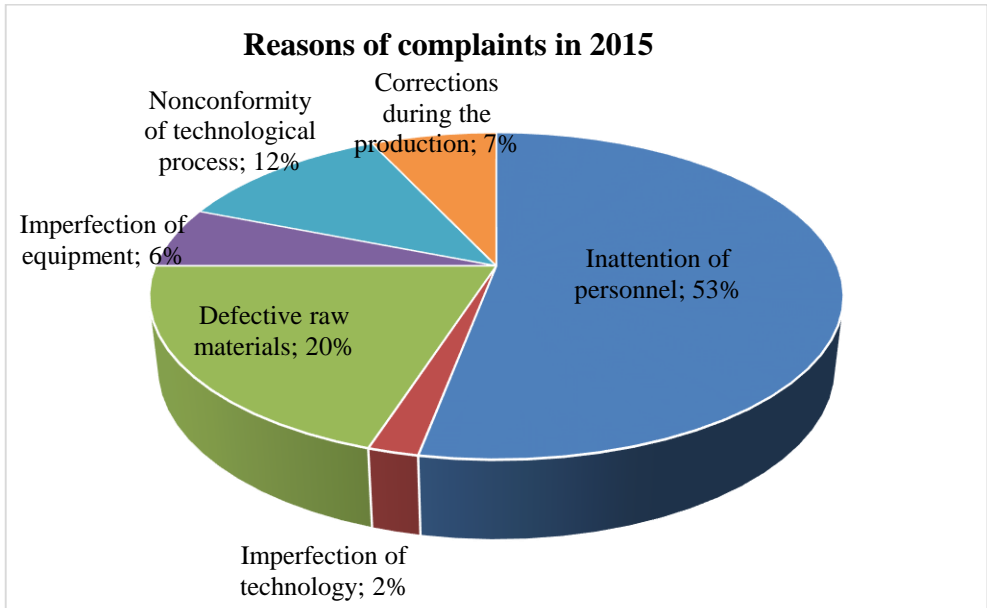
Figure 6: Reasons of complaints in 2015
Source: Company materials

5.4.3   Human Resources

In 2015 the total number of company employees was 391. Compared with 2014 the number of personnel increased by 20%. The Figure 7 shows the number of employees in 2015 according to their levels.
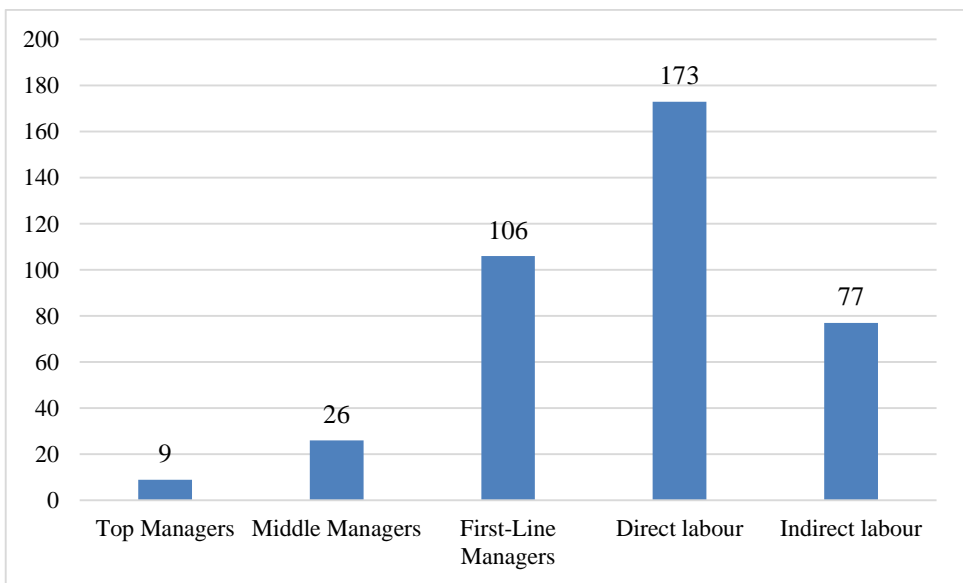
Figure 7: The number of employees in 2015 according to their levels
Source: Company materials

Average attrition rate in 2015 decreased by 0.6 times compared with 2014. The Figure below shows the attrition rate statistics for 2014 and 2015.
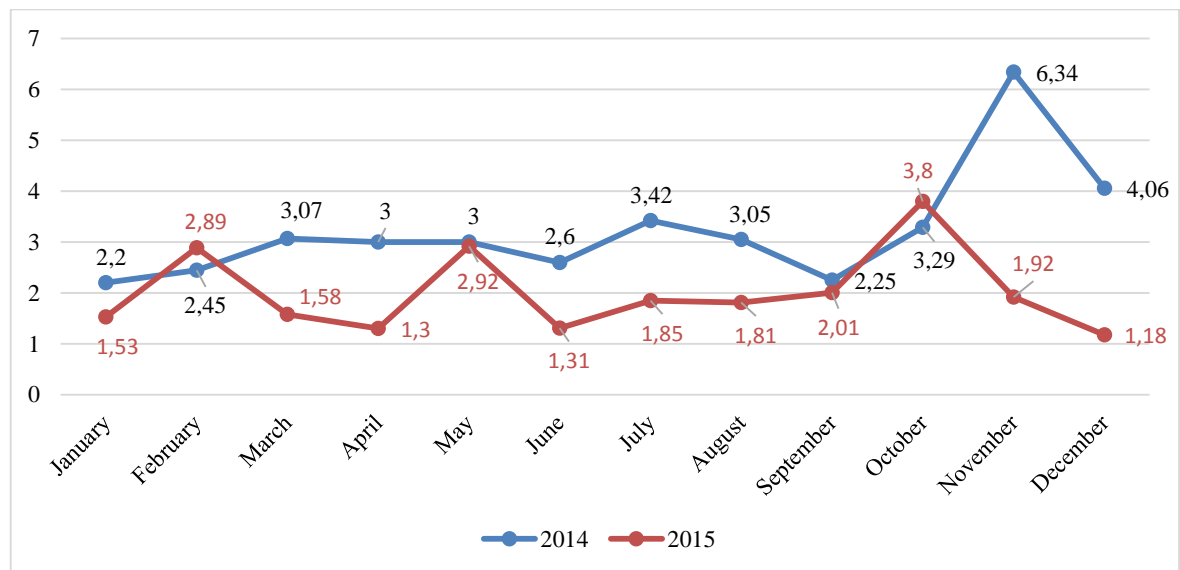
Figure 8: Attrition rate statistics for 2014 and 2015
Source: Company materials

Average personnel productivity in 2015 increased by 18% compared with 2014. The table 3 shows main productivity indicators.

Table 3: Productivity indicators in 2015

Indicator	Quarter I	Quarter II	Quarter III	Quarter IV	2015
Personnel productivity	122 752	157 788	170 133	145 754	149107
Number of employees	384	381	388	412	391
Products produced per 1 hour, square meter	670,05	790,53	744,79	665	718

Source: Company materials

6 CURRENT SITUATION OF HR PROCESSES

In 2016, Company is planning to open a new production site; therefore, company's management pays more attention to HR processes and decides to improve the efficiency of the HR processes. At the end of 2016 (September – December) Company plans to organize hiring and adaptation approximately 200 new employees for the new production site. That is why the project of improvement of HR processes is very crucial project for the company.

In addition, it was reported for the last few years, that the Company has the problems with hiring and motivation of employees. Recruitment and hiring usually takes too long time due to the inefficient current process and as a result, company loses qualified candidates. The result of employee's satisfaction survey for 2014 shows that 20% of employee's are not motivated to develop their career in this Company and they are not informed about the possibilities of career improvement.

The goal of the company is to have highly visible HR processes; owned, managed, measured and continuously improved.

The Figure below shows the overall process system of the company. According to this Figure HR management process is one of the most important support processes of the company.
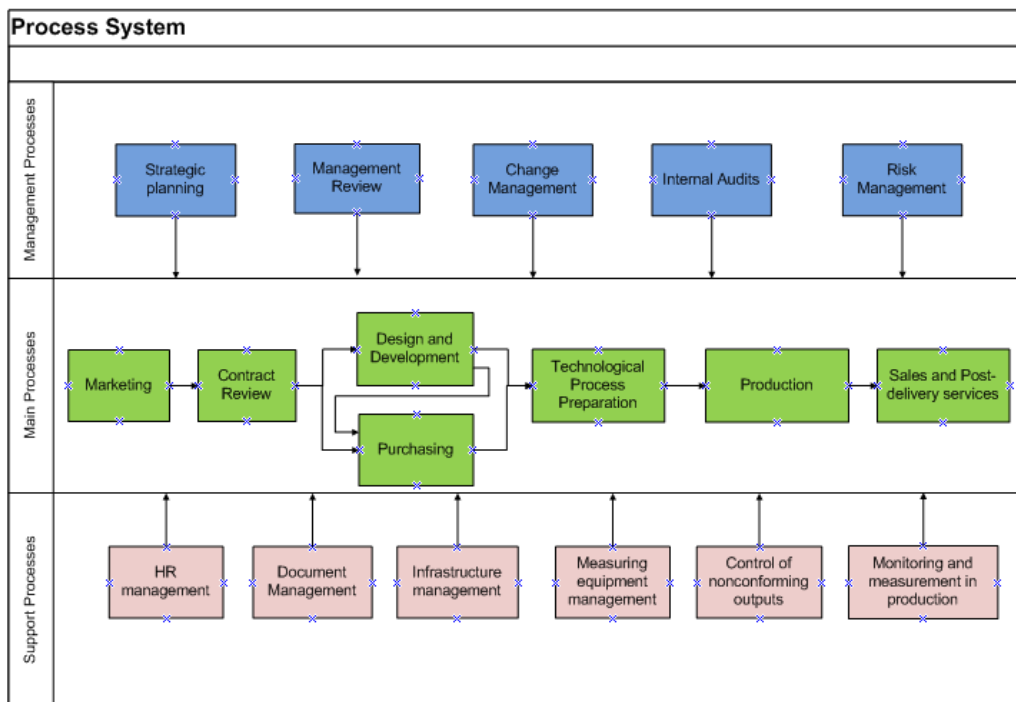
Figure 9: Process system of the company
Source: Own

