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Magistrska naloga:

EMPLOYEE ASSESSMENT USING THE MODEL OF HIERARCHICAL COMPLEXITY (MHC):

Case Study

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Koper, 2013

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ABSTRACT

The model of hierarchical complexity (MHC) provides an insight into the characteristics of candidates for a certain position that cannot be identified otherwise – by performance assessment and competence verification. The purpose of the research was to classify employees according to the MHC to determine to which stage of hierarchical complexity they belong. With MHC it was possible to identify differences in stages between different groups, but the executive managers did not always have the highest mean stage score as they should comparing to their highest level in the company's organizational structure. Employees did not have each time the lowest mean stage score as they should comparing to the lowest level in the company's organizational structure. With these results, we were able to indicate strong potentials in the company and also spot the weak points. This shows that the knowledge of the Hierarchical Complexity stage of job performance could be used as the key indicator that guides companies in employee development, human resources planning and shaping of the future organisational structure.

Key words: Model of Hierarchical Complexity (MHC), Hierarchical Complexity Scoring System (HCSS), Employee Development, Organizational structure.

POVZETEK

Model hierarhične kompleksnosti (MHC) omogoča vpogled v značilnosti kandidatov za določeno delovno mesto, ki jih drugače, s pomočjo ocenjevanja delovne uspešnosti in preverjanja njihove siceršnje kompetentnosti ni mogoče ugotoviti. Namen raziskave je bilo razvrstiti zaposlene skladno z MHC in tako ugotoviti, kje se na lestvici hierarhične kompleksnosti nahajajo. Z modelom MHC je bilo mogoče opredeliti razlike v stopnjah izvedbe nalog med skupinami vršnih managerjev, srednjih managerjev, in skupino delavcev. Organizacijska struktura postavlja vršne managerje na najvišjo raven v podjetju, vendar rezultati raziskave nakazujejo, da po modelu MHC vršni managerji niso vedno dosegli najvišjo povprečno stopnjo izvedbe naloge. Za skupino delavcev ki so na dnu trenutne organizacijske strukture v podjetju, pa rezultati raziskave nakazujejo, da po modelu MHC skupina delavcev ne doseže vedno najnižjo povprečno stopnjo izvedbe naloge. Z raziskavo smo lahko na ta način odkrili nadarjene zaposlene na eni strani kakor tudi posamezne vrzeli. To podpira možnost, da je poznavanje stopnje hierarhične kompleksnosti izvedbe delovnih nalog lahko eden izmed ključnih kazalnikov, ki podjetja usmerja pri razvoju zaposlenih, kadrovskemu načrtovanju in oblikovanju prihodnje organizacijske strukture.

Ključne besede: model hierarhične kompleksnosti (MHC), sistem ocenjevanja hierarhične kompleksnosti (HCSS), razvoj zaposlenih, organizacijska struktura

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At the beginning, I would like to mention the first steps of my jurney to complete the thesis. Model of Hierarchical Complexity (MHC) is not yet known in Slovenia. When I received a proposal for my thesis from my mentor, dr. Roberto Biloslavo, it was a completely unknown subject for me. As I started to research and read the literature avaliable on internet, the model was becoming more and more interesting for me. While reading about the model, I somehow was not able to uncover, how could I apply the model on the real life example. Finding no other solutions, I decided to take a risk and contact directly the owner of this model, dr. Michael Lamport Commons, in order to find out more. I had to convince someone who is living in another country far away from Slovenia, who has never met me or heard of me before, to be my co-mentor. That was one of the achievements in my life that I am proud of, and it gave me a confirmation that everything is possible if your will is strong enough.

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ABBREVIATIONS

CCA	Core Complexity Assessments
DMI	Decision Making Instrument
HC	Hierarchical Complexity
LSP	Leadership Success Profile
MHC	Model of Hierarchical Complexity
PTI	Perspective Taking Instrument
PDP	Performance Development Process

1. INTRODUCTION

1.1 Definition of the problem and research scope

In spite of the surplus labour force, it is still a challenge for companies to find and select employees whose potential (cognitive, emotional and technical) suits specific job requirements. Companies acquire knowledge from new employees and through development of current employees. Due to the changing nature of knowledge, it is necessary to upgrade it through learning, which leads to the greater success of a company. A company may gain competitive advantage, if it has more relevant knowledge than its rivals. Professional literature contains assertions that the viability of an organisation mainly depends on the quality of knowledge and the employees' capabilities in comparison with the competition as well as on the company's ability to exploit the potential of employees (knowledge in particular) to the highest degree possible. Companies that wish to succeed must pursue two goals: (1) they must recruit highly qualified people and (2) they must choose the best possible human resources management strategy. The reciprocal effect between the company's strategy and human resources strategy is an important fact that companies should not neglect. Within an organisation, the human resources policy and practice should be connected with the overall organisational strategy. Human resources are one of the most important assets of a company, and efficient human resources management is a key to business success (Florjančič, Jesenko and Pagon 1991, 16). When designing the strategy, the company management must therefore be familiar with the employees' abilities and their suitability for efficient implementation of the relevant strategic alternatives. The company management should draw up the strategy based on carefully examined and considered employee abilities. In that way, it is integrated into the process of recruiting employees. For a strategy to be successfully implemented and the company's goals to be achieved, the employees must: (1) effectively perform certain tasks, (2) possess the necessary skills and knowledge for implementing those tasks and (3) be motivated for effective performance of the said tasks (Novak 2008, 65-66).

An individual employee's development plan must be based on the company's needs, abilities, interests, desires and capabilities of the employee. The existing employees should be encouraged to develop the necessary skills with an emphasis on creativity, adaptability and knowledge. When speaking of development possibilities of an employee, we have in mind his/her professional, management and mobility abilities. A company must follow and develop an individual's capabilities, ambitions and wishes, in particular of expert employees and those that demonstrate leadership potential. Thus a company helps an individual in personal and professional development, while the employee offers to a company his/her skills, knowledge, successful performance and contribution to the overall company success. The implementation of strategic goals to a high degree depends on timely development of human resources that in

management and professional terms will be able to implement the strategies to achieve goals (Možina et al 1998, 45-46).

The model of hierarchical complexity (MHC) provides an insight into the characteristics of candidates for a certain position that cannot be identified otherwise – by performance assessment and competence verification. The application of this model to human resources management allows for a higher employee retention rate, less customer complaints, less tension and stress on the job and more efficient strategic planning (Commons Lamport 2008, 306). The MHC is not yet known in Slovenia. Research that presents its usefulness would contribute to its recognition and offer a new strategic opportunity for Slovenian companies and employment agencies.

1.2 Thesis purpose, goal and hypotheses

Four basic terms are essential in discussing the Model: orders, tasks, stage and performance. The orders are the ideal forms prescribed by the theory's axioms. Tasks are quantal in nature. They are completed correctly, and in this case they meet the definition of task or they are not completed at all. The term stage is used to refer to an actual task performed at a specific order of hierarchical complexity. Order is in this case the ideal form, and stage is the performed form. Performance is similar as tasks, quantal in nature. That means there are no intermediate performances. Organizations' human resource departments usually have a list of job responsibilities that are specified for each employee position. Commons Lamport (2008, 307) refers that each job responsibility represents a task. Employee is tested as being able to perform a specific task. If this test was successful, then the employee's stage of performance on that task would match the task's score. We can compare this with the vertical dimension of organizational structure. If we then know how hard it is for specific employee to perform successfully, this helps us to indicate appropriate job division for an employee. We can also define development activities to improve performance on complex job tasks.

The purpose of the research is to classify employees according to the MHC to determine to which stage of hierarchical complexity they belong.

In the research, I will test the following hypotheses:

- *Hypothesis 1*: The individual's classification under the MHC and the job hierarchy in the organizational structure are correlated.
- *Hypothesis 2*: The individual's classification under the MHC and his/her job performance are correlated.
- *Hypothesis 3:* Middle managers predominantly function on the systematic level of hierarchical complexity.

- *Hypothesis 4*: Executive managers predominantly function on the metasystematic level of hierarchical complexity.

The fundamental of the master's thesis is that knowledge of the hierarchical complexity stage of job performance is the key indicator that guides companies in employee development, human resources planning and shaping of the future organisational structure.

1.3 Assumptions and limitations of the research

Since the quality of the research mainly depends on the selected sample, I decided to include in the survey all administrative employees taking part in the personal performance development plan that are indirectly connected with the company's production. The sample will comprise female and male respondents and employees of various lengths of service at the company. The respondents will be employees with secondary to higher education, occupying less and more demanding administrative and management positions.

There have been studies carried out in Germany (Bernholt, Parchmann and Commons Lamport 2009) and in the USA (McElroy 2009; Commons Lamport et al. In Press). According to these studies, the MHC proved to be a legitimate and effective model for measuring task complexity, and it has successfully projected an individual's task performance.

There are two limitations that need to be taken into account.

First, the survey may have been problematic because of the method by which the survey questionnaire was to be completed. Only the data given in the questionnaire tables should be taken into account when answering the questions. Participants need to avoid answering questions based on their subjective assumptions regarding the cases exposed, but need to strictly follow instructions and use questionnaire tables.

The second limitation is related to the research being limited only to GKN Driveline Slovenia, so it cannot be generalised for the entire GKN Plc Group or wider environment.

1.4 Research methods applied

The first, theoretical part of the thesis will apply the methods of description, compilation and analysis of works produced by domestic and above all foreign authors in the field of human resources management, in particular works describing the development and application of the MHC.
The research instrument employed in the empirical part is based on the MHC, which represents a framework for evaluating hierarchical complexity stages in various areas of life and work and in various cultural environments. The research will be carried out by means of the SurveyMonkey online survey system. The survey will comprise the basic demographic questions necessary for analysis and topical stories enabling evaluation by the respondents. The contents of the survey will be prepared in cooperation with the Dare Institute organization managed by Michael Lamport Commons, Ph.D. An opportunity sample will be used. The research will include 80 employees from GKN Driveline Slovenia that are participating in the personal performance development plan. All participants will be provided access to the survey questionnaire by e-mail. The comparison of the MHC and job performance used in the analysis of results will be based on the employee data from the Softscape application, which the company has been using for annual interviews and measuring job performance. In addition to the MHC, the analysis of the survey results will also be carried out using Rasch analysis and multiple regression. An appropriate software tool will be used for these two analyses.

1.5 Thesis structure

Three chapters that introduce the theories the thesis's research is derived from follow the first, introductory chapter. Second chapter is organized in six sub-parts. First two sub-parts give the basics on strategic planning process, human resources planning and connection between both plans. Third and fourth sub-part explore upon human capabilities and competencies which includes all known and unknown characteristics of an individual person. Fifth sub-part is a conceptualization of vertical structure and technical division of labour in organization. This sub-part describes options for organizational structures in the company and further on definition and consequences of technical division of labour. Linked to organizational structure, last sub-part of second chapter presents job analysis and list of jobs and tasks.

Chapter three starts with definition of the term development of employees in first sub-part and it continues with objectives of employee development in second sub-part. Both sub-parts include definitions of different authors and researches. Due to rapid environmental changes the companies must constantly develop new products, conquer new markets, change its organization, working methods etc. Therefore, it is relevant that employees are adequately

prepared for all these changes. Linked to this, third sub-part presents development capacities of employees and shows the link between job performance and development capacities. Last sub-part of third chapter introduces the approaches to employee development that companies have a possibility of a choice. This sub-part finishes with presenting management tools when monitoring human resource development.

Chapter four gives the basics on which the whole study is built, presenting the theoretical stronghold from which the research originates – the Model of Hierarchical Complexity (MHC). This chapter is organized in three sub-parts. First sub-part introduces the Model of Hierarchical Complexity in general followed by basic terminology when we are discussing the Model. This sub-part continues with description of horizontal and vertical complexity, and finishes with precise definition of tasks and stage. Second sub-part introduces 16 orders of hierarchical complexity followed with examples of each order. Second sub-part also includes description of postformal stages and external influences. The Model of Hierarchical Complexity posits that individual's perceptions of the world are influenced by frameworks, such as individual's conditioning history, including cultural, educational, religious, political and social backgrounds. Third sub-part of chapter 4 presents task theory. The starting point of the last sub-part is that each task can be correctly addressed only at a given point in development. Linked to this, dimensions of tasks are described on following pages. Third sub-part finishes with importance of stage transition, description of four transition steps and possibilities to measure transition.

Following chapter five is a short introduction of the studied company, divided into two sub-parts. First sub-part introduces the company GKN Plc. by briefly presenting four divisions that GKN operates. Second sub-part presents the company GKN Driveline Slovenija, where the case study was set up.

Chapters six, seven and eight are designed for empirical part of the research. Chapter six presents the research framework. This chapter is organized in three sub-parts starting with definitions of research instruments. The research instruments used in the empirical part were the Decision Making Instrument and the Perspective Taking Instrument, both developed by Dare Association and licensed to Core Complexity Assessments (CCA). Second sub-part summarizes the purpose and objectives of the research, followed by hypotheses, projected assumptions and limitations. Last sub-part of chapter six presents research methodology. It involves description of the survey questionnaire, sample selection and data collection.

Chapter seven is divided into tree sub-parts. First sub-part includes the participation statistics. Second part involves results on how well the order of hierarchical complexity predicts the stage of performance in each task sequence. The third sub-part of the results includes a

comparison of main stage performance of the groups and a correlation of Rasch scaled performance of the participants with performance review results.

Master's thesis finishes with chapter eight and nine. Those two chapters include summary of the main research findings, answers to hypotheses, contribution of the study to HR knowledge and recommendations for further research. Reference list is followed by the last part of the thesis; these are appendices; Slovenian summary and survey questionnaire.

2. HUMAN RESOURCES AND STRATEGIC PLANNING

2.1 Strategic planning process

Strategic planning enables the organization to take advantage of opportunities existing in the market. Strategic planners take an outside view of the organization. They examine the capabilities and limitations of the organization for dealing with the external environment and the opportunities and threats of the environment (Jarrell 1993, 5).

2.1.1 Stages of planning

Planning is done in three stages: strategic, tactical and operational. All three stages have a hierarchical relationship between each other; however, strategic planning is defined as the most comprehensive (Jarrell 1993, 5).

Tactical planning involves an insider's view of the organization. Tactical planners define deployment of resources to organization units and job positions to implement the strategies and achieve the objectives of strategic planning. Deployment of resources is done through organization design, organization culture, budget process and policies (Jarrell 1993, 5).

Operational planning involves again insider's view of the organization. Operational planning involves a specific organization unit and not the organization as a whole. Resources are on the one hand deployed through tactical planning but applied to everyday operations through operational planning. Operational planning defines how to use with maximum efficiency the resources assigned in stages of planning (Jarrell 1993, 5).

2.1.2 Strategic planning process

The process of strategic management consists of the four basic functions of management: planning, organizing, leading and controlling. Company strategy must be planned, organized, implemented and evaluated at the end (Dimovski, Penger and Žnidaršič. 2003, 101).

Strategy formulation involves series of sequential steps. Strategic planning is an organization's process of defining its goals and strategy by allocating its resources different alternatives. In order to define the direction of the organization, it is necessary to understand the current position. In general, strategic planning deals with at least one of 3 key questions; what the organizations do, for whom and how to excel (GKN Plc. 2011, 5).

The strategic planning process assesses the potential of the company to develop and grow. It provides a holistic management framework as it requires identifying the business objectives and actions which will secure achievement of the strategic goals. It also defines the capabilities that company needs to develop and the risks that need to be managed to be successful in meeting the objectives. In many organizations, this process is seen as defining where an organization is going over the next year, more typically (3 – 5 years) some organizations extend their vision to 20 years ahead (GKN Plc. 2011, 5).

Hill and Jones (2009, 12) identified five main steps of the formal strategic planning process:

- Select the corporate mission and major corporate goals.
- Analyze the organization's external competitive environment to identify opportunities and threats.
- Analyze the organization's internal operating environment to identify the organization's strengths and weaknesses.
- Select strategies that build on the organization's strengths and correct its weaknesses in order to take advantage of external opportunities and counter external threats.
- Implement the strategies.

It is important to recognize that in addition to associated strategies, a company's performance is also determined by the characteristics of the industry in which it competes. Different industries are categorized by different competitive conditions. Company's competitiveness can grow rapidly or contracting. Some conditions can be beset by excess capacity and persistent price wars, others by strong demands and rising prices. Thus different competitive conditions in different industries have influence on strategic planning process (Hill and Jones 2009, 7).