The Figure 10 presents high-level HR management processes of the company.
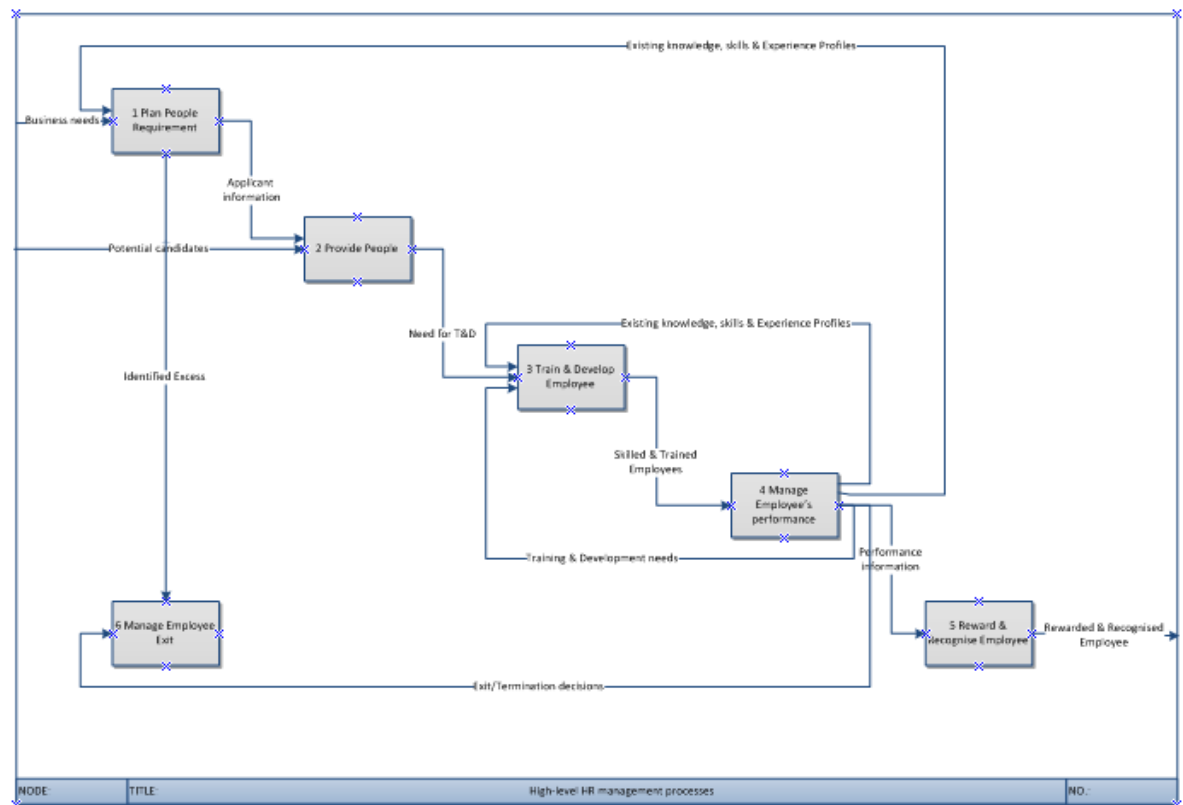
Figure 10: High-level HR management processes of the company
Source: Own

6.1 Prioritization of HR processes

In order to summarize high-level HR processes of the company I will start with creating process prioritization table according to Susan Page (2010). The results of this work will be as an input for starting a project of improvement. The prioritization table 4 will help me to compare all HR processes for making decision where exactly to start our improvement project.

HR processes prioritization table framework:

1. Impact.

   • Number affected – refers to volume and it includes the number of employees affected by a business process.

2. Implementation.

   • Time to market – refers to how long it takes to proceed through the business process improvement project.

- Funding – refers to whether you require a budget and its size.

- Timing of next cycle – refers to the time lapse before the company plans to use the business process again.

3. Currents state.

- Client satisfaction – evaluates how well or poorly the business process currently works from the client's perspective.

- Pain level – refers to how well or poorly the business process currently works for the department responsible for delivering the process results.

- Process exist? – refers to whether the process exist or not.

4. Value.

- Benefit/Return – refers to either a quantitative or qualitative measure of the value of improving process.

Table 4: HR processes prioritization table

Process	Impact 35%	Implementation 20%				Current State 30%				Value 15%	Total Score	Weighted score
	Number affected	Time to market	Funding	Time to next Cycle	Subtotal	Client Satisfaction	Pain Level	Process exist?	Subtotal	Benefit/Return		
	3=large 2=average 1=small	3=short 2=average 1=long	3=small 2=medium 1=large	3=close 2=interme-diate 1=far		3=low 2=medium 1=high	3=high 2=medium 1=low	2=no 1=partly 0=yes		3=high 2=average 1=low		
Plan People Requirement	2	3	3	2	8	2	1	1	4	2	16	3,8
Provide People	3	3	2	2	7	3	3	1	7	3	20	5,0
Train and Develop People	3	2	1	3	6	2	2	1	5	3	17	4,2
Manage People's Performance	3	2	2	1	5	3	3	1	7	3	18	4,6
Reward and Recognize People	3	1	2	1	4	3	2	1	6	3	16	4,1
Manage People Exits	2	3	3	1	7	1	1	1	3	1	13	3,2

Source: Own

Table 1 shows the completed prioritization of HR processes. According to this table, I can assume that first I should focus on "Provide people" process, because this process has the highest total score (20 and the weighted score is 5,0). The main reason of this high score is the current dissatisfaction of internal customers with this process and opening a new production site. The Company expects a high volume of candidates and that is why the most important project for the company is to pay attention to the providing people process.

According to the Table 1, I can assume the following observations:

- Company expects a large number of candidates to proceed due to opening a new production site (impact).
- Provide people is not a complex process and it will not require large funding (implementation).
- Provide people process have a low client satisfaction and high pain level from the process owner's perspective. In addition, this process documented partly, that is why employees just do whatever it takes to get the job done (current state).
- In this time, when the Company plans to open a new production site the benefit from improvement of Provide people process will be high (benefit/return).

Each business process from Table 1, have several sub processes:

1. Plan people requirement:

   1.1 Define business needs

   1.2 Develop job descriptions

2. Provide people:

   2.1 Organize recruitment and selection

   2.2 Organize workplace

   2.3 Organize employee's adaptation

3. Train and develop employee:

   3.1 Plan training and development

   3.2 Provide training and development

   3.3 Evaluate training and development

4. Manage employee's performance:

   4.1 Organize employee's assessment

   4.2 Develop employee's career

5. Reward and recognize employee:

5.1 Develop salary planning

5.2 Create reward categories

5.3 Organize employee's recognition (recognition bonus awards)

6. Manage employee exits:

6.1 Investigate employee's resignation

6.2 Organize dismissal process

6.3 Organize retirement process

The Figure 11 shows the second level of Provide people process.
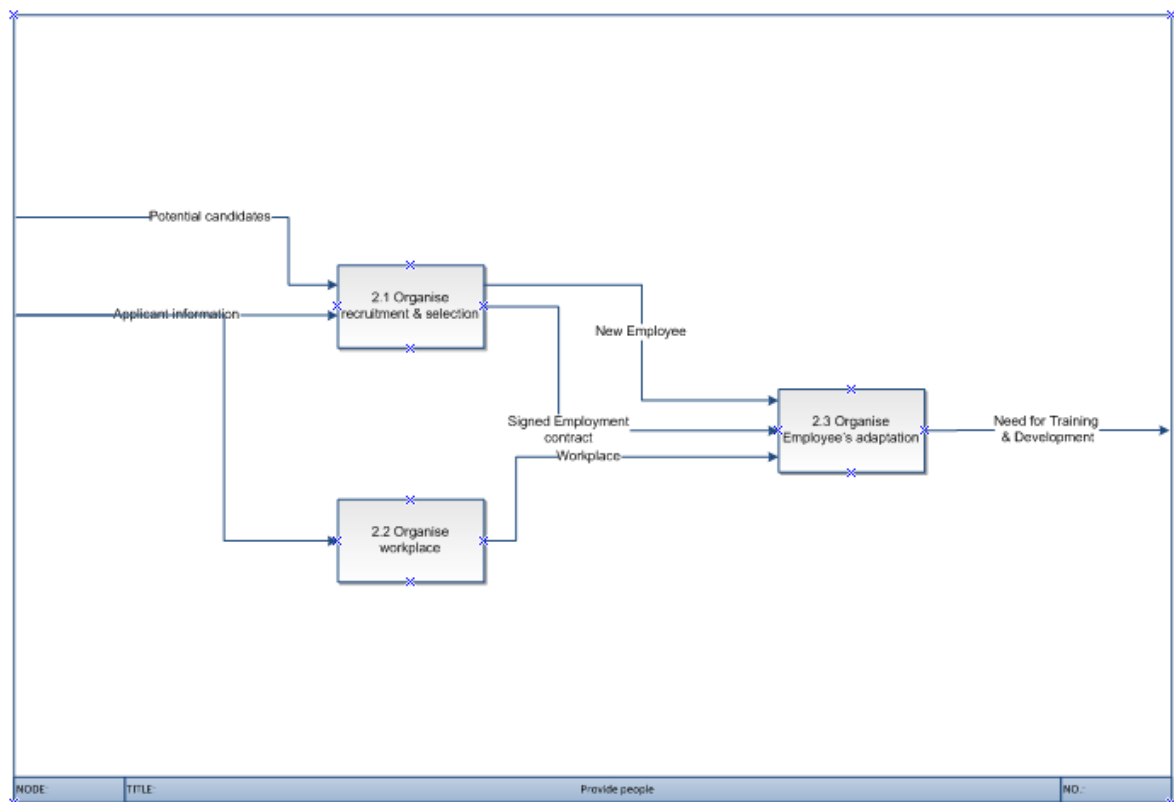
Figure 11: Second level of Provide people process
Source: Own

Once I decided to start with Provide people process, first I should prioritize sub processes of this process (Table 5).

The results of prioritization process were reviewed with process owner – HR Director of the Company. We decided to follow our prioritization tables because they are describing the real current situation of HR processes. Thus, I will start with an improvement project of "Organize recruitment and selection" process on the next part of my thesis.

Table 5: "Provide people" process prioritization table

	Im-pact (35%)	Implementation (20%)				Current State (30%)				Value (15%)	To-tal Score	Weighted score
	Number affected	Time to market	Funding	Time to next Cycle	Subtotal	Client Satisfaction	Pain Level	Process exist?	Subtotal	Benefit/ Return		
	3=large 2=average 1=small	3=short 2=average 1=long	3=small 2=medium 1=large	3=close 2=intermediate 1=far		3=low 2=medium 1=high	3=high 2=medium 1=low	2=no 1=partly 0=yes		3=high 2=average 1=low		
Organize recruitment and selection	3	3	2	3	8	3	3	0	6	3	20	4,9
Organize workplace	2	3	3	2	8	1	1	0	2	1	13	3,1
Organize employee's adaptation	2	2	2	2	6	3	2	2	7	3	18	4,5

Source: Own

7 PROJECT OF DECREASING THE CYCLE TIME OF RECRUITMENT AND SELECTION PROCESS

In the Chapter 6, I decided to start project of decreasing the cycle time with the most important HR process for the Company – Organize recruitment and selection. The main goal of this project is reducing the cycle time of Organize recruitment and selection process by improving the usability of process and ensuring the company that it has right number, right kind of people at the right place and at the right time.

There are five main steps of improving HR processes:

1. Prepare for the project.
2. Map and analyze as-is process.
3. Design to-be process.
4. Implement improved process.
5. Improve continuously.

7.1 Prepare for the project

In this step, we will create a project team, establish the scope of the project, create project schedule, evaluate project risks and project costs.

Form the project team

Project team consists of the following participants:

- Project Manager
- HR Recruiter
- Line Managers

Establish the project scope

Process name: Organize recruitment and selection

Process owner: HR Director

Process goal: To organize recruitment and selection of new employees according to the business needs. The process describes both external and internal recruitment:

- Internal recruitment – promoting employees within the Company to fulfill business needs.

- External recruitment – searching employees outside the Company to fulfill business needs.

Process terminology:

- Job seeker – an individual interested in employment who has not yet completed a company application.
- Applicant – an individual who has completed an application, but who has not been prescreened.
- Qualified person – an individual who has been prescreened and who meets the minimum requirements.
- Candidate – an individual who will be invited to interview with the company.

Process scope:

- Starting point – developing recruitment strategy for the vacant job description.
- Ending point – evaluating recruitment and selection process after signing employment contract.

Process major tasks:

- Developing recruitment strategy
- Informing job seekers about the vacancy
- Analyzing pool of CVs
- Conducting interviews
- Checking references
- Job offering
- Initiating medical examination
- Signing employment contract
- Evaluating recruitment and selection process

Client: Business unit leaders

Client needs:

- Providing right number, right kind of people at the right place and at the right time.
- Reduced process cycle time

Measurement of success:

- Reduced cycle time
- Increased efficiency of the new employees

Create project schedule

Appendix I shows project schedule created in MS Project. Time analysis described in more details in chapter 5.6.

Evaluate project risks

Risk analysis described in chapter 5.8.

Evaluate project costs

Cost analysis described in chapter 5.7.

7.2 Map and analyze as-is process

Draw the process map

Figure 12 shows the process map of Organize recruitment and selection process.
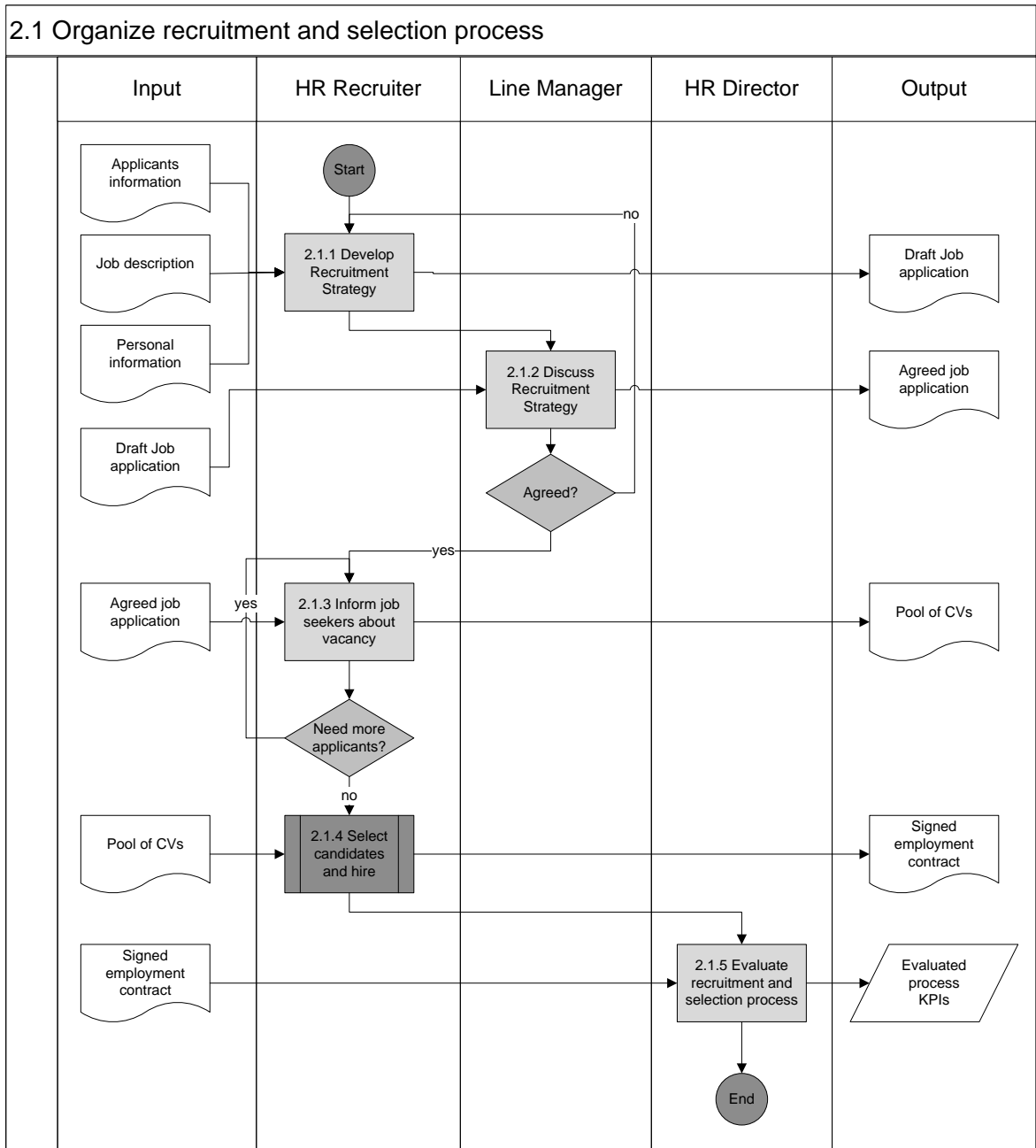
Figure 12: Process map of Organize recruitment and selection process
Source: Own