2.2 Human resource planning and connection to a strategic plan

2.2.1 Human resource planning

Ivanuša Bezjak (2006, 64) pointed out that in the ideal business, managers plan the human capacity the same as other resources (assets, machines, money, etc.). Managers would try to ensure the right number of workers in the right place at the right time, in order to achieve plan and strategy of the organization. However, the reality is different. The importance of human resource planning is on the same level as planning financial resources within the organization. Human resources planning represents a first step in an employment process. If the first step is carried out poorly, then the further activities will also move away from the goals of the company.

Armstrong (2006, 263) defines human resource planning as determining the human resources required by the organization to achieve its strategic goals. This process ensures that the human resource requirements of an organization are identified and plans are made for satisfying those requirements. In general human resources planning matches resources to business needs in longer term and also addresses shorter term requirements. This answers two basic questions: how many people and what sort of people. The view of human resource planning is also broader in the ways in which people are employed and developed in order to improve organizational effectiveness.

Important aspects and views arising from the definition of the human resources planning are (Beardwell, Holden and Claydon 2004, 172):

- to attract and retain the number of people required with the right skills, expertise and competences
- to anticipate problems of potential surpluses or deficits of people
- to develop a well-trained and flexible workforce
- contributing to the organisation's ability to adapt to an uncertain environment
- to reduce dependence on external recruitment on short term by formulating retention and development strategies
- to improve the utilization of people with more flexible systems of work.

Significant aspects and views, which derive from the definition of human resource planning, are (Cushway 1994, 26):

- It is a systematic and planned process,
- It is a constantly recurring process, which continuously adapts to the changes of the organization,
- It is a short-term and a long-term process, which adapts to the organization's long-term requirement on survival and growth,
- It is a process, which is tightly related to the entire planning process on the level of the whole organization,
- The process of manpower planning requires the component of quality and quantity,
- Planning human resources is subjected to available financial resources of the organization,
- Human resource planning is related to the efficiency of the organization.

Planning human resources means to assure the organization (Cushway 1994, 28):

- That on one side it shall attract and on the other side maintain workers in a sufficient number and with adequate human capabilities, and that selected workers shall work efficiently and achieve set objectives.
- The most optimal efficiency of already employed workers.

- Necessary education of employed workers and their development for efficient execution of tasks and roles in the organization.
- Advance preparation to constant changes, which arise on the labour market.
- So that it can meet the requirements on human resources from its own sources.
- All employees equal career advancement and personal development.
- Supervision over labour costs and control of the latter.

Human resource planning is successful, when the organization beside immediate objectives achieves also the broader objectives (e.g. profits, reputation, efficiency, successfulness) and simultaneously satisfies the needs of persons employed in the organization. Florjančič and Jereb (1998, 32) therefore state that human resource planning is successful when: It stabilizes the level of employees, whereby it reduces the unemployment and this leads to a greater job security:

1. Prevents the departure of young manpower from the organization, which has been qualified for specific workplaces during a certain period of time, when the latter do not see any opportunities to prove themselves or for career advancement.
2. Reduces the number of problems, if any of the leading managers leave the organization.
3. Assigns financial assets to individual departments so that each department has a sufficient number of people to achieve planned objectives.

In order for the human resource planning to be effective, the plan must be carried out within organization's long-term plans. In practice, all too often we come across short-term solutions when it comes to staff needs, whereat strategic directions and organization's objectives are ignored (Byars and Rue 2003, 117).

Graham and Bennett (1998, 163) refer the need of human resources planning to continuous readjust, because the goals of an organisation are unstable and environment is uncertain. The latest is also complex, because it involves many independent variables, such as inventions, demographic changes and resistance to change, customer demand, government intervention and competition. In case if the plan cannot be fulfilled and the objectives of the company may have to be modified, it is also important to include a feedback.

2.2.2 Connection between human resource planning and a strategic plan

When the organization forms its business strategy, it is at the same time also necessary to plan special staff which shall enable to achieve, set objectives. Human resources strategy must be determined so that the internal structure of human resources adapts to the requirements of the defined business strategy of the company by considering environmental changes (Novak 2008, 68).

A successful connection of human resource strategy and business strategy may take place in various manners which depends on what better corresponds to the given situations and company's needs. Regardless of the form they advocate, line managers who bear the responsibility for implementation of individual tasks related to human resource management must also be included into the process next to top management and human resource professionals (Novak 2008, 68).

When connecting human resource strategy to company's business strategy, it is also necessary to be aware of constant collection of data and formation of data bases, continuous assessment of inconsistencies between supply and demand of human resources, searching for and obtaining the best co-workers and ascertaining the needs for knowledge and skills of employees in accordance with the needs to create conditions for development of employees and valuation of achieved results (Novak 2008, 68-69).

Integration can be achieved only when human resources are considered at the strategic and tactical planning stages of business planning (Jarrell 1993, 109). Human resource planners influence the organization philosophy and develop objectives for the human resource function at the strategic planning stage. Human resource planners also shape strategies for carrying out the organization philosophy and achieving the human resource objectives. At the tactical planning stage, in accordance with strategic human resource objectives and strategies, human resource planners develop structures for the allocation of resources (Jarrell 1993, 109).

Human resource planning is an integral part of business planning. The strategic planning process defines changes and type of activities that should be carried out by the organization. It should identify the core competences the organization needs to achieve its goals and also skill requirements (Armstrong 2006, 363-364).

2.3 Human capabilities

Some authors believe that human resource management may be handled in the same way as all the others. According to their opinion, the role of human resource management should belong to the managers. The opinion is set very roughly, since people have resources, but they are also resources themselves. Those are not disposed by managers but by people alone (Lipičnik 1998, 26).

Human capability is a very wide term, which includes all known and unknown characteristics of an individual person. Authors define the division of human capabilities differently. The most remarkable thing about human beings is that not even two are the same. At a physical level, differences between people are obvious and most of us could list some of the major

differences (Cooper and Robertson 1995, 12). More complex psychological factors are less immediate apparent and require more specialized knowledge to assess. Cooper and Robertson (1995, 15) divided human psychological characteristics into two broad categories: personality and cognitive abilities. Cognitive ability concerns people's capacity to process verbal, numerical and other information. Personality refers to individual differences in temperament or disposition (Cooper and Robertson 1995, 15).

Lipičnik (1998, 26) thus talks about human capabilities in a general and limited sense. When we talk about capabilities in a general sense, these are psychological capabilities, physiological and physical. When we talk about human capabilities within the limited sense, we are considering abilities, knowledge and motivation. Regardless of what capabilities can be found in a person, for the organizations are the priority individual's abilities, such as knowledge, skills and personal characteristics (Lipičnik 1998, 26).

Abilities are person's potential for development of certain capabilities. We talk about mechanical, sensory, motor and intellectual abilities. Abilities best come to the expression in combination with knowledge. Knowledge is person's capability to solve known problems. With known problems we mean such, which were already seen and solved. Regardless of where and how the person has obtained this knowledge, it mainly helps him to solve problems with known solutions (Lipičnik 1998, 26).

Skills relate to person's motor and cognitive skills. They enable quick and efficient reaction to a problem. Personal characteristics are person's virtues, which by themselves are not necessary for solving problems, but they give a personal touch to every human reaction. In the narrower sense it is a person's character and temper. In a general sense they may include personal characteristics all human attributes, therefore capabilities in general (Lipičnik 1998, 27-28).

Cognitive skills are intellectually based and are linked to working out or solving problems. These skills affect the perceptual process and help people to make sense of what is required in any given situation. They have more to do with how we learn, remember, problem-solve (Honeybourne, Hill and Moors 1996, 82).

Pascale (2006) refers that any task can be broken down into the different cognitive skills needed to complete that task successfully. Let's take for an example answering the telephone. This action involves at least perception (hearing the ring tone), decision making (answering or not), motor skill (lifting the receiver), language skills (talking and understanding language) and social skills (interacting properly with another human being).

In the management practice, human characteristics are considered a little less structurally and more functionally. In the companies, questions about types of human capabilities are asked a

little less, but they are more concerned with the question what capabilities does a person need to perform a job. Thus the abilities, knowledge and motivation are central capabilities, which the companies try to recognize and influence. Namely, the result is not given if only one of the stated capabilities is missing from the combination (Lipičnik 1998, 28).

Lipičnik (1998, 28) thus ascertains that knowledge, abilities and motivation are the main human mobilizing force, which give him the opportunity to achieve success.

2.4 Competencies

There are lots of different definitions of competences. Svetlik (2005, 13) defined competence as the ability of an individual to activate, connect and use the knowledge gained in complex and diverse situations. Furthermore, Majcen (2009, 21) defines competence as individual properties, characteristics, skill and, abilities required for the job or that employees have. Therefore, we distinguish skills for works and skills of employees.

Competencies are about capability and are the things that individuals or organizations need to be good at work (Whiddett and Hollyforde 2003, 5). Whiddett and Hollyforde (2003) define competencies as behaviours that individuals demonstrate when they are effectively undertaking job tasks within the organization. By linking competencies to organization's mission and values, they are stating their commitment to the values and integrating behaviours that support them throughout the management of people.

Competencies list characteristics such as motives, traits or skills and also provide examples of what we would see, if people used these characteristics effectively. Competencies help to assess how people combine and use knowledge, abilities and motives when doing job tasks (Whiddett and Hollyforde 2003, 6-7).

Whiddett and Hollyforde (2003) define that behavioural indicators are examples of the behaviours that come out from the definition of competencies. Usually behavioural indicators are examples of effective competency and are included in some frameworks. If the framework covers a wide range of jobs with different demands, the behavioural indicators within each competency can be divided into separate list or levels that reflect different degress of demands. This is necessary, if the competency framework covers a wide range of jobs or roles.

2.4.1 The difference between competencies and competence

There is a difference in defining competency, competent, competence (Majcen 2009, 21):

- Competencies are individual qualities, characteristics, knowledge and abilities necessary for work and are owned by the employees.
- Competent is a person, who has all adequate competencies to perform a certain job, task or to achieve planned objectives successfully.
- Competence is an attribute of an individual, organizational unit or a company, which relates to the capability to perform tasks successfully. Whereat appropriate competence means that a person has enough knowledge, experience and other qualities to be qualified for a certain job. Competence of a company shall mean that the company has all the resources to achieve business objectives.

2.4.2 Classification of competencies

Competencies may be classified according to levels or dimensions. According to levels they are classified as (Svetlik 2005, 36):

- Key, fundamental or generic competencies.
- Labour specific competencies.
- Organizational specific competencies.

Key, fundamental or generic competencies

Terms, such as key abilities have recently been noticeable in the field of education especially in school policies. It is the case of multifunctional and transdisciplinary competencies, useful and effective in various situations, contexts, tasks and variable circumstances (Svetlik 2005, 37). In the last years, defining and identifying key competencies were the objective of (at least) two major European researches: Key competencies (2002) performed by Eurydice, and DeSeCo Project (2005) within OECD.

Eurydice emphasizes 3 criteria for determining key competencies:

1. Key competencies should contribute to the welfare of all members of the society.
2. They should be accordant to ethical, economic and cultural values and standards of the addressed society.
3. The context, in which the latter are defined is relevant. The context of key competencies does not include specific life styles but merely the usual ones: probable situations and social roles within the life of members of the society.

Key competencies are actually worthless, if the individual next to them does not develop specific competencies to be able to solve individual problems successfully. This means that only by connecting key and specific competencies, we are able to solve specific problems successfully (Svetlik 2005, 38).

Labour specific competencies

Labour specific competencies are represented by activity aspects in a specific labour role related to efficient performance in this role. There are attributes necessary for successful performance of a certain job or a task (Svetlik 2005, 39). They are common to members of occupational groups and similar work places, thus they refer to similar work tasks regardless in what organization the job is being performed.

Organizational specific competencies

Organizational specific competencies are resources with which the individual adapts his or her own manner of performance to an organizational culture regardless of his or her role (Svetlik 2005, 39). Labour specific competencies are related to successfulness of an individual in a specific role and organizational specific competencies with his or her successfulness in the organization as a whole.

Classification of competencies according to dimensions is extremely relevant for human resource management. According to dimensions they can be divided into (Svetlik 2005, 36):

- Expected competencies.
- Actual competencies.
- Graduated or distinctive competencies.
- Descriptive competencies.

Expected competencies

Expected competencies are:

- competencies, which are expected from an individual by the society (key competencies),
- competencies that an organization expects from individuals in order to successfully complete their roles or perform their tasks (organizational or labour specific competencies) (Svetlik 2005, 36).

Actual and potential competencies

Actual competencies are those, which the individual has and that enable him a successful performance of social or organizational roles and task. They can be measured or described.

Potential competencies are those, which the individual is able to develop according to his predispositions. They are more undefined; with psychological methods, possibilities of their development can be predicted (Svetlik 2005, 36-41).

Graduated or distinctive competencies

Organizational competencies may be demonstrated by intervals that determine success of an individual in performing tasks. Hereby, we can acquire graduated competencies or descriptions of competence levels of an individual in a defined organization. The competence level enables the organization to differ between individuals, is distinctively applicable in the system of human resource management, and at the same time gives the individual a feedback on his competency (Svetlik 2005, 36- 41).

Descriptive competencies

Description of competencies is used in organizations and presents an image that an organization or its employees have on a certain competency. It is a word definition of a competence within an organizational culture, therefore values and standards of a job performance within an organization (Svetlik 2005, 41).

2.5 Organization of vertical structure and technical division of labour

2.5.1 Definiton of organizing

Organizing is a process of grouping activities to attain objectives and assign each grouping to a manager, who has the authority to supervise the group members. Organizing is performed to arrange all required resources, also people, so that the required work can be accomplished successfully. A manager must know for which activities one is responsible, who helps and who is being helped, the channels of communication, the clustering of work that is followed and the relationships among different work groups. Answers to all this questions are given by organizing. However, all employees need to have an accurate and consistent understanding of their job's requirements, and they need to know their relationship with the direct manager and also with other nonmanagers in the work group (Lipičnik and Mežnar 1998, 51).

2.5.2 Definition of organizational structure

Although the concept of organizational structure is known, the definitions vary widely. Some of them (Lipičnik and Mežnar 1998, 51-52) define structure as various combinations of components interdependent and linked to form a whole.

Hitt, Ireland and Hoskisson (2009) define organizational structure of the company's formal reporting relationship, procedures, controls, authority and decision-making processes. A company's structure specifies the work, that needs to be done and how to do it.

Daft and Marcic (2010) refer that the organizing process leads to the creation of organization structure, which defines how tasks are divided and resources deployed. Organization structure is defined as (Daft and Marcic 2010, 225):

- The set of formal tasks assigned to individuals and departments.
- Formal reporting relationships, including lines of authority, decision responsibility number of hierarchical levels and span of manager's control.
- The design of systems to ensure effective coordination of employees across departments.

For various definitions it can be summarized that job tasks and their owners are the basic elements for defining the organizational structure (Lipičnik and Mežnar 1998, 52). Daft and Marcic (2010, 224) point out that the manager's work is influenced by how the company is organized. Organizing is the deployment of organizational resources to achieve company's strategy. The deployment of resources reflects the organization's division of labor into specific departments and jobs, formal lines of authority and mechanisms for coordinating diverse organization tasks. Organizing is important and linked to the strategy. Strategy defines what to do, and organizing defines how to do it. We name structure as a powerful tool for reaching strategic goals and a strategy's success is often determined by its fit with organizational structure (Daft and Marcic 2010, 224).

2.5.3 Organizing the vertical structure

Formal tasks and formal reporting relationships provide a framework for vertical control of the organization. The characteristics of vertical structure are shown in the organization chart. Organization chart is the visual representation of an organization's structure. The organization chart provides order and logic for the organization with delineating the chain of command, indication of departmental tasks and how they fit together. Every employee should have defined appointed task, line of authority and decision responsibility (Daft and Marcic 2010, 225).

An organization chart is drawn to help us visualize the organization structure and shows what activities are performed, by whom, the work groupings of activities and their relationships. On figure 1 chart lines present joining the organization work-employee units, indicate the formal flow of communication and decision making authorization at the top of the chart and those with the least at the bottom. Organization charts help identifying:

- organization levels such as top, intermediate, and bottom,
- naming the units of each level such as division, department and section,
- assigning titles (Daft and Marcic 2010, 225 – 226).