Table 6: Organize recruitment and selection process details

Start	*2.1.1 Develop Recruitment Strategy*	*Next step: 2.1.2*
Responsible: HR Recruiter		
Inputs: • Applicants information • Job description • Personal information	HR recruiter develops recruitment strategy and agrees it with Line Manager. Developing recruitment strategy includes making decision about sources of recruitment	**Output:** • Draft Job application
Previous step: 2.1.1	*2.1.2 Discuss Recruitment Strategy*	*Next step: 2.1.3*
Responsible: Line Manager		
Inputs: • Draft Job application	Line Manager is reviewing recruitment strategy and all necessary information about the vacant position. It includes soft and hard skills, experience, if necessary skills test should be prepared.	**Output:** • Agreed Job application
Previous step: 2.1.2	*2.1.3 Inform job seekers about vacancy*	*Next step: 2.1.4*
Responsible: HR Recruiter		
Inputs: • Agreed Job application	According to the previous step, HR recruiter is registering agreed with Line Manager Job application in internal and external sources of publication. If it is possible and agreed with Line Manager attracting the most suitable candidates to the vacant position. • If the amount of applicants with required skills and experience is enough process follows to the next step. • If the amount of applicants with required skills and experience is not enough, HR recruiter is continuing to inform job seekers and trying to find additional sources of recruitment.	**Output:** • Pool of CVs
Previous step: 2.1.3	*2.1.4 Select candidates and hire*	*Next step: 2.1.5*
Responsible: HR Recruiter		
Inputs: • Pool of CVs	Sub process and described separately	**Output:** • Signed employment contract

Previous step: 2.1.4	2.1.5 Evaluate recruitment and selection process	Next step: End
Responsible: HR Director		
Inputs: • Signed employment contract	After signing employment contract HR Director evaluates Organize recruitment and selection process KPIs	**Output:** • Evaluated process KPIs

Source: Own
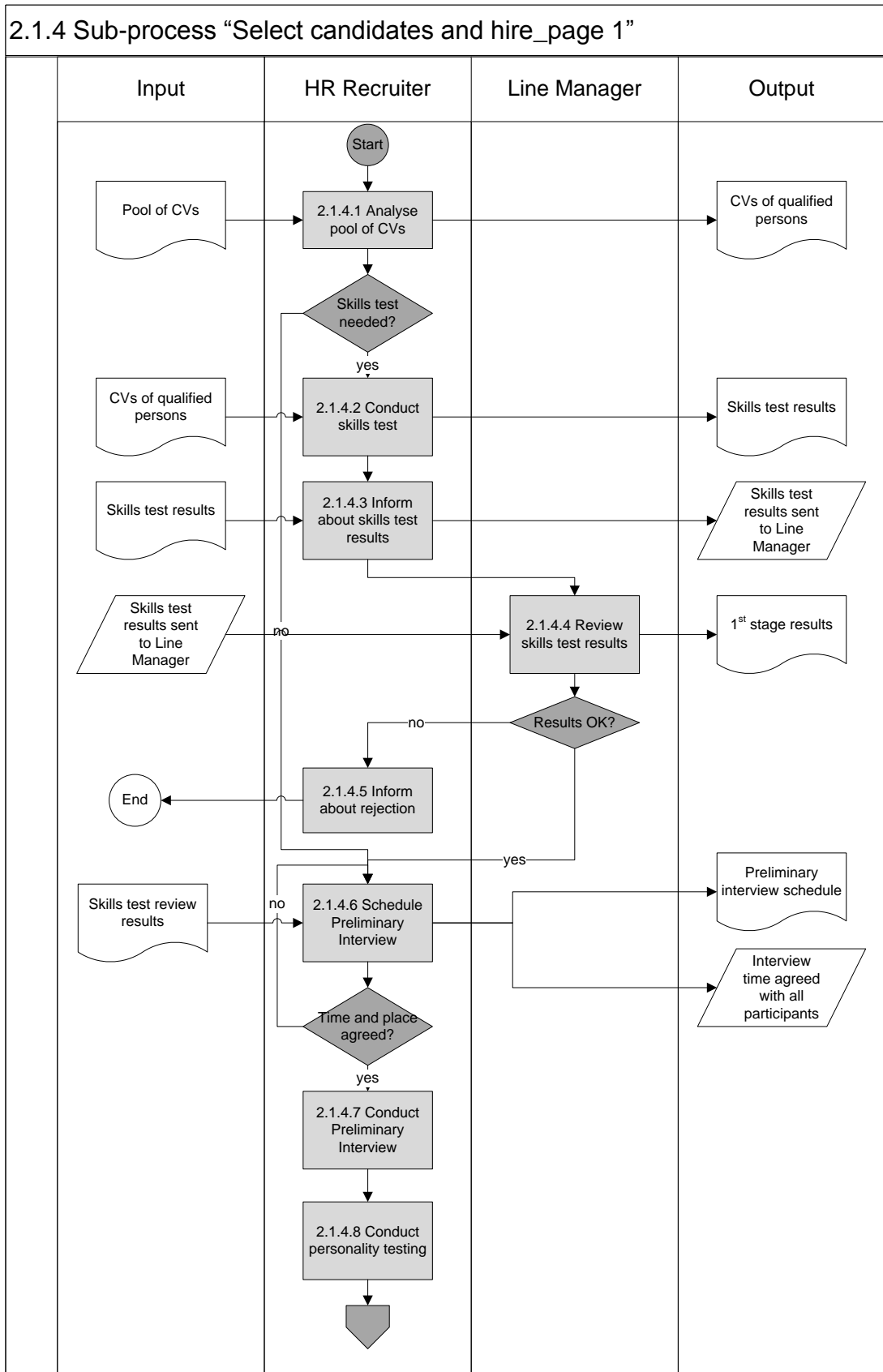
Figure 13: Process map of sub process Select candidates and hire
Source: Own
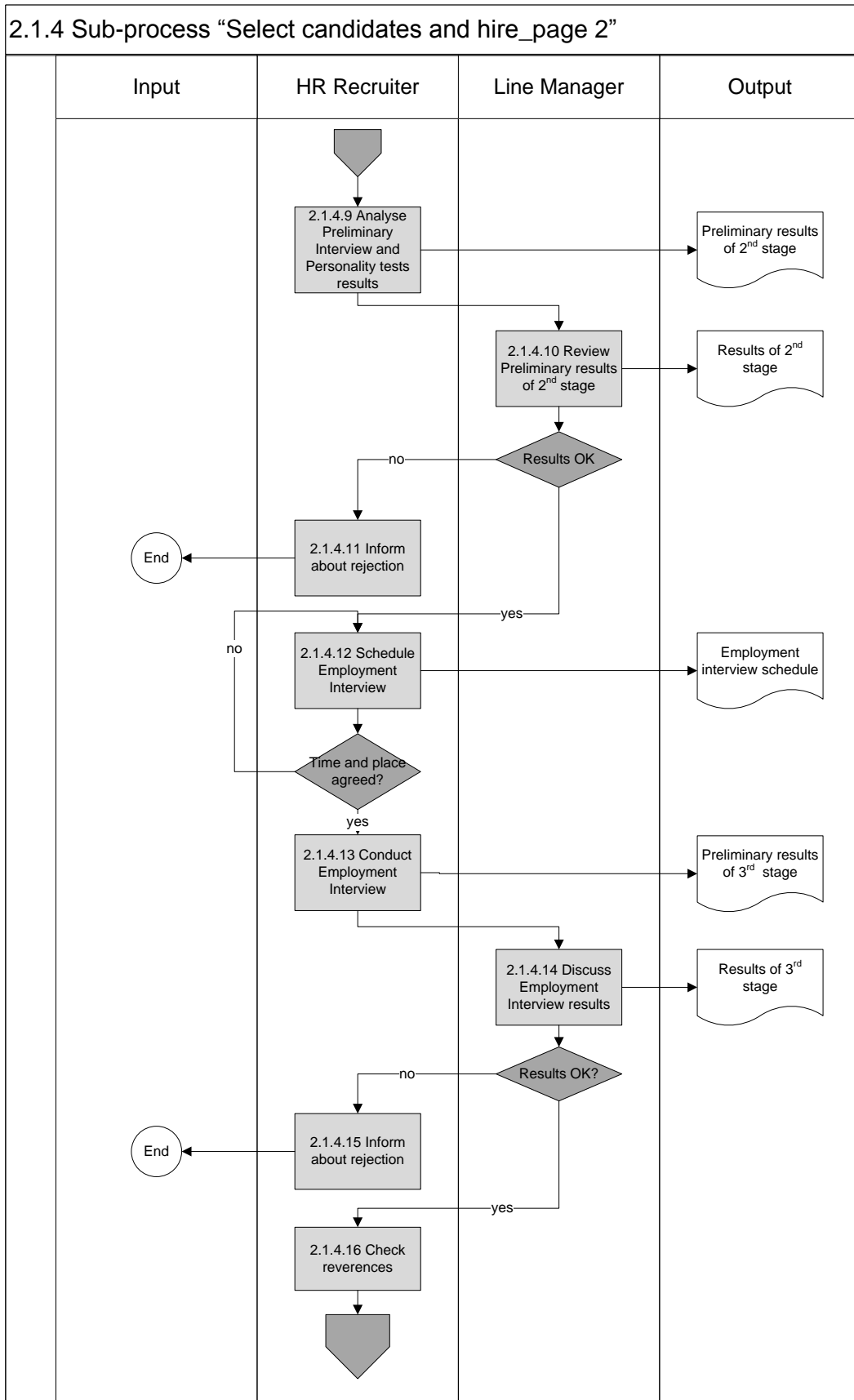
Figure 13 continued: Process map of sub process Select candidates and hire
Source: Own
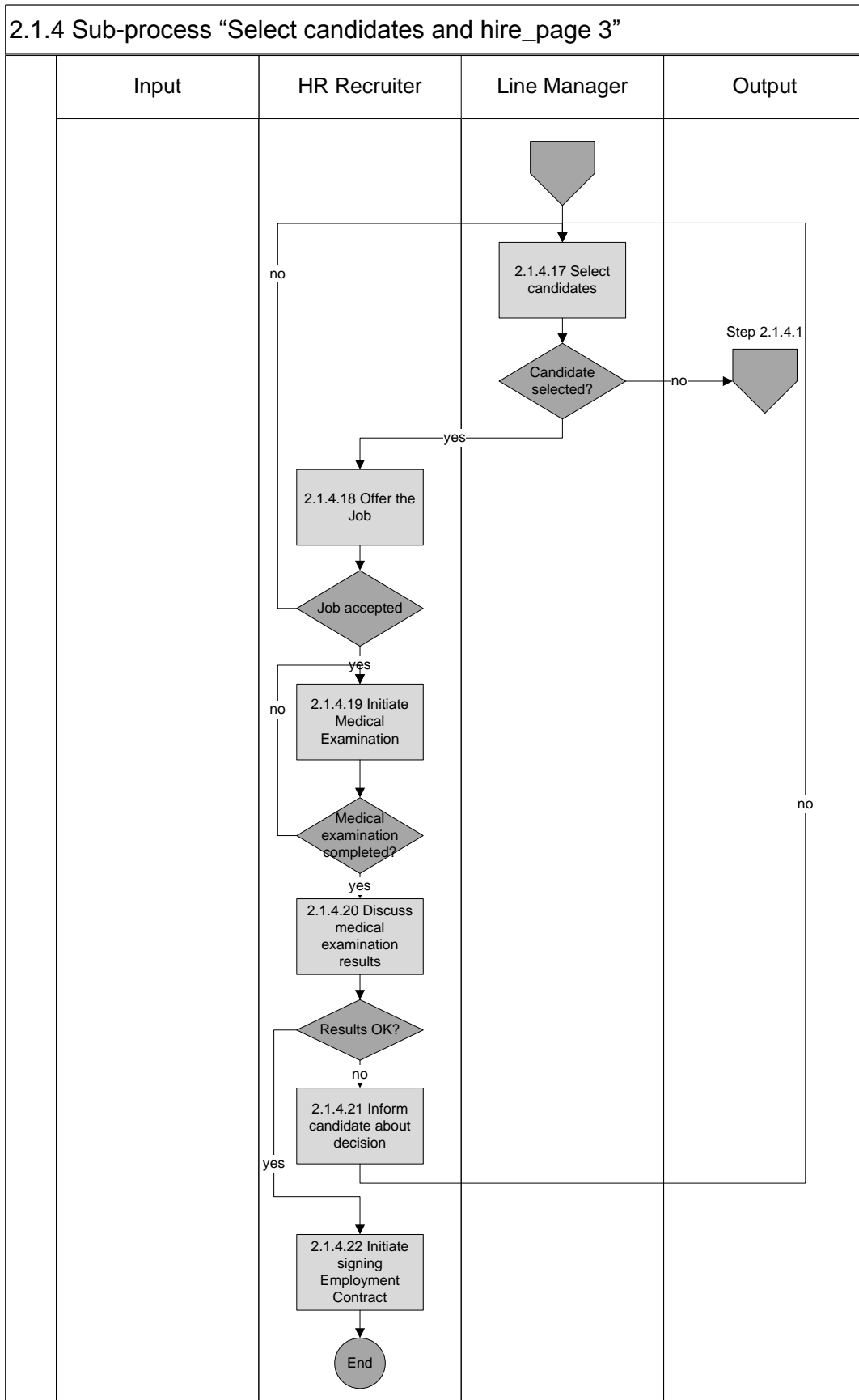
Figure 13 continued: Process map of sub process Select candidates and hire
Source: Own