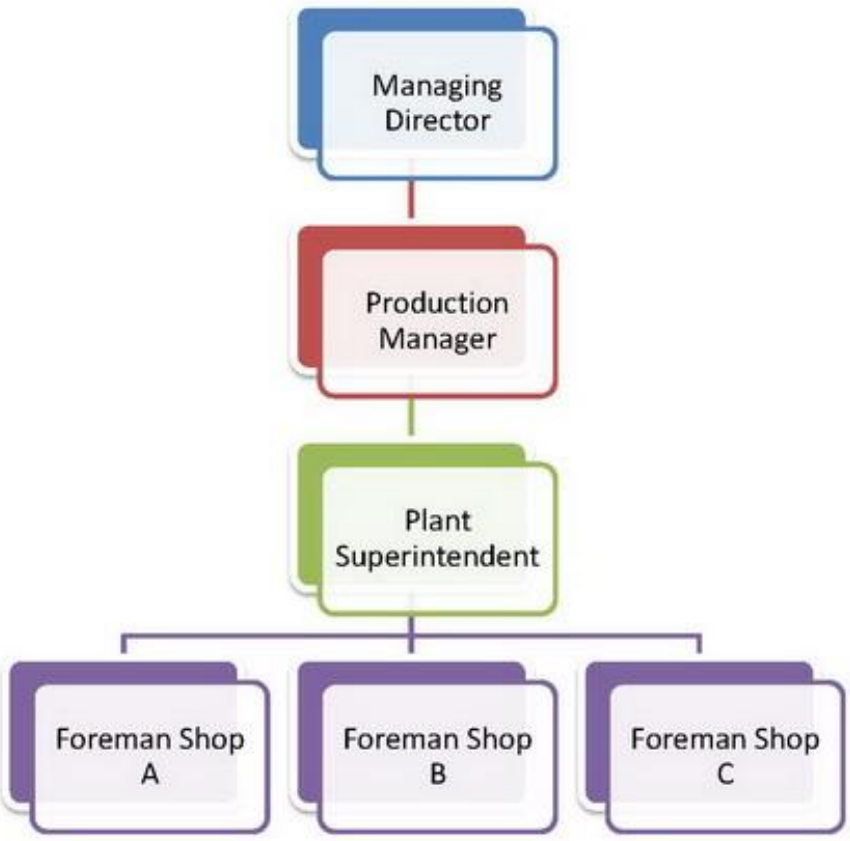


Figure 1: Pure line organization

Reference: IGCSE 2012.

Organizations usually perform a variety of tasks, and fundamental principle is that work can be done more efficiently if employees are allowed to specialize. Work specialization or division of labor is the degree to which organizational tasks are subdivided into separate jobs. Employees within each department perform tasks relevant to their specialized function. We can describe work specialization with example of an automobile assembly line, where each employee performs the same task over and over again. It would not be efficient to have a single employee build the entire automobile or perform a large number of unrelated jobs. Despite the advantages of specialization, many organizations are moving from this principle,

because with too much specialization, employees are isolated and do only one, boring job. On the other hand, too much specialization creates separation and the coordination that is essential for organizations to be effective (Daft and Marcic 2010, 225-226).

The chain of command is a line of authority that links employees in an organization and shows the relationship between who reports to whom. The chain of command shows the authority structure of the organization. Authority is the formal and legitimate right of a manager to make decisions, issue orders and allocate resources to achieve organization's outcomes (Daft and Marcic 2010, 230).

Daft and Marcic (2010, 230) identified the span of management as number of employees reporting to a supervisor. This is also sometimes called the span of control and this characteristic of structure determines how closely a supervisor can monitor subordinates. Traditional views of organization design recommended a span of management with seven subordinates per manager. Today, many lean organizations have spans of management as high as 30, 40 and even higher number of subordinates.

The average span of control used in an organization defines whether the structure is tall or flat. A tall structure has an overall narrow span and more hierarchical levels. A flat structure has a wide span, fewer hierarchical levels and is horizontally dispersed (Daft and Marcic 2010, 230).

We define centralization and decentralization with the hierarchical level at which decisions are made. Centralization means that decision authority is located near the top of the organization and with decentralization; decision authority is pushed down to lower organization levels (Daft and Marcic 2010, 230).

2.5.4 Departmentalization

Departmentalization is another fundamental characteristic of organization structure which is the basis for grouping positions into departments and departments into the total organization. Each approach to structural design reflects different uses of the chain of command in departmentalization (Daft and Marcic 2010, 232).

Daft and Marcic (2010, 232) define functional, divisional and matrix approach as traditional approaches that rely on the chain of command to define departmental groupings and reporting relationships along the hierarchy. Innovative approaches, such as use of teams and virtual networks have emerged to meet changing organizational needs in a turbulent global

environment. The basic difference among structures is the way in which employees are departmentalized and to whom they report.

Figure 2 shows the functional structure. This structure is a strong vertical design and means grouping of positions into departments based on similar skills, work activities and resource use. Information flows up and down the vertical hierarchy and the chain of command converges at the top of organization (IGCSE 2012).

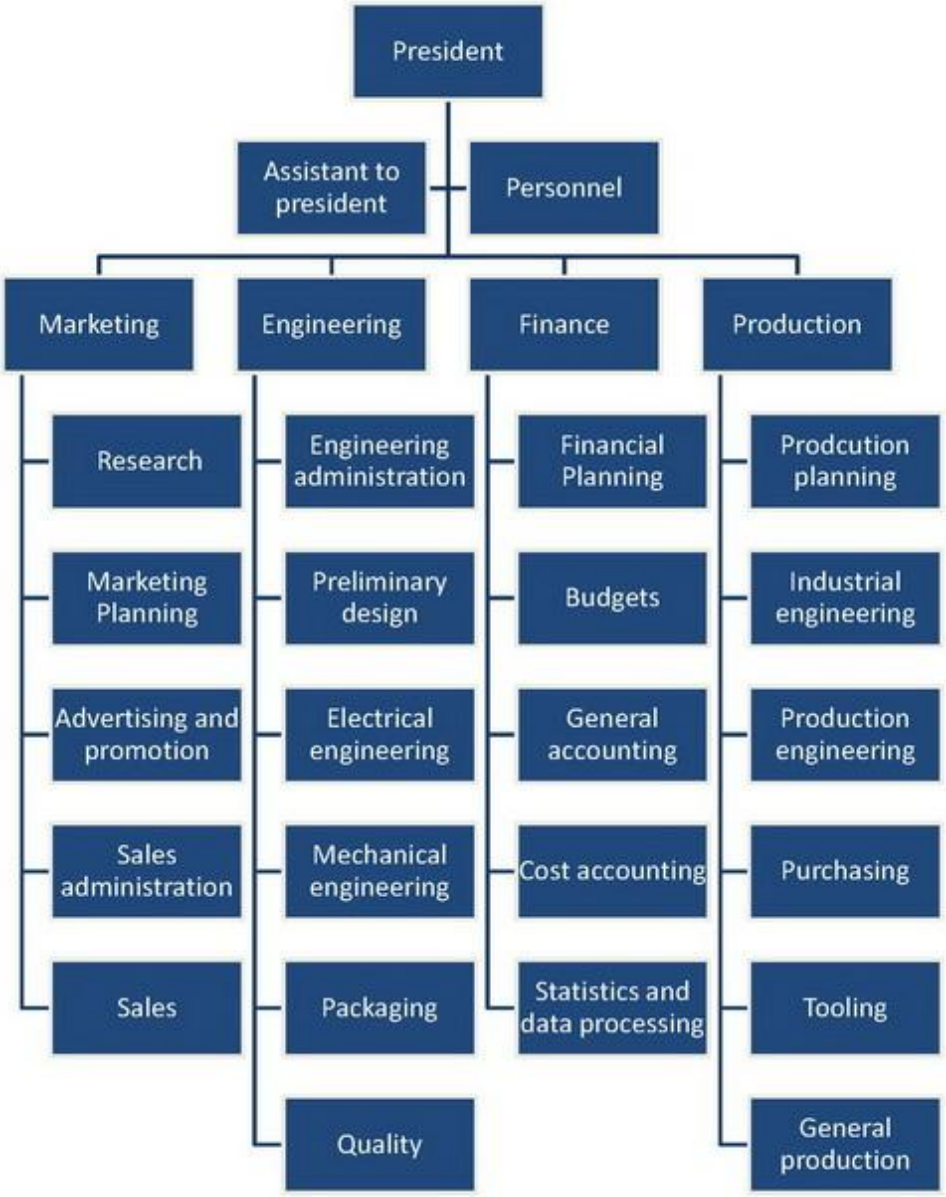


Figure 2: Functional organization – manufacturing company

Reference: IGCSE 2012.

Divisional approach is in contrast with functional approach and occurs when departments are grouped together based on similar organizational outputs. The project structure consists of a number of horizontal organizational units to complete long term duration projects. It is constituted of specialists from different areas created for each project. Usually, this team is managed by the project manager and the project staff is separate from and independent of the functional departments (IGCSE 2012).

Matrix approach showed on the figure 3 combines aspects of functional and divisional structures simultaneously in the same part of the organization. The matrix structure evolved as a way to improve horizontal coordination and sharing information. The vertical structure

provides traditional control within functional departments, horizontal structure provides coordination across departments and matrix structure supports a formal chain of command for both vertical (functional) and horizontal (divisional) relationships. Due to dual structure, some employees can report to two supervisors simultaneously (Daft and Marcic 2010, 236).

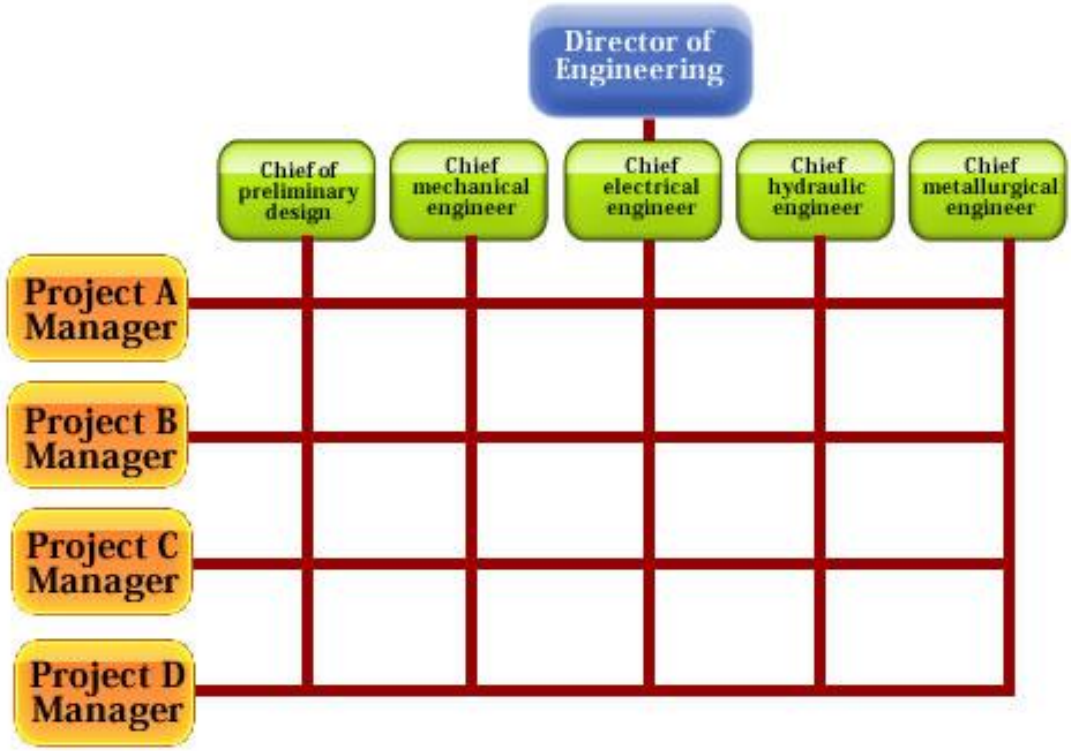


Figure 3: Matrix organization structure

Reference: IGCSE 2012.

2.5.5. The relationship between organization design for efficiency and for learning

No form of organizational structure is better or worse than other. The most important is that the organization has a structure which best allows it to achieve objectives. Size of organization, technology and environmental requirements has the biggest impact on the structure. Differentiation of organization (vertical or horizontal) increases with its size. Large organizations have more structured activities, the size of the units are connected with more flexibilty of tasks, enlargement of empowerment and greater emphasis on achieving results and objectives. Figure 4 shows relationship of organization design to efficiency versus learning outcomes. Vertical organization is designed for efficiency and horizontal organization is designed for learning (Daft 2008, 93).

Characteristics of vertical organization (Daft 2008, 93):

- Specialized tasks.
- Strict hierarchy, many rules.
- Vertical communication and reporting systems.
- Few teams, task forces or integrators.
- Centralized decision making.

Characteristics of horizontal organization (Daft 2008, 93):

- Shared tasks, empowerment.
- Relaxed hierarchy, few rules.
- Horizontal, face-to-face communication.
- Many teams and task forces.
- Decentralized decision making.

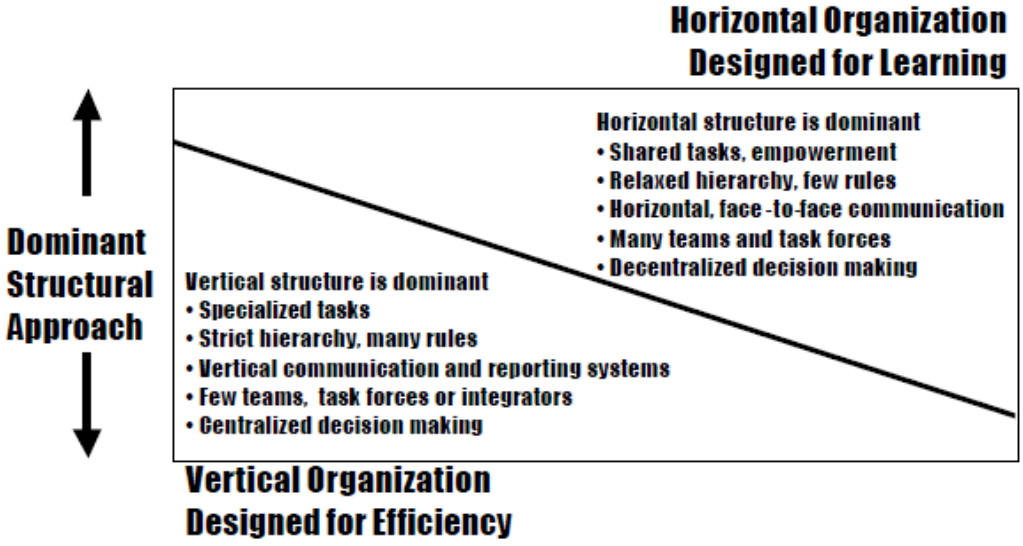


Figure 4: The relationship of organization design for efficiency vs. learning outcomes

Reference: Daft 2008, 93.

2.5.6 Definition of technical division of labour

Technical division of labour indicates classification of joint work task of a company to multiple partial tasks with a different level of complexity. It is a classification of a uniform working process to procedural components and assignment of these procedures to various people in the company for implementation (Rozman 1996, 513-518). Rozman (2000, 26) defines specialization or technical division of labour as a level of division of a joint work task to individual work tasks).

Technical division of labour is a process that runs in three phases (Lipovec 1987, 71-80):

1. Phase of classification or work analysis. When imagining classification of the work process or business operation to individual tasks, we obtain a technical structure. On this level there are no interpersonal relationships.
2. Phase of department integration. In this phase, we connect tasks into working tasks, which have different complexity. We form work places, divide work tasks to work places, followed by integration of work places into departments and integration of departments into a company. Here we also have a technical structure with no defined interpersonal relationships.
3. Phase of assigning work tasks. In this phase we divide work tasks to personnel. With this phase the technical division of labour is carried out. Thus we obtain organizational structure where interpersonal relationships are defined merely on a technical basis.

Technical division of labour is performed according to a specific key or criterion, thus systematically. This makes sense so that a specific part of a business process is not left out or duplicated. Most frequently a business process is classified according to implementation process. This means that the entire business operation is divided into business functions: supply, staff, production, sale and finance. Classification according to subject or object is also frequent. This means that the entire business process is divided according to areas, then within each product and the according to phases of the process. There could be more divisions according to the phases of the business process (planning, implementation, and control), division by purpose (primary, secondary tasks) and division by level (coordinating and implementing work tasks) (Rozman 2000, 76).

2.5.7 Consequences of technical division of labour

When work is divided by a specific key, each work task is received by the employee for implementation and not before this procedure; the division of labour is carried out. Directly from this step derive multiple consequences (Lipovec 1987, 82-83):

1. People who by the assignment of work task become members of an organised company are holders of work tasks, which vary by dimension.
2. Holders of detailed work tasks are subordinated to holder of more complex work tasks. This brings superiority and subordination into the relationship between employees.
3. The result is also that the most work tasks are simple, while there are a lot less complex tasks.
4. These advantages do not come by themselves, but they are assured by good coordination. If the coordination is not efficient and satisfactory, it is not possible to realize the advantages of division of labour or divided labour may even be less effective as undivided labour.

2.6. Job analysis and list of jobs and tasks

2.6.1 Job analysis

Job analysis is the basis of human resource management, which directs its attention to what is expected from employees, as well as knowledge, skills and abilities, which are necessary for effective work at a single work place. Job analysis may be defined as a process where the work place is determined by the contents of its tasks, duties and responsibilities, its relationship towards other work places, conditions in which the work is carried out and personal qualities, which are necessary for a satisfactory effect (Vukovič and Miglič 2006, 20).

There are two approaches to job analysis (Vukovič and Miglič 2006, 20):

- Approach focused directly to a job or task.
- Approach focused to an employee or his behaviour.

The first approach refers to tasks, duties and responsibilities of a work place. The second approach is focused on the behaviour, which is necessary for the work to be done thus job requirements. Job requirements are constituted of skills, knowledge and abilities, which are defined in the description of the work place contents (Vukovič and Miglič 2006, 21). Regardless of the chosen approach, it is essential for efficient labour analysis to obtain information including (Vukovič and Miglič 2006, 21):

- Work place contents. The latter describes the duties of a work place in a manner which may extend to global findings to very detailed descriptions, tasks and procedural steps.
- Work place requirements. The latter recognizes formal qualifications, knowledge, skills and personal qualities, which an employee needs to carry out a specific job in a specific situation.
- Work place circumstances. This relates to situational and supporting situation, which refers to a specific work place. Its intention is accordant with the organization, field of information such as the dimension of financial, human or material sources being managed.

Job analysis is constituted of three levels, which are: ascertaining work capabilities, job descriptions and relationships, and defining knowledge and skills necessary for the implementation of ascertained tasks (Vukovič and Miglič 2006, 21).

2.6.2 Determination of working capacities

Procedures used with activity analysis are basic procedures of every analysis. The subject of examination is not just a job in a form, but also forecasting how a job should be optimally implemented. On the grounds of gathered data, a list of the most important duties or job description is produced (Vukovič and Miglič 2006, 22).

A job description includes a broad description of purposes, objectives, responsibilities and tasks that constitute a certain job. The description includes the job title and its general purposes, which summarizes why a certain job is necessary and what is its purpose for the organization. A job description also includes the name of the department in which it is carried out, the title of a person to whom the performer is directly responsible to, short details on other key relationships and connections, and the indication whether a performer acts independently or as a part of a group. In job analysis only main tasks are usually included, which enable the review of the job elements. Job description also includes all possible problems, which are according to experience usual at work (Vukovič and Miglič 2006, 22).

2.6.3 Task analysis

The successfulness of job analysis depends on the ability to ascertain tasks that construct a single duty and determining their importance, sequence and complexity. Starting point is the job description. Task analysis assures information on activities carried out by an individual and on the expected work success, which is the basis for formation of training programmes (Vukovič and Miglič, 2006, 23).

2.6.4 Job profiling

The result of job analysis are the job and task descriptions, which constitute a job, working procedures with which the job is carried out, work resources which are used hereby and relations in which the activity is carried out. Jobs vary according to dimension, autonomy and environment, and also by the complexity of individual components which they include. Profiling is designed for detailed analysis of all main job components, namely knowledge, skills and abilities. The result is a description of employee's qualities. Gathering information on job components is relevant because each of them has a different impact on formation of training programmes and on the selection of learning methods and utilities due to different ways of development (Vukovič and Miglič 2006, 24).

2.6.5 Description of worker's qualities

Determining worker's qualities is the analysis of motives, abilities, personal and other qualities, which a worker must have for successful job performance. When determining worker's qualities, the identification of those qualities is emphasized that the worker must have to carry out work tasks as efficiently as possible. The description of worker's qualities includes information on worker's education, qualifications, training, experience, mental, physical and social skills, and personal characteristics. Detailed and consistently defined qualities of a worker are the basis for determining the gap between current and desired work successfulness and the starting point for preparation of a detailed training description (Vukovič and Miglič 2006, 26).

Within human resource planning, most attention is concentrated on forecasts of people joining and leaving the organization. Internal movement is also a key factor in internal supply. The likely results of forecasting activity are the identification of a potential mismatch between future demand and supply. A number of options are illustrated by Figure 5. If future demand is likely to exceed supply, then plans need to be developed to match the shortfall. If future supply is likely to exceed demand, then plans need to be developed to reduce the surplus (Beardwell, Holden and Claydon 2004, 168). Employees have number of options for movements in an organization as shown on figure 5. They are likely to cover at least some of the following areas (Beardwell, Holden and Claydon 2004, 168).

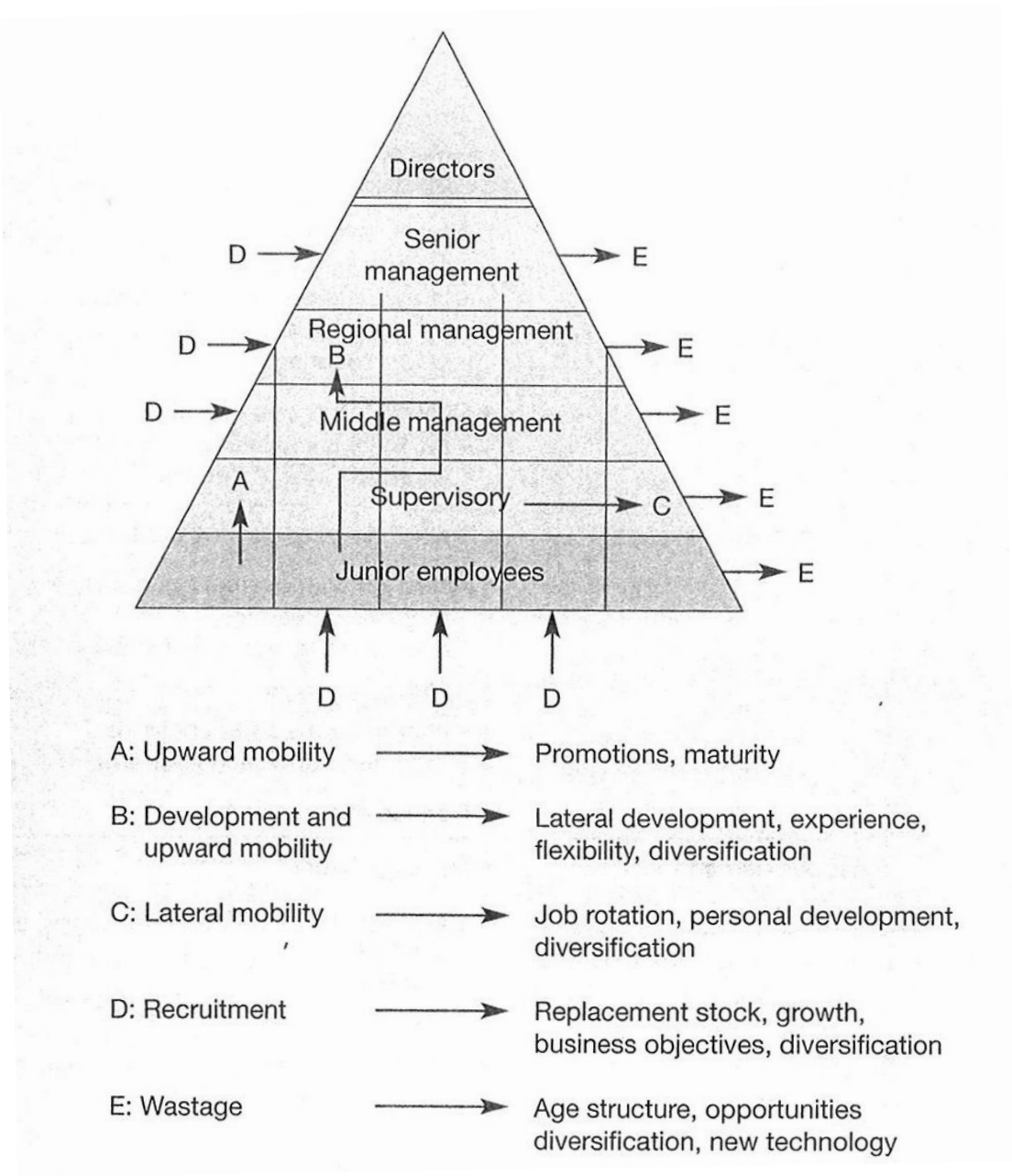


Figure 5: Employee movements in the organization

Reference: Beardwell, Holden and Claydon 2004, 169.

3. DEVELOPMENT OF EMPLOYEES

3.1 Definition of the term development of employees

Florjančič and Jereb (1998, 45) define the development of employees as systematic and planned process of preparation, implementation and supervision of all staff training procedures and measures, designed for professional, working and personal development of employees. It assures optimal professional, educational and qualification structure of all employees regarding present development and strategic objectives of the organization.

When we plan development of employees in a company, the latter must be based on the company's needs, abilities, interests, desires and capacities of a worker. It is necessary to form a whole from a professional, working and personal development of an individual. With the already employed, it shall be urgent to encourage the development of necessary capacities, creativity, adaptability and knowledge is emphasized. Key information about the progress and the needs of further development of employees are given by monitoring and evaluation of success at work (Novak 2008, 145).

Development and training of employees is a planned effort for individual's easier learning behaviour related to work. The purpose of development and training is that the individual's implementation of job performance and efficiency would improve (Bartol and Martin 1995, 356).

The fundamental task of staff development is to assure optimal occupational, educational and qualification structure of all employees regarding present development and strategic objectives of the organization. Instruments of staff development are related between each other and intertwined system of reception, classification, career advancement and staff education (Možina et al. 1998, 45).

Development of employees runs through their entire period of employment. It starts with the inclusion of an individual into the organization and continues with obtaining working experience and adaptation to the organizational culture. Employee's career advancement depends mainly on his ambitions and abilities (Florjančič and Jereb 1998, 56).

Development of employees has a positive impact on effectiveness of the company and enables the achievement of a good position on the labour and knowledge market with its operation in the following area, namely (Florjančič and Jereb 1998, 45):

- Guidance of employees into education to obtain appropriate levels of professional education.
- Professional employee training.

- Assuring managerial and professional staff and preparation of the latter to take over certain functions within the company.
- Systematic and consistent development of employees (professional as well as working and personal) accordant with job requirements.
- Encouraging employee creativity.
- Providing transfer of knowledge among employees on all levels and between them.

In companies that operate in market directed economies and which assumed the concept of employee management, development and training of employees are not areas that should be neglected. In these companies, they came to the conclusion that investing in development and training is a necessary implementation and the meaning of these activities is extremely important for acquisition and maintenance of competitive advantages (Florjančič and Jereb 1998, 56).

3.2 Definitions and objectives of employee development

3.2.1 The definition of employee development

Since the mid-seventies, successful development strategies are no longer based on new technologies as the essential development generator but on staff and concern for development of human potentials. The essence of successful staff management is preparation and training of employees for continuous changes of oneself and rapid reactions to environmental changes (Rojc 1992, 8-9).

Managers in companies already pay attention to skills and abilities, which their employees possess. We can anticipate that in the future they shall demand even more from their employees and expect from them the following (Treven 1998, 196):

- High level of education (to master new technologies, capacity to accept appropriate decisions and greater contribution to company's objectives).
- Ability to learn new skills and adapting to changed circumstances (employees shall by themselves accept the responsibility for their learning and acquiring new skills).
- Ability to work in an organization with flat structure and less management levels (employees shall perform their work without supervision, define their objectives and supervise their own job performance).
- Ability to master connections with users and relations between the employees in the company.
- Ability to solve problems, creative way of thinking and acquiring new and own ideas.

An adequately qualified and motivated personnel with professional knowledge, brings the following advantages to the company (Florjančič and Jereb 1998, 51):

- Greater productivity (more products or services, shorter production time).
- Better products and service quality (increasing demand, less complaints, less poor products).
- Greater adaptability of employees to the job (less absenteeism and fluctuation, less working accidents, spontaneous work discipline, more suggestions for improvement).

Due to rapid environmental changes, the companies must constantly develop new products, conquer new markets, change its organization, working methods, take care for the implementation of new technology etc. Whereat, it is relevant that employees are adequately prepared for all these changes, since otherwise consequences are often expressed as negative. Surprises and suspense may occur among employees, which causes decrease in motivation to perform a job and decrease dedication towards the company. These negative consequences may be avoided with planned and systematic employee development, with which they are prepared for changes and new challenges from the environment (Rojc 1992, 16-17).

The possibility of career advancement and education, which are assured to the employees by employee development are also closely associated with individual needs and interests of the employees. Appropriate professional qualification may represent a variety of advantages for the employees, such as (Florjančič and Jereb 1998, 51):

- Assuring possibilities for professional, working and personal development.
- Assuring possibilities of vertical and horizontal career advancement and hereby associated benefits, such as salary increase, material and immaterial benefits.
- Increasing the employment reliability and hereby social security.
- Increasing individual's occupational flexibility and mobility.
- Increasing possibilities for occupational self-validation.

Next to this, employee development represents possibility for their career advancement and education and thus also satisfies individual needs and interests of employees.

Možina (2002, 22-23) ascertains at least five reasons, which prove the necessity of a learning organization:

- Competitive edge – only the organization that is focused in constant learning can survive in severe competitive conditions which occur due to quick and unpredictable changes in various areas.
- Progressive self-changing – employees become less susceptible to potentially destructive environmental impacts, and are hereby enabled constant changing with the organization.
- Adaptable and reflective employees – with the assistance of constant learning the employees become more adaptable and reflect about what they are doing, wherewith they may use their creative potential.

- Employee development – while technology may be relatively quickly copied, it is still impossible to copy human creativity, dedication and capacity to be resourceful in new and unpredictable situations.
- Team work - is necessary to achieve the best results and high quality.

In order for employee development in a company to bring desired effects to the company as well as its employees, coordination of individual's objectives with the company's objectives is necessary. It is important that individuals actively participate in own development and thus advance in a working, professional and personal aspect. In such a manner, knowledge, professional adequacy and personal development shall contribute to desired results and have a positive significance for the company as well as its employees (Rojc 1992, 16-17).

3.2.2 Objectives of employee development

With the employee development activity, the company tries to assure that it disposes with adequately qualified personnel, which is capable to achieve its set objectives. The purpose of this activity is possible to carry out by assuring the following in the greatest extent possible: (Treven 2000, 52):

- Every employee in the company must be able to dispose with the knowledge, skills and abilities for an efficient execution of his or her job.
- The individuals' and teams' quality of work is constantly improving.
- Employees develop in a direction, which enables their greatest possible progress and growth.

Employee development means a long-term investment for the company, which has a positive impact on business operations (growth of productivity, quality, commitment to work and affiliation) as well as on the company's employees (greater possibility of occupational self-validation, increased flexibility and mobility, open opportunities for a versatile working, professional and personal development of an individual and the possibility of career advancement). Usually, we can establish that objectives of an organization and the ones of an individual are connected (Merkač Skok 1998, 65).

The entire system of staff development must consider three different interests of the company, employee as an individual, and also the interests of broader social environment. For an effective operation of such a system, coordination on all three areas is necessary. For an adequate guidance of employee development activities, the highest ranking managers must adopt a certain strategy and consider company's strategic plans with its formation. Business objectives, the necessary level of implementing various activities and sources, which are necessary to achieve the company's objectives are defined within. With the employee development strategy it can be foreseen how the employee developmental procedures, policies

and programmes, which refer to employee development, shall contribute to the realization of business objectives. Because these objectives are defined in the strategic plans of the company, we can establish the need for their relation to the employee development strategy. It namely depends on the employed workers whether the company's objectives shall be entirely realized or not (Jereb 1998, 182).

In the employee development strategy, it is also necessary to consider critical success factors with regard to innovations, quality, management and product-market development. One one side, this strategy should have been a true connection between learning, development and training activities and implementation of business operations. The other side shows, how these activities shall add to the value and contribute to acquisition and maintenance of competitive advantage (Treven 1998, 197-198).

Employee development usually means an opportunity of career advancement and education for an individual who is also closely related to individual needs and desires of employees, such as: career advancement, better earnings, greater employment reliability etc. Employee's objectives could be defined as (Jereb 1989, 143):

- Provision of adequate conditions for professional, working and personal development of an employee.
- Possibility of vertical and horizontal career advancement (that brings an employee certain benefits).
- Increase in employment reliability and consequently a greater social security.
- Increase in occupational and self-governing mobility of an individual.
- Increasing the possibility for occupational self-validation.