Table 7: "Select candidates and hire" sub-process details

Start	*2.1.4.1 Analyze pool of CVs*	*Next step: 2.1.4.2*
Responsible: HR Recruiter		
Inputs: • Pool of CVs	HR recruiter provides applicants screening – removing from early stage of the process those applicants, who are visibly unqualified for the job to be sure that potentially good candidates are not lost. Effective screening can save a great deal of time and money. • If conducting skills testing is required (according to the discussion with Line manager) process follows to the step 2.1.4.2. • If conducting skills testing is not required (according to the discussion with Line manager) process follows to the step 2.1.4.6.	**Output:** • CVs of qualified persons
Previous step: 2.1.4.1	*2.1.4.2 Conduct skills test*	*Next step: 2.1.4.3*
Responsible: HR Recruiter		
Inputs: • CVs of qualified persons	HR recruiter informs the qualified persons about the next steps of recruitment and selecting process and sends the test to check their skills and experience. HR recruiter provides sending reminders to the applicants about the skills testing deadline	**Output:** • Skills test results
Previous step: 2.1.4.2	*2.1.4.3 Inform about skills test results*	*Next step: 2.1.4.4*
Responsible: HR Recruiter		
Inputs: • Skills test results	HR recruiter is sending the skills test results to the Line Manager	**Output:** • Skills test results sent to Line Manager

Previous step: 2.1.4.3	*2.1.4.4 Review skills test results*	*Next step: 2.1.4.5*
Responsible: Line Manager		
Inputs: • Skills test results sent to Line Manager	Line Manager is reviewing and analyzing all skills test results. • If the skills test results comply with Job application requirement process follows to the step 2.1.4.6. • If the skills test results do not comply with Job application requirement process follows to the step 2.1.4.5.	**Output:** • 1st stage results
Previous step: 2.1.4.4	*2.1.4.5 Inform about rejection*	*Next step: End*
Responsible: HR Recruiter		
Inputs: • 1st stage results	If the skills test results do not comply with Job application requirement HR Recruiter informs Applicant about this.	**Output:** • Email about rejection sent to the Applicant
Previous step: 2.1.4.4	*2.1.4.6 Schedule Preliminary interview*	*Next step: 2.1.4.7*
Responsible: HR Recruiter		
Inputs: • 1st stage results	HR Recruiter schedules Preliminary interview until interview time and place agreed with all participants. If interview time and place agreed with all participants, process follows to the step 2.1.4.7.	**Output:** • Preliminary interview schedule • Interview time agreed with all participants
Previous step: 2.1.4.6	*2.1.4.7 Conduct Preliminary Interview*	*Next step: 2.1.4.8*
Responsible: HR Recruiter		
Inputs: • Preliminary interview schedule • Interview time agreed with all participants	HR Recruiter conducts Preliminary Interview according to agreed schedule.	**Output:** • Preliminary Interview results

Previous step: 2.1.4.7	**2.1.4.8 Conduct personality testing**	Next step: 2.1.4.9
Responsible: HR Recruiter		
Inputs: • Preliminary interview schedule • Interview time agreed with all participants	HR Recruiter conducts personality testing	**Output:** • Personality testing results
Previous step: 2.1.4.8	**2.1.4.9 Analyze Preliminary Interview and Personality tests results**	Next step: 2.1.4.10
Responsible: HR Recruiter		
Inputs: • Preliminary Interview results • Personality testing results	HR Recruiter analyses Preliminary Interview and Personality Testing Results and informs Line Manager about preliminary results of 2nd stage.	**Output:** • Preliminary results of 2nd stage
Previous step: 2.1.4.9	**2.1.4.10 Review Preliminary results of 2nd stage**	Next step: 2.1.4.11
Responsible: Line Manager		
Inputs: • Preliminary results of 2nd stage	Line Manager reviews the Preliminary results of 2nd stage. • If Preliminary results of 2nd stage comply with Job application requirements process follows to the step 2.1.4.12. • If Preliminary results of 2nd stage do not comply with Job application requirements process follows to the step 2.1.4.11.	**Output:** • Results of 2nd stage
Previous step: 2.1.4.10	**2.1.4.11 Inform about rejection**	Next step: 2.1.4.12
Responsible: HR Recruiter		
Inputs: • Results of 2nd stage	If Preliminary results of 2nd stage do not comply with Job application requirement HR Recruiter informs Applicant about this.	**Output:** • Email about rejection sent to the Applicant

Previous step: 2.1.4.11	***2.1.4.12 Schedule Employment Interview***	*Next step:* 2.1.4.13
Responsible: HR Recruiter		
Inputs: • Results of 2nd stage	HR Recruiter schedules Employment Interview according to the 2nd stage Results until interview time and place agreed with all participants. If interview time and place agreed with all participants process follows to the step 2.1.4.13.	**Output:** • Employment Interview Schedule • Interview time agreed with all participants
Previous step: 2.1.4.12	***2.1.4.13 Conduct Employment Interview***	*Next step:* 2.1.4.14
Responsible: HR Recruiter		
Inputs: • Employment Interview Schedule • Interview time agreed with all participants	HR Recruiter conducts Employment Interview according to agreed schedule.	**Output:** • Preliminary Results of 3rd stage
Previous step: 2.1.4.13	***2.1.4.14 Discuss Employment Interview results***	*Next step:* 2.1.4.15
Responsible: Line Manager		
Inputs: • Preliminary Results of 3rd stage	Line Manager discusses the Preliminary Results of 3rd stage with HR Recruiter. • If Preliminary results of 3rd stage comply with Job application requirements process follows to the step 2.1.4.16. • If Preliminary results of 3rd stage do not comply with Job application requirements process follows to the step 2.1.4.15.	**Output:** • Results of 3rd stage
Previous step: 2.1.4.14	***2.1.4.15 Inform about rejection***	*Next step:* 2.1.4.16
Responsible: HR Recruiter		
Inputs: • Results of 3rd stage	If Preliminary results of 3rd stage do not comply with Job application requirement HR Recruiter informs Applicant about this.	**Output:** • Email sent to the Applicant