The company may systematically encourage the developmental interest of its employees with appropriate information about career advancement opportunities to take on more demanding and responsible jobs within the organization etc. Employees, who know developmental opportunities and needs of their company, namely deal with the questions of their occupational development more frequently. (Jereb 1989, 152)

From the company's point of view, the staff development system must be the first in line to contribute to greater work productivity, business success, to optimal implementation of all activities and to achieve development which the company has set out. From the listed assumptions derive the following objectives of the organization (Jereb 1998, 183):

- Long-term provision of appropriate qualification and educational structure of employees.
- Improving skills, mainly of managerial and developmental workers who have an important role in development, business operations and organization of work within the organization.
- Designing a broad internal source of professionally qualified workers that increases the possibility of adaptation of the company to future changes, which enables a greater internal

mobility and adaptability of employees and offers a wide range of personnel for senior and managerial functions.
- Improving employment policies and procedures of staff acquisition and assuring attachment of employees to the organization.
- Increasing the affiliation that the employees feel towards the organization.
- Searching and eliminating potential inadequate or improper occupied working positions.
- Improving all personnel - educational procedures which relate to employee development.

Employee development may be handled as a special human resource management area that includes the following activities (Treven 2000, 52):
- Learning; may be defined as a long-term change in behaviour which occurs as a result of experience or practice.
- Education; is related to the acquisition of knowledge, developing values and intelligence, which may be used on all not just specific areas of living.
- Development refers to improvement or realization of abilities and capacities of an individual based on learning and experience, which the latter obtains in the educational process.
- Training may be defined as planned and systematic change of behaviour to which one comes on the basis of following learning examples, programmes and considering instructions which enable individuals to achieve the necessary level of knowledge, skill and ability for an efficient implementation of their job.

For an adequate guidance of employee development activities, the highest ranking managers must adopt a certain strategy and consider company's strategic plans with its formation. Business objectives, the necessary level of implementing various activities and sources, which are necessary to achieve the company's objectives, are defined within. With the employee development strategy it can be foreseen, how the employee developmental procedures and policies and programmes, which refer to employee development, shall contribute to the realization of business objectives. Because these objectives are defined in the strategic plans of the company, we can establish the need for their relation to the employee development strategy. It namely depends on the employed workers whether the company's objectives shall be entirely realized or not (Treven 2000, 53).

3.3 Development capacities of employees

When we talk about development capacities, we bear in mind individual's professional, managerial and mobile capacity. To discover key personnel in the company, the company may help itself with various performance and staff development matrix. The example of connection between job performance and development capacities of employees is shown in the figure 6 (Novak 2008, 147). According to the picture, from which the job

performance and development potential variables are evident, the employees may be divided into four groups (Možina et al. 2002, 65):

- Successful workers with development capacities or "stars". These workers are highly successful and can hardly wait to realize their ideas. The organization expects benefits from investing into his or hers further development, therefore it encourages him or her.
- Unsuccessful workers with development capacities or "problematic" workers. This group is constituted of workers who are not successful at their job; however, there is a possibility that the organization might improve their performance by investing in their development. Poor performance of these workers may originate from inexperience to small incentive or lack of knowledge. It is also reasonable to invest in their development, since many of them can become "stars".
- Successful workers without development capacities or "draught horses". These workers are very successful; however, they do not have the capacity for further development. Usually, they have a lot of experience and developed working habits. It is quite possible that they have developed their development capacities to the maximum. Because they are extraordinary successful, their contribution to the company is extremely important, thus this personnel must be appropriately stimulated.
- Unsuccessful workers without development capacities or "rotten branches" are workers whose knowledge is often obsolete, and they do not monitor the development in the line of profession. They decline changes and are afraid for their existence. From the organization's point of view, it is not reasonable to invest in their development, since they decline the possibility of improvement and acquisition of new knowledge.

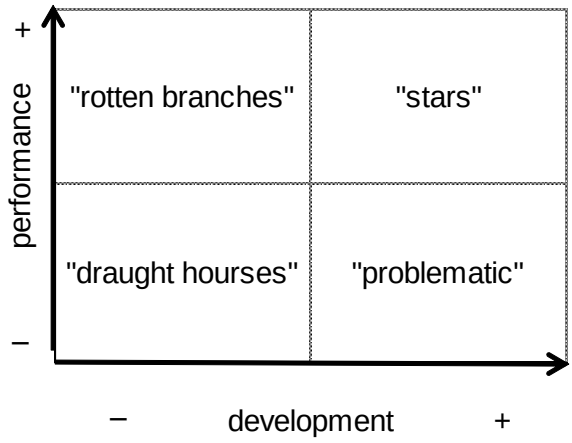


Figure 6: Connection between job performance and development capacities

Reference: Novak 2008, 147.

Following measurable factors influence determination of performance and possibility of personnel development (Novak 2008, 148):

- Work results, knowledge quality, innovative suggestions, working elasticity and job motivation are important for the success of the staff.
- For a potential human resource development, the desire to form one's own development is important, the balance maintenance between personal and organizational growth, forecasting changes and adapting to changes, flexible thinking and decision-making, determination ability and achievement of developmental objectives.

3.4 Approaches to employee development

Companies that wish to become successful or even better in the business world must systematically deal with the question of intellectual assets in the company, of which the integral part are the employees. Because the invested assets into the employee development are not negligible and are a large financial contribution of every company, it is relevant that all the right approaches are selected when it comes to employee development, which shall be proven as sufficiently effective. The characteristic of modern education in companies is that it has become more planned, systematic and more target oriented, and the acquisition of knowledge became even more practical. There are more and more companies that make use of modern forms of knowledge acquisition, such as e-education, simulated learning, rotational education etc. (Mihalič 2006, 188).

In companies there is a possibility of a choice between different approaches to employee development. Most frequently the following are selected (Treven 1998, 203):

- Formal education.
- Capability evaluation.
- Working experience.
- Coaching.

3.4.1 Formal education

Formal educational programs include courses that are organized within the company for employed workers, short seminars under the guidance of counsellors or experts from universities, MBA programs and post-graduate and doctoral programs for directors and managers. Many companies have in the past years founded educational and development centres that organize one-day seminars or seminars that last several days for the employed workers. Companies usually design special educational programs for directors and manager at the highest or middle level of

management and professionally oriented programs that refer to individual types of jobs, such as, for example, engineering jobs. Educational programs also include seminars for personal growth (Treven 1998, 203).

Organization of learning activities in the company includes a wide range of tasks in relation to the education or training, whereby focus is on the function of professionals in the field of adult education. Management workers, especially those on the middle level are becoming more and more responsible for creating new ideas, moderators of joint discussions, teams and individuals on one side, and guides, counsellors, educators and informers of their subordinates on the other side (Mayo 2003, 175).

The company may realize planned educational project in different ways, namely the education and training might be carried out by the company itself with its own personnel within the company, or external contractors outside the company. We are talking about internal (inside) and external (outside) education and training. When deciding on one or the other form we must consider the advantages and the disadvantages (Jereb 1998, 185).

At the formation of an organization, an external educational organization often comes to the rescue; however, even the latter needs some instructions irrespective of how good of an expert he or she is in the knowledge of reengineering procedures. Therefore, managers and other managerial workers should already be included at the beginning of the educational process, as they are its initiators and shall also direct it in the future (Jereb 1998, 185).

By ascertaining worker's performance we can therefore detect undesired reactions of employees who may not be eliminated by force, but it is necessary to modify them and turn for the benefit of an individual and organization (Lipičnik 1996, 471). According to Lipičnik (1996, 471), it represents one of the ways for improvement of job satisfaction, implementation of job training where the employer improves worker's qualities with specific procedures, which might be helpful to a more effective and quicker job performance.

3.4.2 Capability evaluation

The activity of capability evaluation includes gathering information on behaviour, communication style and skills of employees and submission of return information of those teams to which this information refers to. As a source of listed information, employees at the company may be used, and also their superiors, managers and users. The most frequent purpose of evaluation is to determine employees with management abilities. With this activity, abilities and weaknesses of managers in the company are evaluated. In the companies, work teams are also evaluated to define capabilities and weaknesses of their member, their decision-making

procedures and communication style that have an impact on greater or lesser productivity of the entire team. Companies use different methods and sources of information that help with the evaluation of employee development. With some employees, information is provided that refer to the effective implementation of their job. However, only in the companies with most perfected developmental systems, psychological testing for evaluation of employee skills, personal teams and communication styles are used (Treven 2000, 54-55).

3.4.3 Working experience

Working experience is very contributing to the employee development. Within a single company they can be used in the process of employee development very differently. Among the most important ones are (Treven 2000, 55):

- Job expansion.
- Rotation.
- Relocation.
- Career advancement.
- Degradation.

In the first method, employees develop themselves when performing their job by undertaking new challenges or responsibilities. These may be related to different activities such as temporary tasks with a specific project, acceptance of another role in a project team or exploring new ways to satisfy customers. Under the second method that refers to the rotation of employees, individual workers assume a series of tasks from different functional areas of the company or different series of work within a specific functional area or department. Managers may, for example, be relocated to departments where they shall perform tasks differently than so far. During their relocation, which may have different duration, from a few weeks to several years, they may keep their title and salary grade. New approach to employee rotation is related to the trade of employed workers between two companies. The purpose of such trade is in better knowledge of business operations of both companies and discovering more appropriate methods of service performance. Relocating employees to a higher or lower working post or within the same level is a frequent method that is used in companies with regard to employee development. With relocation within the same level, the employee receives a different task compared to the one he performed so far, with similar responsibilities (Treven 2000, 55).

Career advancement is related to the relocation of an employee to a higher ranking working post where he shall perform a job, for which it is typical to include more challenges and a greater level of independence and responsibility. By being promoted, the employee usually starts to receive an increase in salary. When being degraded or moved to a lower ranking working post,

the employee is entrusted with less independence and responsibility when performing his or her job as he or she had so far (Treven 2000, 56).

3.4.4 Coaching

Connection of employees with co-workers that have more experience then themselves is called coaching. This can occur spontaneously and informally as a result of certain mutual interests that the mentor and his trainee have. The other option is a planned effort of the company to create such connections among employees, since less experienced workers may thus learn more from the experienced workers (Treven 1998, 207).

Coaching brings positive impact on the mentor as well as on his or her trainee. A mentor represents some kind of a friend to the trainee that honors and respects him or her, listens and understands him or her. Hereby, he also offers him or her psychosocial support. Mentors transfer their knowledge on to the trainee and provides them with instructions, how to react in certain circumstances. Mentor also takes care of the assignments that represent a new challenge for the trainee. With this, mentor gets the chance to develop his or her own skills, greater sense of self-respect and contribution to the organization, in which he or she works (Treven 1998, 207-208).

3.5 Management tools when monitoring human resource development

Due to the increase of complexity and variability of work, with lack of educated workers and greater job complexity, management's concern for a systematic and extensive employee development becomes more and more important. The entire potential of human resources in companies is released mainly through common values, culture of trust and authorization which encourages inclusion of each and every employee. Since it is important to establish the company's needs, interests and desires of employees throughout the entire process of human resource development, to evaluate the job performance of an individual and coordinate needs with interests and desires, annual interviews are an important tool of the management (Novak 2008, 153).

Annual interview is an in-depth discussion between the manager and the co-worker to discuss everything that might improve their relationship, working conditions, motivation and the performance of the co-worker. It is a review of the past, present and plans for the future. It is carried out in equal timely intervals, but at least once a year. Annual interview is a predefined and planned meeting where the manager and co-worker peacefully explain their reflections on co-worker's past and present work, their expectations, plans and desires on potential career advancement and personal development, foreseen and desired changes and other subjects that are

important for them both and influence co-workers job performance. In-depth discussion and agreement about work and individual's development may, with its realization, provide actual motivation for work and successful development of an individual in a mutual interest. It is also important to encourage desires and responsibilities for one's own development, greater knowledge and its use and co-ordination of individual's ambitions with his or her abilities and company's needs and to assume the most appropriate working position. It is therefore necessary to provide professional grounds for decisions that shall provide professional and managerial personnel that shall be able to respond to constant changes in the modern business world with adequate development (Novak 2008, 153-154).

4. MODEL OF HIERARCHICAL COMPLEXITY

4.1 Introduction

Ever since the introduction of the idea that development proceeds in discrete stages (Baldwin, 1895: Rousseau, 1979), many models were presented to conceptualize development. Bärbel Inhelder and Jean Piaget's (1958) theory of stages proposes that there is one invariant pathway along which stage development proceeded irrespective of content or culture. Most other developmental models that followed usually focused on development within a particular domain of information. They only analyzed responses and not the items that evoked the responses. The varying informational frameworks of different domains have often concealed the common underlying process of development. Thus, a broadly applicable model of stage development is necessary in order not only to better conceptualize the patterns and themes of development, but also to conduct comparable cross-cultural studies (Commons Lamport 2007b, 36).

The model of hierarchical complexity is a framework for scoring how complex behavior is. It is a framework for scoring reasoning stages in any domain as well as in any cultural setting. The scoring is not based upon the content or the participant material, but on the mathematical complexity of the hierarchical organization of information in the task demand. The model has been developed by Michael Lamport Commons and others since 1980s and quantifies the order of hierarchical complexity of a task based on mathematical principles of how the information is organized. The MHC is a non-mentalistic model of developmental stages and specifies 15 orders of hierarchical complexity and their corresponding stages. It is different from previous proposals about developmental stage. Instead of attributing behavioral changes across a person’s age to the development of mental structures, this model shows that task sequences of task behaviors form hierarchies have become increasingly complex (Commons Lamport 2007a, 1).

The Model of Hierarchical Complexity (MHC) is a quantitative behavioral development theory, and it is applicable to all domains of development. The model enables development of universal patterns of evolution and development. MHC presents a framework for scoring reasoning stages in any domain as well as in any cross cultural setting. The scoring is not based upon the content or the participant material, but instead on the mathematical complexity represents the stage of developmental complexity (Commons Lamport et al. 2005, 5).

MHC offers a standard method of examining the universal patterns of evolution and development and it is a quantitative behavioral developmental theory. There are two kinds of hierarchical complexity. The commonly recognized one refers to the linear hierarchies that are

described in many fields of study. By contrast, the MHC offers a standard method of examining the nonlinear activity of constructing the universal patterns of evolution and development. The Model recognizes development of their patterns of development and evolution, which is comprised of tasks or actions, performed at specified orders of hierarchical complexity. The Model's unidimensional measure is linear, and the tasks it measures are nonlinear performances. The nonlinear activity of tasks is organizing or coordination of information. Hierarchical complexity applies to any events or occasions in which information is organized. The kinds of entities that organize information include humans and their biological systems, social organizations and also non-human organisms and machines. The Model can be applied so broadly that it is a singular mathematical method of measuring tasks, and these tasks can contain any kind of information (Commons Lamport et al. 1998, 237–278).

4.1.1 Terminology

When we are discussing the Model, four basic terms are essential: orders, tasks, stage and performance. The orders are the ideal forms prescribed by the theory's axioms and they are the constructs used to refer to the Model's orders of complexity. The orders of hierarchical complexity are objective, because they are supported by the hierarchical complexity criteria of mathematical models and information science tasks which are quantal in nature. They are completed correctly and in this case they meet the definition of task or they are not completed at all. There is no intermediate state. An example is the adding of two numbers: it can be done only correctly or not at all. Tasks differentiate in their degree of complexity. The MHC measures the performance on tasks in terms of distinct stages and as well characterizes all stages as distinct. The term stage is used to refer to an actual task performed at an order of hierarchical complexity. Order is in this case the ideal form, and stage is the performed form. Performance is similar as tasks, quantal in nature. That means there are no intermediate performances. We understand tasks as the activity of organizing information. Each task's difficulty has an order of hierarchical complexity required to complete it in a correct way. Another example could be; the tasks of adding numbers correctly in the necessary condition before performing the task of multiplying numbers. The successful completion of the tasks of adding and multiplying numbers are examples of two different stages of performance that can be measured using the MHC. These different stages vary only in their degree of hierarchical complexity. This objective, measured feature of tasks and stages means that discrete ordinal scores can be assigned to them (Commons Lamport 2008, 307).

Organizations' human resource departments usually have a list of job responsibilities that are specified for each employee position. Commons Lamport (2008, 307) refer that each job responsibility represents a task. If employee was tested successfully as being able to perform a

specific task, then the employee's stage of performance on that task would match the task's score and we can compare this with vertical dimension of organizational structure. If we than know, how hard it is for specific employee to perform successfully, this helps us to indicate appropriate job division for an employee, and we can also define development activities for greater performance on complex job tasks.