Previous step: 2.1.4.15	**2.1.4.16 Check references**	*Next step: 2.1.4.17*
Responsible: HR Recruiter		
Inputs: • Results of 3rd stage	HR Recruiter checks references of at least 3 successful candidates and informs about the results Line Manager	**Output:** • Results of checked references
Previous step: 2.1.4.16	**2.1.4.17 Select candidate**	*Next step: 2.1.4.18*
Responsible: Line Manager		
Inputs: • Results of checking references • Job Offer not accepted • Medical examination results are not complied requirements	Line Manager according to the Results of 3rd stage and checked references selects the most successful candidate. • If Job Offer not accepted by selected candidate, Line Manager selects the next successful candidate. • If Medical examination results are not complied Job Application requirements, Line Manager selects the next successful candidate.	**Output:** • Candidate selected
Previous step: 2.1.4.17	**2.1.4.18 Offer the Job**	*Next step: 2.1.4.19*
Responsible: HR Recruiter		
Inputs: • Candidate selected	HR Recruiter sends Job Offer to the selected candidate. • If Job Offer accepted by selected candidate, process follows to the step 2.1.4.19. • If Job Offer not accepted by selected candidate, process follows to the step 2.1.4.17, Line Manager selects the next successful candidate.	**Output:** • Job Offer accepted • Job Offer not accepted

Previous step: 2.1.4.18	*2.1.4.19 Initiate Medical Examination*	*Next step: 2.1.4.20*
Responsible: HR Recruiter		
Inputs: • Job Offer accepted	HR Recruiter initiates medical examination and inform candidate about all necessary details of medical examination. • If medical examination completed, process follow to the step 2.1.4.20. • If medical examination is not completed, HR recruiter sends reminder to the candidate.	**Output:** • Medical examination results
Previous step: 2.1.4.19	*2.1.4.20 Discuss medical examination results*	*Next step: 2.1.4.21*
Responsible: HR Recruiter		
Inputs: • Medical examination results	HR Recruiter informs Line Manager about Medical Examination results. If results comply with Job application requirement, process follows to the step 2.1.4.22. If results do not comply with Job application requirements (for example, allergy etc.), process follows to the step 2.1.4.21.	**Output:** • Medical examination results comply with Job Application requirement • Medical examination results do not comply with Job Application requirement
Previous step: 2.1.4.20	*2.1.4.21 Inform candidate about decision*	*Next step: 2.1.4.22*
Responsible: HR Recruiter		
Inputs: • Medical examination results do not comply with Job Application requirement	If Medical examination results do not comply with Job Application requirement HR Recruiter informs Applicant about this. The process goes back to the step 2.1.4.17	**Output:** • Email about rejection sent to the Applicant

Previous step: 2.1.4.21	2.1.4.22 Initiate signing Employment Contract	Next step: End
Responsible: HR Recruiter		
Inputs: • Medical examination results comply with Job Application requirement	HR Recruiter initiates signing Employment contract	**Output:** • Signed Employment contract

Source: Own

Estimate process and cycle time

Process time is the time required to complete a single activity in a process.

Cycle time is the time required to complete the whole process, from the first to the last step in a process. Cycle time includes waiting time between activities.

The table 8 presents the estimated process and cycle times of "Organize recruitment and selection" process.

Table 8: Estimated process and cycle times of "Organize recruitment and selection" process

Activity №	Process time			Cycle time			Frequency
	Min	Max	Average	Min	Max	Average	
2.1.1	1 hour	2 hours	1,5	1 hour	8 hours	4,5	Per vacancy
2.1.2	1 hour	3 hours	2	1 hour	16 hours	8,5	Per vacancy
2.1.3	1 hour	2 hours	1,5	1 hour	8 hours	4,5	Per vacancy
2.1.4			108,65			889,5	Per vacancy
2.1.5	1 hour	2 hours	1,5	1 hour	8 hours	4,5	Per vacancy
Total	**115,15**			**911,5**			Per vacancy

Source: Own Research

The process and cycle times for all activities calculated per one vacancy. One vacancy is equal to approximately 100 applicants (10 qualified persons from 100 applicants, and 3 candidates from 10 qualified persons).

According to the table above process time is equal to 115,15 working hours or 14,4 working days per one vacancy. It is important to remark that 108,65 hours or 13,6 working days from total 14,4 working days relates to the sub-process "Select candidates and hire".

The cycle time is equal to 911,5 working hours or 114 working days (22,8 weeks) per one vacancy. It is important to mention that 889,5 working hours or 111 working days (22,2 weeks) from total 114 working days relates to the sub-process "Select candidates and hire".

Finally, total process time is 14,4 working days and total cycle time is 114 working days (3,8 months) per one vacancy. We have greatest opportunity for improvement both with process and cycle times.

The table below shows the estimated process and cycle time of "Select candidates and hire" sub-process.

Table 9: Estimated process and cycle time of "Select candidates and hire" sub-process

Activity №	Process time			Cycle time			Frequency
	Min	Max	Average	Min	Max	Average	
2.1.4.1	8 hours	50 hours	29	80 hours	280 hours	180	Per vacancy
2.1.4.2	0,8 hours	5 hours	2,9	40 hours	120 hours	80	Per vacancy
2.1.4.3	0,8 hours	5 hours	2,9	5 hours	16 hours	10,5	Per vacancy
2.1.4.4	3 hours	5 hours	4	5 hours	24 hours	14,5	Per vacancy
2.1.4.5	0,25 hour	1,5 hours	0,9	2 hours	8 hours	5	Per vacancy
2.1.4.6	3,5 hours	7 hours	5,25	6 hours	24 hours	15	Per vacancy
2.1.4.7	7 hours	14 hours	10,5	32 hours	180 hours	106	Per vacancy
2.1.4.8	3,5 hours	7 hours	5,25	32 hours	180 hours	106	Per vacancy
2.1.4.9	0,6 hours	7 hours	3,8	5 hours	32 hours	18,5	Per vacancy
2.1.4.10	3,5 hours	7 hours	5,25	5 hours	40 hours	22,5	Per vacancy

Activity №	Process time			Cycle time			Frequency
	Min	Max	Average	Min	Max	Average	
2.1.4.11	0,2 hours	1 hour	0,6	1 hour	8 hours	4,5	Per vacancy
2.1.4.12	2,5 hours	5 hours	3,75	4 hours	24 hours	14	Per vacancy
2.1.4.13	5 hours	10 hours	7,5	32 hours	180 hours	106	Per vacancy
2.1.4.14	2,5 hours	5 hours	3,75	32 hours	180 hours	106	Per vacancy
2.1.4.15	0,2 hours	1 hour	0,6	1 hour	8 hours	4,5	Per vacancy
2.1.4.16	3 hours	9 hours	6	8 hours	40 hours	24	Per vacancy
2.1.4.17	0,2 hours	1,5 hours	0,85	2 hours	32 hours	17	Per vacancy
2.1.4.18	0,5 hours	1 hour	0,75	1 hour	16 hours	8,5	Per vacancy
2.1.4.19	8 hours	16 hours	12	10 hours	40 hours	25	Per vacancy
2.1.4.20	0,5 hours	1 hour	0,75	1 hour	16 hours	8,5	Per vacancy
2.1.4.21	0,2 hours	0,5 hours	0,35	1 hour	8 hours	4,5	Per vacancy
2.1.4.22	1 hour	3 hours	2	2 hours	16 hours	9	Per vacancy
Total	108,65			889,5			Per vacancy

Source: Own

7.3 Design to-be process

In order to improve and design to-be process I will use BPM software Bizagi. This software was chosen to evaluate the functionality of Bizagi by the example of improving the process "Organize recruitment and selection". Therefore, Bizagi BPM software was used for this project in a test environment. Bizagi ranked number 1 for BPM platforms by Europe's leading institutes and provides free online training for all users.

Apply improvement techniques

First of all, I will evaluate each activity to determine whether it adds value. Even if a process activity does not contribute to the client's perspective, the activity can appear crucial to the business. It is important to minimize or eliminate non-value added activities.

Table 10 shows all activities of Organize recruitment and selection process, classified to the value added and non-value added.

Table 10: Activities of Organize recruitment and selection process

№	Activity	Process time (hours)	Cycle time (hours)	Value added	Non-value added
2.1.1	**Develop Recruitment Strategy**	1,5	4,5	+	
2.1.2	**Discuss Recruitment Strategy**	2	8,5	+	
2.1.3	**Inform job seekers about vacancy**	1,5	4,5	+	
2.1.4	**Select candidates and hire:**	108,65	889,5	+	
2.1.4.1	Analyze pool of CVs	29	180	+	
2.1.4.2	Conduct skills test	2,9	80	+	
2.1.4.3	Inform about skills test results	2,9	10,5		+
2.1.4.4	Review skills test results	4	14,5	+	
2.1.4.5	Inform about rejection	0,9	5		+
2.1.4.6	Schedule Preliminary Interview	5,25	15		+
2.1.4.7	Conduct Preliminary Interview	10,5	106	+	
2.1.4.8	Conduct personality testing	5,25	106	+	
2.1.4.9	Analyze Preliminary Interview and Personality tests results	3,8	18,5		+
2.1.4.10	Review Preliminary results of 2nd stage	5,25	22,5	+	
2.1.4.11	Inform about rejection	0,6	4,5		+
2.1.4.12	Schedule Employment Interview	3,75	14		+
2.1.4.13	Conduct Employment Interview	7,5	106	+	
2.1.4.14	Discuss Employment Interview results	3,75	106		+
2.1.4.15	Inform about rejection	0,6	4,5		+

№	Activity	Process time (hours)	Cycle time (hours)	Value added	Non-value added
2.1.4.16	Check references	6	24	+	
2.1.4.17	Select candidates	0,85	17	+	
2.1.4.18	Offer the Job	0,75	8,5	+	
2.1.4.19	Initiate Medical Examination	12	25	+	
2.1.4.20	Discuss medical examination results	0,75	8,5		+
2.1.4.21	Inform candidate about decision	0,35	4,5		+
2.1.4.22	Initiate signing Employment Contract	2	9	+	
2.1.5	**Evaluate recruitment and selection process**	1,5	4,5	+	

Source: Own

According to the table, we can assume that we have several non-value added activities and possibilities to simplify activities in the process in order to reduce the cycle time. It is crucial to reduce the cycle time of sub-process "Select candidates and hire", because 889,5 working hours or 111 working days (3,7 months) from total 114 working days of process relates to this sub-process.

The current sub-process follows many manual activities; therefore, it is necessary to start with analyzing possibilities to automate sub-process creating simple workflows and designing forms in MS SharePoint in order to reduce the cycle time of handoff activities. Firstly, the company actively using MS SharePoint Server, consequently creating simple workflows in MS SharePoint will be the cheapest and the most effective way to improve this sub-process. Secondly, we will evaluate the functionality of BPM software Bizagi, which is integrated with MS SharePoint.

Update process map

The process was simplified in order to increase the efficiency and effectiveness of the process and reduce the cycle time. I reduced the complexity of activities, for example steps

2.1.4.3-2.1.4.6, 2.1.4.11 and 2.1.4.15 were automised through creating workflow in MS SharePoint. It is recommended to combine all types of interviews to one interview and conduct it in the same time. Thus I combined Preliminary interview, Personality testing and Employment interview (steps 2.1.4.7 – 2.1.4.14) to the one interview and reduced cycle time of process. Firstly, this combination will help the company to keep qualified candidates because of making decision about job offering in the short time. Secondly, it will reduce the time of HR Recruiters and Line managers.

The Appendix II shows improved sub-process workflow created in Bizagi software.

The table below presents the results of time analysis performed by Bizagi software.

Table 11: Results of time analysis performed by Bizagi software

Name	Type	Instances completed	Instances started	Min. time (h)	Max. time (h)	Average cycle time (h)	Average process time (h)
Select and hire subprocess (total)	Process	7	100	189	698	443,5	98,39
NoneStart	Start event	100					
Conduct skills test	Task	41	57	40	120	80	2,54
Enter Interview Results	Task	6	10	4	10	7	5,25
Check References	Task	15	21	8	40	24	6
Schedule and conduct interview	Task	36	114	30	80	55	28
Analyse pool of CVs	Task	100	100	80	280	180	29
References ok?	Gateway	15	15				
Select Candidates	Task	7	8	2	32	17	0,85
Candidate Selected?	Gateway	7	7				
Offer the Job	Task	2	2	1	16	8,5	0,75
Other Interview?	Gateway	36	36				
Select Process Details	Task	22	30	1	16	8,5	2,75
Process Continues?	Gateway	22	22				
NoneEnd	End event	13					
Offer Accepted?	Gateway	2	2				
Skills test needed?	Gateway	100	100				
Review skills test results	Task	32	41	5	24	14,5	4
Initiate medical examination	Task	1	1	10	40	25	12
Medical examination OK?	Gateway	1	1				
Initiate signing Employment contract	Task	1	1	2	16	9	2
NoneEnd	End event	0					
Results OK?	Gateway	32	32				
Inform about interview scheduling	Task	10	15	6	24	15	5,25

Source: Bizagi software

According to the table above we can assume that improved Select candidates and hire sub-process 2 times reduced the cycle time of sub-process from 889,5 hours to 443,5 hours.

Create tools and KPIs

Process tools

Useful tools will support the process, avoid errors and assist responsible to perform their job easier. As a main tool for performing this process was chosen MS SharePoint as an internal portal to share all necessary information about candidates the process progress and as a simple workflow with notifications through custom forms in MS Outlook. In addition, during this project created checklists in MS SharePoint to conduct interviews. The access to the information on the internal portal is controlled through granting different kind of permissions to the employees.

Process KPIs

Effective KPIs will show whether the process works as planned. The most important "Organize recruitment and selection" process KPIs listed below:

- The execution of recruitment plan (the recruitment of the planned number of employees as scheduled).
- Attrition Rate.
- Attrition Rate during trial period.
- Recruitment and selection expenses per one vacancy.
- Line Manager Satisfaction Perceptions.

Test the process

According to the project schedule, improved process was tested in order to make all the necessary changes. HR recruiters and Line managers that were involved in the testing period noticed that it was made substantial improvements in the process.

7.4 Implement improved process

After the testing the process it is important to create an implementation plan to ensure successful implementation of an improved process. The main elements of implementation plan are creation communication plan and training plan.

Create communication plan

The communication plan provides clarity about the change, the audience of the change and the best method of communication for each of the defined audience.

The table 12 shows the communication plan to implement improved Organize recruitment and selection process.

Table 12: Communication plan for the Organize recruitment and selection process

Audience	Communication goal	Key message points	Method of communication	Deadline
HR recruiters	• Educating • Process client orientation	• Changes and reasons to change • Importance of the client • Training plan and timeline	• Meeting • E-mail notification	07.03.2016
Business Unit leaders	• Get feedback and support	• Focus on the business objectives • Review the benefits of the improved process • Clarify training plan	• Meeting • E-mail notification	14.03.2016

Source: Own

Create training plan

The training plan covers the audience of the training, training objectives, training method, responsible to conduct the training and deadline of training.

The table below presents the training plan to implement improved Organize recruitment and selection process.

Table 13: Training plan for the Organize recruitment and selection process

Audience	Training objectives	Training method	Trainer	Deadline
HR recruiters	• Describe each step of improved process • Explain the role of HR recruiter in the process • Explain how to fill in templates of process workflow	• Meeting • Web based training	Project Manager	21.03.2016
Business Unit leaders	• Explain the role of business unit leaders in the process • Explain how to fill in templates of process workflow	• Meeting • Web based training	Project Manager	28.03.2016

Source: Own

7.5 Improve continuously

According to Susan Page (2015) continuous improvement helps to sustain the effectiveness, efficiency and adaptability of improved process:

- Effectiveness focuses on the clients and whether the process delivers what they clients want.
- Efficiency focuses on the employee's responsibility for the process and usability the business process.
- Adaptability evaluates how easily you can modify the business process based on changing business requirements.

The table 14 shows the continuous improvement plan for the Organize recruitment and selection process.

Table 14: Continuous improvement plan for the Organize recruitment and selection process

Activities	Frequency	Responsible
Review process KPIs	Every 6 months after implementation	Process Owner
Revisit clients' needs	Every 6 months after implementation	Process Owner
Validate process responsibility	Every 6 months after implementation	Process Owner

Source: Own

7.6 Time analysis

Appendix I shows schedule of project "Improvement Organize recruitment and selection process" created in MS Project. Project schedule represents all activities, duration in hours for each activity, starting date, ending date and main milestones. The duration of each acclivity includes waiting time to complete the activity.

The project consists of the following activities:

1. Analyze current situation

    1.1 Prioritize HR processes

    1.2 Organize meeting with process owner

2. Prepare for the project

    2.1 Create project team

    2.2 Establish project scope

    2.3 Create project schedule

    2.4 Evaluate project risks

    2.5 Evaluate project costs

    2.6 Organize meeting with process owner

3. Map and analyze as-is process

    3.1 Draw the process map

    3.2 Estimate process and cycle time

    3.3 Estimate process costs

      3.4 Organize meeting with process owner

4. Design to-be process

      4.1 Apply improvement techniques

      4.2 Update process map

      4.3 Create tools and KPIs

      4.4 Test the process

      4.5 Organize meeting with process owner

5. Implement improved process

      5.1 Create implementation plan

      5.2 Create communication plan

      5.3 Create training plan

      5.4 Organize meeting with process owner

6. Improve continuously

      6.1 Develop continuous improvement plan

      6.2 Organize meeting with process owner

According to the project schedule, which represents in Appendix I the total duration of the project is 279 working hours or approximately 35 working days or 7 weeks.

7.7 Cost analysis

The company might have to take consideration of costs that the project would bring to the company. The table 15 lists out all relevant costs to the project of reducing the cycle time of organize recruitment and selection process.

Table 15: Costs to the project of reducing the cycle time of organize recruitment and selection process.

Type of costs	Cost description	Estimated cost
Variable costs	Training costs for employees	$1000
Fixed costs	Project team salary	$6000
Total costs		$7000

Source: Own

Variable costs

Variable costs are costs which are dependent on the number of activities might be occurred during the time implementing the project.

- Training cost for employees. Depending on the number of employees who need to be trained as well as the necessity of each training session.

Fixed costs

- Project team salary. Project team consist of 3 participants: Project Manager, HR Recruiter, Middle Manager.

Bizagi BPM software used for this project in a test environment in order to evaluate the functionality of the software. In total project requires $7000.