4.1.2 Horizontal (classical information) complexity

Classical information theory describes the number of questions "yes-no" that takes to do a task. For example, if we ask a person in a room whether one penny coin heads up when they flipped it, if they are saying "heads", this would transmit 1 bit of horizontal information. If there were two pennies, one would have to ask at least two questions, each question about each penny. Each additional one-bit question would add another bit. Horizontal complexity is built by the accumulation of bits of information about any event and is the sum of bits required by just such tasks as this. The tasks involve organizing information that is gathered cumulatively; horizontally (Commons Lamport 2008, 308).

4.1.3 Vertical (hierarchical) complexity

When the task requires the organization of information in the form of action in two or more subtasks, we say this is vertical complexity. Vertical complexity refers to tasks that require the performance of lower-level subtasks before in order to perform more complex tasks. Another way to say this is that less complex task are organized and coordinated by more complex ones. The hierarchical complexity of tasks is by definition as follows (Commons Lamport 2008, 308): "Actions at a higher order of hierarchical complexity: (a) are themselves defined in terms of actions at the next lower order of hierarchical complexity; (b) organize and transform the lower-order actions; (c) produce organizations of lower-order actions that are new and not arbitrary." The next higher order actions cannot be accomplished by those lower-order actions alone. Once we meet these conditions, we say the higher-order action coordinates the action of the next lower order. Such an analysis requires that many lower orders of complexity must be coordinated, before it can be performed and it is vertically more complex than multiplication (Commons Lamport 2008, 308-309).

4.1.4 Combinations of lower-order actions

The MHC proposes that stage change consists of combining old actions into new ones. It is important to discuss the number of different kinds of combinations that can occur of lower-order actions. There are iterations, mixtures, chains and new-stage behavior. Iteration is defined as doing the same action over and over. Example can be adding: 1+2+3+1+2+3 is an iteration of adding. Mixtures of actions can include doing a problem set containing simple addition and simple multiplication tasks. Chains have an arbitrary order involving the ordering of subtask actions. Example can be that someone could wake up and start doing exercises and then have a cup of coffee. The order is arbitrary, because the order could be reversed, and someone could have a coffee first and then do exercises. According to MHC, when tasks are combined in a nonarbitrary order, then they are coordinated and we call this new-stage behavior (Commons Lamport 2008, 309).

Figure 7 (Commons Lamport 2008, 309) shows pattern of vertical complexity of new-stage behavior from lower to higher orders that applies regardless of the content or context of the tasks. Because of limited space, this figure shows only six orders, and it indicates that each higher-order task coordinates at least two actions at the preceding order's level of complexity. An illustration shows the structure of the ordinal-based system, the graphic's proportions are not intended to represent Log_2 scaling.

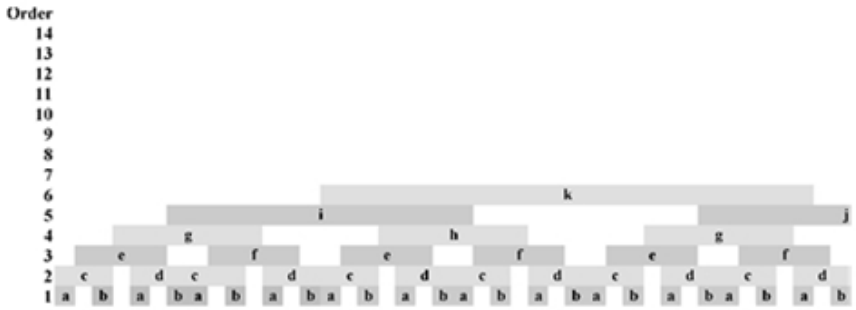


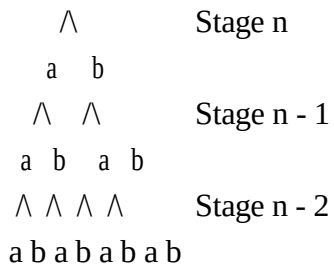
Figure 7: Representation of orders' hierarchical coordination of lower-order actions.

Reference: Commons Lamport 2008, 309.

4.1.5 Task and stage definition

Task analysis is one major basis for this development theory. The study of ideal tasks and their instantiation in the real world has been the basis of the branch of science that studies stimulus control. By definition, tasks are sequences of contingencies, each presenting stimuli and requiring behaviour or a sequence of behaviors that must occur in some non-arbitrary fashion. Characteristic of tasks are varied and responses to them are measured and analyzed.

In this described use of task analysis, the complexity of behaviors necessary to complete a task can be specified using the complexity definitions described later in the thesis (Commons Lamport 2007a, 1).



Note: Each higher order action organizes two or more lower-order actions.

Figure 8: Order of hierarchical complexity

Reference: Commons Lamport 2007a, 2.

Less complex tasks must be completed and practiced before more complex tasks can be acquired. This accounts for the developmental changes seen, for example, in individual persons' performance of complex tasks. For instance, a person cannot perform arithmetic until the numeral numbers are learned or a person cannot operationally multiply the sums of numbers until addition is learned. MHC characterizes all stages as hard and distinct. Each task difficulty has an order of hierarchical complexity required to complete it correctly. When tasks of a given order of HC require actions of a given order of HC to perform them, the stage of the participant's performance is equivalent to the order of complexity of the successfully completed task (Commons Lamport 2007a, 2).

Definition of stages is fundamental in the description of human, organismic and machine evolution. MHC stages are conceptualized in terms of the hierarchical complexity of tasks rather than in terms of mental representations. The highest stage represents successful performances on the most hierarchically complex tasks rather than intellectual maturity. "Since actions are defined inductively, the function is known as the order of the hierarchical complexity. To each action A, we wish to associate a notion of that action's hierarchical complexity, h(A). Given a collection of actions A and a participant S performing A, the stage of performance of S on A is the highest order of the actions in A completed successfully at least once, it is stage stage(S, A) = max{h(A) | A 0 A and A completed successfully by S}." (Commons Lamport 2007a, 2).

Commons Lamport et al (2005) defined a stage of performance as the highest-order hierarchical complexity of the task performed or solved. For this reason the terms stage and order should not be used interchangeably. “The hierarchical complexity of a given task predicts stage of a performance, if that task is completed correctly” (Commons Lamport et al. 2005, 5). This definition clearly describes distinction between task and the stage of performance of the task and these are two separate concepts that are essential.

Commons Lamport and Richards (2002) discuss the requirements of a robust developmental theory and they also reviewed other developmental behavior theories. They point out a developmental theory should refer for three aspects of behavior (a) what behavior develop and order of this behavior, (b) what speed, (c) how and why development takes place. Simple and complex behaviors should be addressed if a theory is robust. Their transition steps address how and why development takes place, and shed light on factors that affect the speed of development (Commons Lamport and Richards 2002, 159-177).

4.2 Orders of hierarchical complexity

The Model of Hierarchical Complexity (MHC) identifies 16 orders of hierarchical complexity. It deconstructs tasks into the action that must be successfully completed at each order. By doing so, it classifies each task by its order of hierarchical complexity. Tasks are more hierarchically complex when they can be broken down into subtasks. The possibly higher order task is defined in terms of two or more lower-order tasks. The possibly higher order task is organized by the actions in these subtasks and the ordering is on-arbitrary. The execution of lower-order actions is necessary for the successful completion of the higher-order task. Task sequences form a hierarchy from simpler to more complex and should always follow the certain developmental order. Using the model as a generator, any sequence of tasks can be constructed. These sequences allow specification of prerequisite behaviors and behavioral goals of interventions. Correct performance of a task at a particular order of complexity is said to be at that particular stage. Therefore, development occurs in stages reflecting the necessity to coordinate lower level action (Commons Lamport 2008, 310).

4.2.1 Orders of hierarchical complexity and structures of tasks

It is important that any stage theory and the accompanying scoring scheme have a mathematically and logically developed basis (Commons Lamport 2008, 310). Orders of Hierarchical Complexity and Structures of Tasks are following (Commons Lamport 2008, 311-312):

0 Calculatory

Exact without generalization. Task: simple machine arithmetic on 0s, 1s

1 Sensory or motor

Discriminate in a rote fashion, stimuli generalization, move; move limbs, lips, eyes, head; view objects and movement. Discriminative and conditioned stimuli. Task: Either see circles, squares, etc., or instead, touch them. ○ □

2 Circular sensory-motor

Form open-ended classes; reach, touch, grab, shake objects, babble; Open ended classes, phonemes. Task: Reach and grasp a circle or square. ○ □

3 Sensory-motor

Form concepts; respond to stimuli in a class successfully. Morphemes, concepts. Task: A class of open squares may be formed □ □ □ □ □

4 Nominal

Find relations among concepts. Use names; use names and other words as successful commands. Single words may be ejaculatory and exclamatory, and include verbs, nouns, numbers' names, letters' names. Task: That class may be named, "Squares."

5 Sentential

Imitate and acquire sequences; follow short sequential acts; generalize match-dependent task actions; chain words together. Use pronouns. Task: The numbers, 1, 2, 3, 4, 5 may be said in order.

6 Pre-operational

Make simple deductions; follow lists of sequential acts; tell stories. Count random events and objects; combine numbers and simple propositions. Use connectives: as, when, then, why, before; products of simple operations. Task: The objects in a row of 5 may be counted; last count called 5, five, cinco, etc. * * * * * □ □ □ □ □ ○ ○ ○ ○ ○ □ /"} Q

7 Primary

Simple logical deduction and empirical rules involving time sequence. Simple arithmetic. Can add, subtract, multiply, divide, count, prove, do series of tasks on own. Times, places, counts acts, actors, arithmetic outcome from calculation. Task: There are behaviors that act on such classes that we call simple arithmetic operations.

1 + 3 = 4; 5 + 15 = 20; 5(4) = 20; 5(3) = 15

8 Concrete

Carry out full arithmetic, form cliques, plan deals. Do long division, follow complex social rules, take and coordinate perspective of other and self. Use variables of interrelations, social events, what happened among others, reasonable deals. Task: There are behaviors that order the simple arithmetic behaviors when multiplying a sum by a number. Such distributive behaviors require the simple arithmetic behavior as a prerequisite, not just a precursor. $5(1 + 3) = 5(1) + 5(3) = 5 + 15 = 20$

9 Abstract

Discriminate variables such as stereotypes; use logical quantification; form variables out of finite classes based on an abstract feature. Make and quantify propositions; use variable time, place, act, actor, state, type; uses quantifiers (all, none, some); make categorical assertions (e.g., "We all die."). Task: All the forms of five in the five rows in the example are equivalent in value, $x = 5$.

10 Formal

Argue using empirical or logical evidence; logic is linear, one-dimensional; use Boolean logic's connectives (not, and, or, if, if and only if); solve problems with one unknown using algebra, logic, and empiricism; form relationships out of variables; use terms such as if . . . then, thus, therefore, because; favor correct scientific solutions. Task: The general left hand distributive relation is $x * (y + z) = (x * y) + (x * z)$

11 Systematic

Construct multivariate systems and matrices, coordinate more than one variable as input; situate events and ideas in a larger context, that is, considers relationships in contexts; form or conceive systems out of relations: legal, societal, corporate, economic, national. Task: The right hand distribution law is not true for numbers but is true for proportions and sets.

$x + (y * z) = (x * y) + (x * z)$; $x * (y \cap z) = (x \cap y) * (x \cap z)$

Symbols: $\cup$ = union (total elements); $\cap$ = intersection (elements in common)

12 Metasystematic

Integrate systems to construct multisystems or metasystems out of disparate systems; compare systems and perspectives in a systematic way (across multiple domains); reflect on systems, that is, is metalogical, meta-analytic; name properties of systems (e.g., homomorphic, isomorphic, complete, consistent, commensurable). Task: The system of propositional logic and elementary set theory are isomorphic.

x & (y or z) = (x & y) or (x & z) Logic; $x \cap (y \cup z) = (x \cap y) \cup (x \cap z)$ Sets

T(False) $\Leftrightarrow$ φ Empty set; T(True) $\Leftrightarrow$ Ω Universal set

Symbols: & = and; $\Leftrightarrow$= is equivalent to; T = Transformation of

13 Paradigmatic

Discriminate how to fit, and fit, metasystems together to form new paradigms. Includes ability to show that there are no ways to fit togehter any set of metasystems.

$\Omega_1 \circ \Omega_2 = \Psi^a$

Symbols: Ω_n = e.g., Algebraic Metasystems; Ω_n = e.g. Geometric Metasystems; Ψ^a = Analytic Geometry as a paradigm

14. Cross-paradimatic

Fit paradigms togehter to form new fields. Only by crossing paradigms can the new fields be conceived and formed; it requires the coordination of multiple paradigms to form genuinely new fields.

Following texts describe simple examples of each stage of Hierarchical complexity (Commons Lamport et al. 2005, 9):

- Stages 0-5 normally develop during human infancy. At the calculatory stage (0), machines can do simple arithmetic on 0s and 1s.
- At the sensory and motor stage (1), infants may see or touch shapes, make generalized discriminations, as well as babbling vocalizations.
- At the circular sensory and motor stage (2), reaching and grasping actions occur. These actions generate simple gestures.
- At the sensory-motor stage (3), the actions become associated with vocalizations. For instance, an infant may hold up an object and make sounds while doing so.
- At the nominal stage (4), first single words are formed. These words, such as "cup" or "water" relate concepts to others.
- At the sentential stage (5), toddlers form short sentences and phrases. They use pronouns and say numbers and letters in correct order as well. Sentences might be "want water," "cup of water," etc.
- At the preoperational stage (6), these sentences are organized into paragraph long utterances.
- At the primary stage (7), these paragraph long utterances are organized into stories which may be matched to reality.
- At the concrete stage (8), two primary stage operations may be co-ordinated. For example, children think that a deal is fair after looking at it from the perspective of simple outcomes for each person who is entering the deal. Negotiations make sense, but there are not social norms for setting prices or values.
- At the abstract stage (9), variables, stereotypes, personalities, traits, etc. are introduced. Quantification words like "everyone in my group," What would other's think?" appear. The dimensionalized qualities may be used to express preferences.

- At the formal operational stage (10), discussions are logical and empirical, support is logically brought. Words like "if ...then," "in every case, it turned out the same," "the reasons were" occur.

Few individuals perform at stages above formal operational stage, and they are called post-formal stages. More details about post-formal stages will be described in chapter 4.2.3.

4.2.2 Relationship between Piaget's and Commons Lamport' notions

Ever since the introduction of the idea that development proceeds in discrete stages, many models were presented, including the mentalistic theory of Jean Piaget (1954), a pioneer in the field of developmental psychology. Piaget's theory did not define all stages precisely; it clearly established that there is one invariant pathway along which stage development proceeds irrespective of content or culture (Commons Lamport 2008, 307).

There are some common elements between Piaget and Commons Lamport notions of stage and many more that are different. In both we find (Commons Lamport 2007a, 3):

- Higher order actions defined in terms of lower order action, and this forces the hierarchical nature of the relations and makes the higher order tasks include the lower ones.
- Higher order of complexity actions organizes those lower order actions and this makes them more powerful.

What Commons Lamport have added includes (Commons Lamport 2007a, 3):

- Higher order of complexity actions organize those lower order actions in a non-arbitrary way and this makes it possible for the organization to meet real world requirements, including the empirical and analytic.
- Task and performance are separated and all tasks have an order of hierarchical complexity.
- There is only one sequence of orders of hierarchical complexity and there is structure of the whole for ideal task actions.
- All orders of hierarchical complexity are equally spaced and there are gaps between the orders of hierarchical complexity.
- Stage is most hierarchically complex task solved.
- There are gaps in Rasch Scaled Stage of Performance and rasch scaled stage of performance is equally spaced.
- Performance stage is different task area to task area.

The MHC specifies 16 orders of hierarchical complexity and their stages, showing that each of Piaget's substages is in fact a hard stage. Commons Lamport also added three postformal

stages. The sequence is as follows: (0) computory, (1) sensory & motor, (2) circular sensory-motor, (3) sensory-motor, (4) nominal, (5) sentential, (6) preoperational, (7) primary, (8) concrete, (9) abstract, (10) formal, (11) systematic, (12) metasystematic, (13) paradigmatic, (14) cross-paradigmatic and (15) metacrossparadigmatic. The first four stages (0-3) correspond to Piaget's sensorimotor stage at which very young children, adolescents and adults can perform at any of the subsequent stages. MHC stages 4-6 correspond to Piaget's pre-operational stage. 6-8 correspond to his concrete operational stage. 9-11 correspond to his formal operational stage. The three highest stages in the MHC are not represented in Piaget's model and are developed by Commons Lamport. MHC stages are conceptualized in terms of the hierarchical complexity of tasks rather than in terms of mental representations (as are Piaget's stages). The highest stage represents successful performances on the most hierarchically complex tasks rather than intellectual maturity (Commons Lamport et al. 2005, 9).