7.8 Risk analysis

The company should be aware of risks when starting process improvement project as they might have impact on the results as well as the efficiency of the project. Risks that company should take consideration to ensure the success of the project are listed as follows:

1. **Lack of support from Top and Middle management.** The business process improvement project requires Top and Middle management team actively engage in the project as they are directly involve in analyzing current situation, improving and implementation of changed processes. Therefore, it is necessary to build up and maintain commitment of Top and Middle management level.

2. **Non-fulfillment of project schedule and project budget.** In order to succeed, a project must deliver to cost, to quality, and on time; and it must deliver the benefits presented in the project scope. To avoid failure, it is important to identify the right business requirements, create an achievable project goal, put strong project governance into place and manage a high-quality implementation.

3. **Loss of information during the mapping processes.** Different process models have to be exchanged or integrated within the collaborating enterprises. It is necessary to use the same business process modeling techniques and tools, which allow an uncomplicated exchange of the models. However even within the same tools, process information can get lost during the mapping between the graphical objects of a business process. Therefore, it is important to highlight the information losses and points out possibilities for further improvement.

4. **Wrong translation from process model to implementation plan.** One of the most important steps of the project of improvement business processes is implementation of changed process. Implementation plan must fully comply with designed and tested to-be process.

5. **Inability to manage process changes.** The importance of managing organizational change effectively has compelled a growing number of organizations to incorporate business process and organizational structure changes. The engagement of all staff in a visioning process that encourages their participation in, understanding of, and contribution to future goals will help to perform right changes in the right time. It is important to create the internal change agent groups who facilitate the communication process between staff and management. The main objective of a business process improvement project is to improve organizational efficiency, responsiveness and profitability. It usually results in changes to the way employees work – and employees usually do not like change. The decision is to be diplomatic, address the employee's fears, explain the benefits of the project and ensure executive sponsorship.

7.9 Project evaluation

Project implementation is expected to help the company to improve the efficiency of the HR processes in the near future. The two main tasks that need implementing in the project include: the former one is an analysis of the current situation of HR processes, prioritize HR processes and the latter is to implement project of improvement organize recruitment and selection project.

At the end of 2016 company plans to organize hiring and adaptation approximately 200 new employees for the new production site. That is why the project of improvement of HR processes is very crucial project for the company.

The main goal of this project is reducing the cycle time of Organize recruitment and selection process by improving the usability of process and ensuring the company that it has right number, right kind of people at the right place and at the right time.

All the activities are required to have review in order to ensure the success of the project. Besides, cost, time and risk analysis are precisely discussed and revealed in the project.

CONCLUSION

The primary focus of this Master's Thesis is improvement of the most important HR process for the chosen company – "Organize recruitment and selection". The main goal of this project is reducing the cycle time of "Organize recruitment and selection" process by improving the usability of process and ensuring the company that it has right number, right kind of people at the right place and at the right time. Due to a plan to open a new production site, one of the most important goals of the selected company is to have highly visible HR processes; owned, managed, measured and continuously improved.

As long as human resource aspects are relatively under-stated in the BPM literature, it would be of interest to find out the real possibility to improve selected HR process. HR employees explain this lack of BPM with a complexity of HR processes. On the other hand, customers of HR processes, such as line managers are not satisfied with contribution of HR to the business strategy. Therefore, the research is concentrated on improving HR processes.

The Master's Thesis consists of the two main parts, which are theoretical part and analysis part. The former covers the introduction of BPM, methodology of BPM, modeling business processes using BPMN and introduction to HR management processes. The latter firstly comes up with introducing a brief history and strategy of a chosen company and evaluates strengths and weaknesses of the company using SWOT analysis. Additionally, the current situation of HR processes described in order to prioritize processes to start the process improvement project. Then, the project of reducing cycle time of "Organize recruitment and selection" process discussed in more detailed.

The project of reducing cycle time of "Organize recruitment and selection" process consists of five main steps.

Firstly, created project team, established project scope and created project schedule.

Secondly, analyzed and mapped current process, estimated process and cycle time. The estimated cycle time of current process was equal to 911,5 working hours per one vacancy. It is important to mention that 889,5 working hours from total 911,5 working hours relates to the sub-process "Select candidates and hire".

Thirdly, designed to-be process, applied improvement techniques, and as a result the cycle time of sub-process "Select candidates and hire" per one vacancy was reduced 2 times (from 889,5 working hours to 443,5 working hours).

Fourthly, in order to implement improved process, created communication and training plan and provided communication and training according to the plans.

Finally, to improve continuously "Organize recruitment and selection" process, created continuous improvement plan.

At the end of the Master's Thesis, cost analysis, time analysis and risk management are discussed to complete the project of reducing cycle time of "Organize recruitment and selection" process. The cost for the project is estimated and it is supposed to be reasonable with the size of the company. The project will face with some risks in which lacking of support from Top and Middle management and inability to manage process changes are supposed to be the highest one. The company can limit the risks by building up and maintain commitment of Top and Middle management level and engagement of all staff in a visioning process and contribution to future goals.

In sum, the project of reducing cycle time of "Organize recruitment and selection" process of the company was very successful and applicable. Based on the analysis of the current situation of the company, it was the right time to improve the usability of process and ensure the company that it has right number, right kind of people at the right place and at the right time. The implementation of the project for the company is also considered as a necessary step to continue conducting HR process improvement projects according to the estimated prioritization.

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LIST OF ABBREVIATIONS

CV   Curriculum Vitae

HR   Human Resources

BPM   Business Process Management

BPI   Business Process Improvement

KPI   Key Performance Indicator

MS   Microsoft

CRM   Customer Relationship Management

ERP   Enterprise Resource Planning

TQM   Total Quality Management

UML   Unified Modeling Language

EPC   Event-Driven Process Chain

IDEF   Integrated Computer-Aided Manufacturing Definition

BPMN   Business Process Model and Notation

IT   Information Technologies

LIST OF FIGURES

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APPENDICES

Appendix I: Project schedule of reducing the cycle time of Organize recruitment and Selection process

Appendix II: Mapping "Select and hire" sub process in Bizagi

APPENDIX I: PROJECT SCHEDULE

№	Tasks	Duration in hours	Start	End	Predecessor
1	Analyse current situation	8 ч	Пн 18.01.16	Пн 18.01.16	
2	Prioritize HR processes	7 ч	Пн 18.01.16	Пн 18.01.16	
3	Organise meeting with process owner	1 ч	Пн 18.01.16	Пн 18.01.16	2
4	Prepare for the project	17 ч	Вт 19.01.16	Чт 21.01.16	
5	Create project team	2 ч	Вт 19.01.16	Вт 19.01.16	3
6	Establish project scope	4 ч	Вт 19.01.16	Вт 19.01.16	5
7	Create project schedule	5 ч	Вт 19.01.16	Ср 20.01.16	6
8	Project schedule	0 ч	Ср 20.01.16	Ср 20.01.16	7
9	Evaluate project risks	2 ч	Ср 20.01.16	Ср 20.01.16	8
10	Evaluate project cost	3 ч	Ср 20.01.16	Ср 20.01.16	9
11	Organise meeting with process owner	1 ч	Чт 21.01.16	Чт 21.01.16	10
12	Map and analyse as-is process	26 ч	Чт 21.01.16	Вт 26.01.16	
13	Draw the process map	16 ч	Чт 21.01.16	Пт 22.01.16	10
14	As-is process map	0 ч	Пт 22.01.16	Пт 22.01.16	13
15	Estimate process and cycle time	8 ч	Пн 25.01.16	Пн 25.01.16	14
16	Organise meeting with process owner	2 ч	Вт 26.01.16	Вт 26.01.16	15
17	Design to-be process	146 ч?	Вт 26.01.16	Пт 19.02.16	
18	Apply improvement techniques	24 ч	Вт 26.01.16	Пт 29.01.16	16
19	Update process map	8 ч?	Пт 29.01.16	Пн 01.02.16	18
20	To-be process map	0 ч	Пн 01.02.16	Пн 01.02.16	19
21	Create tools and KPIs	32 ч	Пн 01.02.16	Пт 05.02.16	20
22	Test the process	80 ч	Пт 05.02.16	Пт 19.02.16	21
23	Organise meeting with process owner	2 ч	Пт 19.02.16	Пт 19.02.16	22
24	Implement improved process	37 ч?	Пт 19.02.16	Пт 26.02.16	
25	Create communication plan	8 ч?	Пт 19.02.16	Пн 22.02.16	23
26	Communication plan	0 ч	Пн 22.02.16	Пн 22.02.16	25
27	Create training plan	8 ч?	Пн 22.02.16	Вт 23.02.16	26
28	Training plan	0 ч	Вт 23.02.16	Вт 23.02.16	27
29	Organise meeting with process owner	1 ч	Вт 23.02.16	Вт 23.02.16	28
30	Provide communication	10 ч	Вт 23.02.16	Ср 24.02.16	29
31	Provide training	10 ч	Ср 24.02.16	Пт 26.02.16	30
32	Improve continiously	25 ч	Пт 26.02.16	Ср 02.03.16	
33	Develop continious improvement plan	24 ч	Пт 26.02.16	Ср 02.03.16	31
34	Continious improvement plan	0 ч	Ср 02.03.16	Ср 02.03.16	33
35	Organise meeting with process owner	1 ч	Ср 02.03.16	Ср 02.03.16	34

APPENDIX II: MAPPING 2.1.4 "SELECT CANDIDATES AND HIRE" SUBPROCESS IN BIZAGI