4.2.3 Postformal stages

The tenth order of hierarchical complexity is named formal, and in settings with an effective educational system for adolescents, most student withouth learning disabilities become able to perform at this stage in at least some areas. For many years after Piaget's work in the 1950s, he and others assumed that this stage, called formal operations, was the highest which human development reached. In the last quarter of the 20th century, researchers were identifying more complex activities. Some, as Commons Lamport and Richards in 2002, have shown that Piaget himself had to employ postformal reasoning in order to develop his system to define formal operations stage. These more complex activities were soon then grouped into the category of postformal stages. There are four postformal stages numbered from 11 to 14; Systematic, Metasystematic, Paradigmatic and Cross-paradigmatic. Term postformal continues to apply generically to stages of development that are more hierarchically complex than formal operations (Commons Lamport 2008, 316).

Following text describes examples of each postformal stage of Hierarchical complexity (Commons Lamport et al. 2005, 9-10):

- At the systematic stage (11) words like *bureaucratic, capitalist, functional,* and *structural* are common. The systematic stage concept, *structure,* for example, can be employed to ask whether the structure of camp helps instill the qualities we want in future citizens. The logical structure of this stage coordinates multiple aspects of two or more abstractions, as in: "relationships are built on trust and although we can't always keep them, making promises is one way we build trust. Therefore it's generally better to make promises than not to make them." Here, the importance of trust to relationships, building trust, and the

possibility of promises being broken are all taken into account while formulating the conclusion that promises are desirable." (Commons Lamport et al. 2005, 10).

- At the metasystematic stage (12), the new concepts are referred to as 1st order principles. These coordinate formal systems. Words like autonomy, parallelism, heteronomy, and proportionality are common. The metasystematic stage concept of parallelism, for example, can be employed to compare the structures of the military and of camp as institutions. The logical structure of this stage identifies one aspect of a principle or an axiom that coordinates several systems, as in: "contracts and promises are articulations of a unique human quality, mutual trust, which coordinates human relations. "Here, contracts and promises are seen as the instantiation of a broader principle coordinating human interactions." (Commons Lamport et al. 2005, 10).
- At the paradigmatic stage (13), people create new fields out of multiple metasystems. The objects of paradigmatic acts are metasystems. When there are metasystems that are incomplete and adding to them would create inconsistences, quite often a new paradigm is developed. Usually, the paradigm develops out of recognition of a poorly understood phenomenon. The actions in paradigmatic thought form new paradigms from supersystems. "Paradigmatic actions often affect fields of knowledge that appear unrelated to the original field of the thinkers. Individuals reasoning at the paradigmatic order have to see the relationship between very large and often disparate bodies of knowledge and co-ordinate the metasystematic supersystems. Paradigmatic action requires a tremendous degree of decentration. One has to transcend tradition and recognize one's actions as distinct and possible troubling to those in one's environment. But at the same time one has to understand that the laws of nature operate both on oneself and one's environment—a unity. This suggests that learning in one realm can be generalized to others." (Commons Lamport et al. 2005, 10).
- At the cross-paradigmatic stage, paradigms are coordinated and this is the fourth postformal stage. "Cross-paradigmatic actions integrate paradigms into a new field or profoundly transform an old one. A field contains more than one paradigm and cannot be reduced to a single paradigm. One might ask whether all interdisciplinary studies are therefore cross-paradigmatic. Is psycho biology cross-paradigmatic? The answer to both questions is 'no'." (Commons Lamport et al. 2005, 10). Last order has not been examined in much more details, because there are only few people who can solve tasks of this complexity.

4.2.4 External influences

Different scientists' data, such as: psychological, sociological, and anthropological, address why the participant's performance develops in a given manner. Why development takes place is linked to how participants can demonstrate the stage of development. The successful completion of a task requires an ideal action of a given order of hierarchical complexity. The level of support during task completion, therefore, changes the scored order of performance. Other models have often used the participant's reference to an informational set as an index of stage development without considering variable as the level of support. Commons Lamport believes that this approach is oversimplified. Accurate and consistent results can only be obtained when the system of evaluation is based on a universally applicable groundwork, such as the mathematical foundation of the MHC. Relating to the MHC, the participant's approach to a given task is quantified to produce a score for the stage of reasoning in any domain. Inferences, regarding the factors influencing the performance, can be made independent of obtaining the stage scores. The Model of Hierarchical Complexity posits that individual's perceptions of the world are influenced by frameworks. These frameworks place the individual's conditioning history, including cultural, educational, religious, political, and social backgrounds, among other factors. These combined frameworks are referred to as one's perspective and those perspectives differ in terms of hierarchical complexity. There are task demands that certain professions or jobs require of individuals. The job demands of a secretary may not exceed formal stage of complexity, those of managers or judges often require development beyond the systematic stage (Commons Lamport and Rodriguez 1990, 323-340).

4.3 Task theory

4.3.1 Series of tasks in different domains

Each task can be correctly addressed only at a given point in development. If the successful completion of the task requires a higher stage then stage at which the person is performing, the scored stage will be lower than if the task demands actions at the reasoning stage the participant has already achieved. Using only a stage task that is too demanding may result in underscoring performance. Presenting a task demanding the response that the participant can display is a more accurate method of assessment. At the outset of the study, this stage is hard to predict. The most efficient way to assess stage is to administer several tasks of varying complexity for the participant to attempt, including tasks of low orders of complexity. The completed task of the highest order of hierarchical complexity presented would most accurately represent the actual stage of the participants' reasoning. In other words, the Model

of Hierarchical Complexity does not only focus on any particular domain of knowledge for reasoning stage assessment, but it also recommends that several tasks from multiple domains are presented in order to obtain the most accurate results (Commons Lamport et al. 2005, 12).

4.3.2 Dimensions of tasks

Tasks are contained of three basic dimensions: action, description or reflection upon that action and the number of element that a person can work with at a given time. The theory underlying the development of tasks is that different tasks require different levels or values of each of the three dimensions. The values of each dimension are important in assessing the stage at which a person is able to successfully perform a task. Often, these three dimensions are ignored and only one measurement, stage of action is specified. This oversimplified process does not bring comparable measures of stage across tasks, because the scoring is based on different values in one or more of the other three dimensions. In other words it can be described, such as: the action demands of executing a certain task in one domain may differ from the action demands of executing a task in another domain. The MHC is mostly concerned with the first dimension of task and the action dimension, because it interprets the stage of reasoning to correspond to other stage of performance. When discussing stage, one must be specific about the reference to the dimensions of action, reflection and memory. (Commons Lamport et al. 2005, 10-11).

Dimension 1: Action

The dimension of action consists of a number of requirements for a series of linked actions to form a stage hierarchy of actions. The chain of steps may not be rearranged. Making the action was at the sensory or motor stage, reporting on the action would be at preoperational stage, and justifying those would be at the primary stage. This means that more complex tasks and actions coordinate lower order tasks and actions in a nonarbitrary fashion, producing the process to quantitative analysis. For example: children can be told to put their toys into the toy box. Putting toys into the toy box is an action that a sensory motor child could perform. At the nominal stage, they might say: "Put toys," or "Put toys away." Preoperational children might say, "We are putting the toys away, so we can get some cookies." Primary operational children might justify putting the toys away by saying, "We must put the toys away now, before we do the next thing, because that are the rules." (Commons Lamport et al. 2005, 11).
The order of hierarchical complexity of tasks combined of subtasks is easily determined. When the tasks are from the same domain, and one task operates on the other, the order of complexity increases. The same applies to domains, such as when tasks from different domains are added to one another to form a new task, the number of required concatenations

of actions also adds. This assumes that stage requirements form an interval scale (Commons Lamport et al. 2005, 11).

Dimension 2: Reflection

The dimension of reflection on action consists of the steps bellow (Commons Lamport et al. 2005, 10-11):

1. Doing the action.
2. Reporting on doing the action (shadowing).
3. Reporting on why one chooses that particular action.
4. Reporting on why that justification is good.
5. Reporting on why that system of justifications is good.

Each step requires the previous step and the question is whether the fact that each step requires a previous step represents a change of stage.

Dimension 3: Memory

Remembering an action in order to reflect upon it requires non-structural actions that increase the task difficulty, and we can describe this with an example on little children. Little children are able to describe what they are doing, before they can describe what they have done earlier; although their exact report of what they have done may differ from what they actually did. Karmiloff-Smith clearly explains that there are mechanisms of thought in operation before the child becomes able to report on those actions. The general stage Model defines the stage in terms of task performance. When people successfully perform tasks of a given order of hierarchical complexity, they are also performing at the stage of the equivalent order. Dimensions of reflection and memory also influence the performance or action and are shaped by the developmental environment of the individual (Commons Lamport and Rodriguez 1993, 667-697).

The MHC is primarily concerned with the first dimension of tasks, the action dimension. However, the stages may differ in different domains because task demands also differ. Addition to action, reflection and memory, also other dimensions are worth to mention, such as familiarity, placement of key information within tasks, degree of symbolization provided and level of support (Commons Lamport et al. 2005, 14):

- Familiarity. Task can vary between different cultures and within cultures. Individuals may have more or less interest or training in certain tasks. Familiarity affects the difficulty of tasks and the effects of familiarity can be wiped out with practice, support and reinforcement.

- Placement of key information within tasks. Information places at the beginning or at the end of tasks are easier to remember and see.
- Degree of symbolization. Mathematical problems are the easiest in educated populations, because they come in a compact symbolized form and the form requires a minimum of coding by the participant.
- Level of support.

4.3.3 Transition steps

Measuring transition is very important. Many interventions do not produce a change of a complete stage, and some population only varies between transitions to the next stage. There are two forms of stage transition, one is transition steps. The second is the proportion of current and next stage action. In order to understand how the dimension of performance increases in hierarchical complexity, we must research the factors implicated in driving stage transition. We must examine the various contingencies that promote the development of performance at higher reasoning stages, which is only possible when the dimensions of reflection and memory increase in complexity along with the dimension of action. There are a large number of such contingencies (Commons Lamport et al. 2005, 15):

- They include but are not limited to provide reinforcement.
- Support for next stage behaviour.
- Showing contradiction for present stage behaviour.
- Exposing people to models of next stage behavior.
- Reinforcement that such behaviours attain.

Every participant's behaviour can be categorized to a transition step between stages. There are various factors that have impact or influence on how long someone may stay at each step. Those factors are impact of emotions, personality, environment etc. Evidence shows that most people only traverse up to 12 stages by the age of 24. People may transition every two years at most, sometimes even less. The only time when fast transitions occur may be during infancy. The participant's performance on a task can only be scored at a given stage of complexity, when the task of a corresponding order of complexity is successfully completed. When someone successfully completes a task of a given order of HC, one is performing at that stage of complexity. Static coping is what occurs, when someone is not required to perform above one's characteristic stage of performance. Often this person must meet or solve other problems successfully or assume additional perspectives and skills in order to change stage. In those cases, dynamic coping occurs during stage transition and involves several steps. During steps 0-2, deconstruction of previous stage beahaviour occur0s during steps 3-4, new stage behaviour is constructed. At the beginning of each transition the perceived rate of reinforcement drops and the more one confronts failure; the more one might expect

avoidance. Evidence shows that feedback, along in higher stage tasks, leads to a decrease in stage of performance, rather than an increase. Perhaps someone's defensive behaviour decreases the stage of performance. Another explanation could be that someone does not see a stage of performance higher than one's own in others and this impedes learning through support (Commons Lamport et al. 2005, 15).

Commons Lamport et al (2005, 16) define 4 transition steps:

Step 0. The demands for performance beyond the final step of the last stage are perceived. Without changing performance from step 4 of the previous stage, there is a perceived reduction of reinforcement for task performance and this characterizes step 0. A person feels stupid and upset, even angry sometimes, while failing to fulfil a task.

Step 1. The person feels dejection in addition to the previous feeling of sadness or anger. In both transition steps (0 and 1) person may want to give up and forget about it completely. These are defense mechanisms.

Step 2. Relativism becomes the key concept, and person sees the possibility of solving a problem. However, it does not necessarily know the right means of doing it. Person can be seen as competent for a specific task, but not for any task. In this step, someone knows there is a way of comparing situations and means, but does not know how to do so. Relativism has to do with contexts, because contextualization is a sort of concretizing, it is an attempt to cope with each better way. However, concretizing is not the same as coordination. Actions of the full higher order of HC do not only put together actions of low order, but also organize them in a non-arbitrary fashion. Random contextualization is characteristic of a transitional step from one stage of performance to another.

Step 3. In this step is the first step of constructing new stage behaviour. People begin to show more creativity in handling problems. This step contains several substeps. The first substep is described as getting chaotic, because person tries anything to get it going. What is often done here is smashing of all the existing systems of acting together without any formal integration. People may feel somewhat manic as this substep. The second substep is the "learning what to do" substep. This substep brings with it a beginning in producing correct results. Person is not able to eliminate those acts that do not bring good solutions, but the right direction is at hand. The most common feelings experienced at this point are excitement and a sense of frustration because of making errors. The third substep is "learning when and where to do" each subset of action. Someone knows what to do but not when to do it. At this stage someone may feel uncomfortable and confused, but not helpless. At this substep, one learns to eliminate over generalization errors, because everything has to be compulsively cleaned up. Templates constructed in this substep exclude rather than include and there is reconstruction.

Step 4. This is the final step which completes the construction of new stage behaviour, inclusion and exclusion templates are finally coordinated. Someone at this step feels glorious for combining right elements successfully. At this step, person feels personally satisfied.

Knowing how stage transition occurs is important and since stage is assessed from performance, the best performance must be elicited properly. The failure of the researchers to administer the tasks to provide an adequate environment for the expression of ability may result in underscoring stage. Therefore, researchers must understand the psychological and sociological variables not only of how performance on tasks develops (Commons Lamport et al. 2005, 17).

4.3.4 How to measure transition

Transition can be measured using four different methods (Commons Lamport et al. 2005, 17-18):

1. Scoring interviews directly for statements that reflect transition.
2. Finding the rate and acceleration of alternations of old stage and never stage actions.
3. Finding the proportion of new stage versus old stage behaviour.
4. Determining the HC of stimulus items – tasks and using a Rasch analysis to show that they form a continuous scale. Transitional performance is shown by the mixtures of performances at different stages. The mixtures range from 0% at the higher stage to 100%. We call 95% at a stage consolidated performance. We call 0% up to 95% transitional. The advantages of using the Rasch analysis are that it reduces measurement variance to a minimum. Secondly, Rasch analysis yields direct comparability which is useful in assessing both, the possible natural number, the nature of the items and the corresponding performances.

5. PRESENTATION OF THE STUDIED COMPANY[1]

In order to test these, the case study was set up at GKN Driveline Slovenija involving 80 employees to complete the questionnaire. GKN Driveline Slovenija is in Slovenia, and it is part of global engineering company, GKN Plc.

5.1 GKN at a glance

GKN Plc. is a global engineering group with technology and products at the heart of vehicles and aircraft, produced by the world's leading manufacturers. GKN operates four divisions: GKN Driveline, GKN Powder Metallurgy, GKN Aerospace and GKN Land Systems. Approximately 44.000 people work in GKN companies and joint ventures in more than 35 countries. GKN harness considerable technology and manufacturing resources to supply the highest quality systems, structures, components and services.

GKN heritage started in 1759, the first pints of Guinness were poured and the first Wedgwood pots were made and the Dowlas ironworks opened. From this tiny ironworks on a Welsh hillside, GKN was built into a world leader. Over 250 years, it has changed shape and direction many times, but has always maintained its place at the forefront of engineering. GKN was there when iron gave birth to the railway boom in the early - 1800s, and when steel superseded iron in the 1860s. After the First World War, GKN moved into the 20th century's greatest new industry – automotive. Later in the century, GKN took to the skies at the forefront of the aerospace industry.

GKN has spread its wings geographically too, as the balance of economic growth has shifted from Britain in the 18th and early 19th centuries to America, Western Europe and Japan in the 20th and on to the emerging powers of Asia, Latin America and Eastern Europe. Today, GKN is a global corporate citizen with long and remarkable history.

5.1.1 GKN Driveline

GKN Driveline is the world's leading supplier of automotive driveline systems and solutions. As a global business serving the leading vehicle manufacturers, GKN Driveline develops, builds and supplies an extensive range of automotive driveline products and systems for use in the smallest ultra-low-cost car to the most sophisticated premium vehicle demanding the most complex driving dynamics.

[1] Reference: GKN Plc 2013.

GKN Driveline is employing 22.000 people at 57 locations in 23 countries. It is a leading global producer of:

- Constant velocity jointed systems including CV joints and sideshafts.
- All – wheel - drive (AWD) systems including propshafts, couplings and final drive units.
- Trans-axle solutions including open, limited slip and locking differentials and electronic torque vectoring products.
- Drive systems including electric rear axles and electric transmissions.

GKN Driveline strategy is to develop market-leading presence, superior technology and global manufacturing footprint to provide innovative driveline systems and solutions; supporting developing market trends for more fuel efficient vehicles. Their strategy is also to increase business in high-growth regions serving the needs of strategic customers.

5.1.2 GKN Powder Metallurgy

GKN Powder Metallurgy is the world's largest manufacturer of sintered components. It comprises Hoeganaes and GKN Sinter Metals. Hoeganaes produces the metal powder that GKN Sinter metals uses to manufacture precision automotive components for engines, transmissions and body and chassis applications. It also produces a range of components for industrial and customer applications.

GKN Powder Metallurgy is employing 6.400 people at 30 locations in 14 countries. It is a global producer of:

- Sintered components for engines and gearboxes, as well as bodies and chassis.
- Sintered bearings and filters.
- Metal injection moulded components.
- Soft magnetic components for use in electric motors.
- Sintered components for numerous industrial applications.

GKN Powder Metallurgy strategy is to exploit powder metal technology and to work closely with the customers to develop design for powder metal applications to meet the rapidly developing requirements for high efficiency engines, advanced transmission applications and evolving emissions standards. Their strategy is also to expand the business in high growth markets and supporting customers globally.

5.1.3 GKN Aerospace

GKN Aerospace is a world's leading, global, first tier supplier of airframe and engine structures, components, assemblies and transparencies to a wide range of aircraft and engine

prime contractors and other first tier suppliers. It operates in three main product areas: aerostructures, engine components and special products.
GKN Aerospace is employing 8.500 people at 27 locations across five countries. It is a producer of:

- Integrated aerostructures, including wing and flight control surface sub-assemblies and fuselage structures and surfaces.
- Fixed and rotating propulsion products for aircraft engines; fan cases, blades, exhaust systems and nacelles.
- Transparencies, including specially coated cockpit and cabin windows.
- Niche products, such as ice protection, fuel systems and flotation devices.

GKN Aerospace strategy is to focus investment in core market technology development and application to exploit their strong positions on existing programmes for new aircraft and pursue long-term contracts on selective high-growth and long-running platforms. Their strategy is also to develop new technologies for future commercial and defense aircraft, improve fuel efficiency, reduce emissions and minimize the environmental impact of aviation. Expand into adjacent markets with similar product technologies and manufacturing capabilities.

5.1.4 GKN Land Systems

GKN Land Systems is a leading supplier of technology differentiated power management solutions and services. It designs, manufactures and supplies products and services for the global agricultural, construction, mining and industrial machinery markets. In addition, it provides global aftermarket distribution and through-life support.
GKN Land Systems is employing 5.900 people at 40 locations across 17 countries. It is a producer of:

- Electro-mechanical power management devices, such as electro-magnetic brakes, engineered flexible couplings, clutches, driveshafts and gear technology.
- Sensors, actuators and controls.
- Single and multi-piece steel and aluminium wheels.
- Structures and chassis systems.
- Aftermarket parts and remanufacturing for passenger cars, commercial trucks, agricultural and construction vehicles.

GKN Land Systems strategy is to build a global leader in industrial power management solutions on a platform of integrated power train systems and services, including developing capability in electro-mechanical components. Expanding the business for existing products

into new markets and improving customer performance by offering safe, efficient and reliable power management, together with increased electrification and use of lightweight structures.

5.2 GKN Driveline Slovenija, d.o.o.[2]

The company GKN Driveline Slovenija d.o.o. was established in its present legal and organisational form in 1987. The beginnings of the company go back to 1985 when the "joint-venture" plant started regularly manufacturing fix ball joints. The founders of the venture were the German Uni Cardan AG, IMV from Novo mesto, Avtocommerce Ljubljana and the forging company Unior from Zreče. The manufacture of fix ball joints was initially, at the start of regular production in 1988 organised in cooperation with the renowned West-German company "Lobro" from Offenbach on the basis of a licensing agreement, in order to meet the demand of the automotive industry for fix ball joints in the markets of the former Yugoslavia (the ZASTAVA automobile manufacturer). Upon the dissolution of the Yugoslavian market in 1991, the company successfully overcame the loss of the market and adapted to the new economic and political changes of the time. Thus, they completely changed their manufacturing programme with clear goals and a vision oriented towards the future. In the following years of its existence, the company started doing business with its largest customer of automobile components in Slovenia, RENAULT REVOZ from Novo Mesto.

The majority owners of GKN Driveline Slovenija d.o.o. are foreign. Thus in 1998, the company was transferred under the auspices of GKN Driveline, one of the leading suppliers of components in the automotive industry. The company is located in Zreče, at the address: GKN Driveline Slovenija, d.o.o., Rudniška cesta 20, 3214 Zreče, Slovenia.

GKN Driveline Slovenija d.o.o. is a global manufacturing company committed to growth and development. The company strives to take the lead and to excel in all segments of its operations. The company's product range is intended for automobile manufacturers of passenger cars with front-wheel drive and target groups on the spare parts market and encompasses products, such as: half-shafts, fix ball joints (of various sizes, various types for different types of cars), inner races, tripods and interconnect shafts. The manufacturing programme is very specific, which means that the components of the product that must meet the needs of potential consumers are precisely defined and agreed upon together with the car manufacturers, because only such a product is fit to be installed into cars. Accordingly, GKN Driveline Slovenija d.o.o., as a manufacturer of these products, is not independently making decisions on adding components and functions to a product, because their product as such is of vital importance in the end product – a car. *"The products are vital and integral parts of*

[2] Reference: GKN Driveline Slovenija 2012a.

the car." The function of the products manufactured at GKN Driveline Slovenija d.o.o. is to transfer the drive energy from the car's motor to the wheel. The products of GKN Driveline Slovenija d.o.o. excel in terms of long service life, flawless functionality and high quality equal to the level of quality of European car manufacturers. During its existence, the company has obtained numerous certificates for caring for the environment and health and safety at work.

The company has over 300 employments. Over two thirds of employees work in production and others are working in non-production area. Company is organized in vertical organisational structure having a plant director and the management team on the highest level. On the level below middle managers occur. Employees are positioned on the level bellow middle managers.

6. RESEARCH FRAMEWORK

6.1 Definitions of research instruments

The research instruments used in the empirical part were the Decision Making Instrument (DMI) (© 2007, 2010 Dare Association, Inc. Cambridge, MA) and the Perspective Taking Instrument (PTI) (© 2007, 2010 Dare Association, Inc. Cambridge, MA), both developed by Dare Association and licensed to Core Complexity Assessments (CCA). CCA developed this suite of tests to have useful applications in recruiting, training and maintaining workforces. The development of each instrument was based on the Model of Hierarchical Complexity (MHC), a framework for scoring the complexity of behavior (Commons Lamport and Pekker 2008, 375-382). CCA works by measuring the amount and type of information that an individual participant is able to consider in a decision-making process. The complexity of a behavior is described in stages, where lower stages indicate less complex behaviours. The results from a test are used to compile a stage score for each participant that reflects their ability to analyze and synthesize information required for complex problem solving and decision making (Commons Lamport and Richardson 2012, 8).

The DMI involves 14 items that require the participant to deduce outcomes based on an example table or to rate how similar two tables are to one another (Bernholt, Parchmann and Commons Lamport 2009, 217-243). The PTI uses Vignettes. Vignettes are based on the research instrument The Doctor-Patient Problem which was first developed by Rodriguez and Commons Lamport in 1990. The instrument belongs to a class of problems called multisystems tasks. Such tasks include multiple stories or vignettes that represent different interpretations of, or perspectives on a given social incident. The scoring of both the DMI and PTI is based on the mathematical complexity of hierarchical organization of information instead of on the content or the subject. The participant's performance on a task of a given order of hierarchical complexity represents their stage of development, according to the model. The results of the CCA can be used to help companies in different ways. Every task that employees in the company perform will fit into one of the stages of the MHC. This means that the CCA results can be used across the organization to improve workplace processes in different departments (Commons Lamport and Richardson 2012, 8-9).

Commons Lamport and Richardson (2012, 9) point out some sample uses to:

1. Improve hiring decisions by providing insight into a candidate's capability of performing the job responsibilities that candidate is being hiring for.
2. Structure teams to promote harmony related to how tasks are handled.
3. Assign the right tasks to the right employees.

6.1.1 Stages of performance according to the Model of Hierarchical Complexity

The DMI and PTI contain a series of problems constructed to cover the orders of hierarchical complexity from stage 7 (Primary) to stage 12 (Metasystematic) as shown on the figure 9.

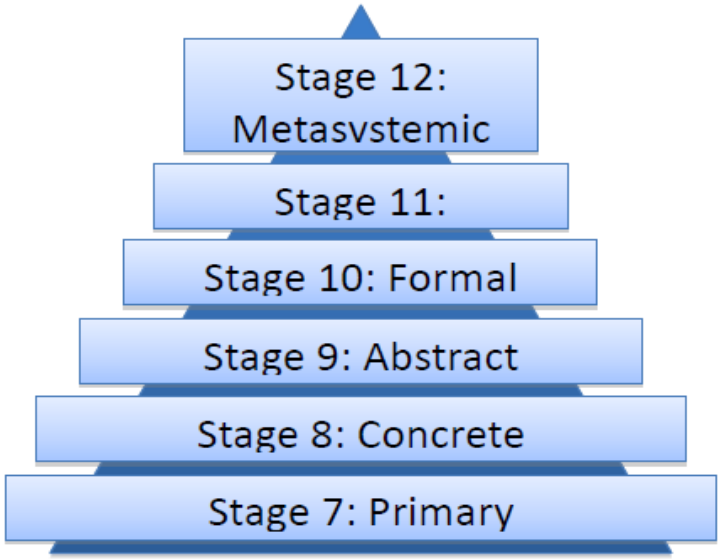


Figure 9: A theoretical representation of different stages of hierarchical complexity
Reference: Commons Lamport and Richardson 2012, 8.

Stage scores were calculated and are displayed on the report as a number between 7.00 and 12.99. Stage scores are a numerical representation of what order of hierarchical complexity a participant performed at. These scores can be used to rank participants in terms of their stage. Each stage score corresponds to a different order of hierarchical complexity. A stage score of 11.40 indicates, for example, that the person is at the stage 11 and the .40 indicates where they are in transition to the next stage (Commons Lamport and Richardson 2012, 12).

Someone that performs at the Primary (7) stage follows very clear, simple instructions and will rely heavily on authority figures to guide their actions and choices. When asked to explain their reasoning about workplace decision, they are likely to explain that "it's right, because the manager said it was right." They take the manager's view every time although it is possible for them to take their own view. The lack of coordination of the two views means that they need to be supervised closely (Commons Lamport and Richardson 2012, 41).

Someone that performs at the Concrete (8) stage forms their ideas and opinions based on what they are told or what they directly see. When asked to explain their reasoning, they may justify themselves by explaining that "it's right because someone else said it was right". They do not consider the factors necessary to form their own opinion but take someone else's

opinion as their own or just use their personal experience (Commons Lamport and Richardson 2012, 41).

Someone that performs at the Abstract (9) stage uses abstract notions to make their decisions. Examples of abstract notions are concepts and the values of social norms like best, never, anyone or everyone. These sayings are generally not completely accurate but are considered very important. When reasoning about a position, they use assertions that do not include facts or logic to justify their position by explaining that "they should do it in a certain way because it is the best way" (Commons Lamport and Richardson 2012, 42).

Someone that performs at the Formal (10) stage works with one casual or predictive variable at a time. If given a list of factors, they can reason out what the single logical casual factor is at work. In a working environment, this translates to carrying out a single objective that is part of a greater whole (Commons Lamport and Richardson 2012, 43).

Someone that performs at the Systematic (11) stage approaches a task by using multiple factors that could contribute to its successful completion. This person works with the amount of information necessary to manage a team. They may also see how their subordinates' individual skills should be utilized to most effectively meet a goal that no one could reach alone. Someone at the systematic stage could orchestrate multiple factors simultaneously, like putting together a good team and orchestrating their work with the marketing, advertising and accounting departments to complete the task. Ideal tasks would be creating budget, formulating action plans, deals between parties with varying business models and interests, running and analyzing responses from focus groups, considering the tradeoffs between quality, price and customer satisfaction etc. Someone that performs at the systematic stage may consider multiple factors when making decisions, excels at traditional middle manager positions and develops a tactical plan to carry out a specific part of a strategic vision (Commons Lamport and Richardson 2012, 44).

Someone at the Metasystematic (12) stage coordinates multiple systems. They can provide direction for marketing, advertising, research and development, manufacturing and other areas and lead to the completion of major strategies. Ideal tasks for metasystematic stage are formulating business vision and strategy, orchestrating deals between multiple parties with varying business models and interests. Someone at the metasystematic stage comes up with reasonable business plans and governs their companies in a principled manner with non-arbitrary policies. He or she understands that there are multiple stakeholders and that for a co-ordinated strategy, to be successful, the perspective of all stakeholders must be considered. At this stage, that someone is able to imagine a system the company will use in the future as opposed to, what it will use in the short term. He or she understands that as markets change, companies have to change as well (Commons Lamport and Richardson 2012, 45).

6.1.2 Transition steps according to the Model of Hierarchical Complexity

The transition steps are reflected in the two decimal places of the stage score and indicate the likelihood of the participant's transition to the next stage. Four different transition steps follow each stage: Low (0-.24), Low-Middle (.25-.49), Upper Middle (.50-.74) and Upper (.75-.99) (Commons Lamport and Richardson 2012, 46).

Someone with Low transition or Low-Middle transition step performance is not likely to transition into the next stage for a number of years. These two transition steps transit time can be greatly decreased by instituting a support program in the form of instruction and modeling. The training can have immediate results for specific tasks, but it will take a fair amount of time until the next level of reasoning can be applied in a broad way consistently (Commons Lamport and Richardson 2012, 46).

Someone placed at the Upper-Middle sublevel of the stage is on their way to fully transitioning to the next stage. This transition period can be greatly decreased by instituting a support program in the form of instruction and modeling. This training can have immediate results for specific tasks, and it should not be long until higher-level reasoning can be applied in a broad way consistently (Commons Lamport and Richardson 2012, 46).

Someone placed at the Upper sublevel of the stage is likely to transition into the next stage in the near future, especially when given some challenges. This person may process higher-stage tasks to some extent and with training and relevant experience; this candidate is likely to perform tasks at the next stage on their own in a short amount of time (Commons Lamport and Richardson 2012, 46).

6.1.3 Performance development process (PDP)

Performance development process (PDP) is an internal company process for evaluating individual performance on yearly basis. It is a part of an individual discussion between an employee and manager and is supported through the Softscape programme (GKN Plc 2011, 15).

PDP includes 3 parts of discussion. First, they set up individual objectives, career and development needs. It is reviewed yearly with a middle short review about the progress. On the yearly basis, each manager needs to evaluate their employee's performance and career potential. Results of the evaluation put each employee in the appropriate box of the 9box model. In order to understand the performance required and to assess the individual's

performance against the Leadership Success Profile (LSP)[3], it is necessary to understand in which stage the individual operates in the organization and then use the appropriate LSP (attached in appendix 1). GKN has developed a Global Leadership Framework shown on figure 10, on which all GKN roles can be mapped. It is a framework which underpins the following interrelated people's processes (GKN Plc 2011, 15):

- *Performance management*. This process provides clear standards of what we expect from people. It is using to evaluate performance. Each LSP has Success Factors stating what is expected from each individual – what good looks like.
- *Talent and Succession Planning.* This process identifies the leadership challenges at different levels and the key transition points.
- *Learning and Development.* This process focuses on enabling people to do what's expected at each level.

Each stage of the framework slopes upwards to demonstrate career progression. The term leadership on the framework refers to personal leadership behaviors; it does not refer to having direct reports. Stages are significantly different from each other, requiring a transition to a different type of leadership. Definition of each leadership stage on the leadership framework is as follows (GKN Plc 2011, 15):

- *Executive.* These are the most senior leadership roles in GKN. They are responsible for strategic planning at the highest level. For example - the executive teams of divisions.
- *Manager.* These are the business and functional managers in GKN, leading significant parts of our business. They are responsible for aligning CI Plans to deliver the strategy.
- *Leader of Teams.* These are management level roles. They are often responsible for the performance of people, or achieving through others in project teams, or working with internal and external customers.
- *Team Member.* These can be entry level roles in GKN, often individual contributors – either on the shop floor or in offices. Most GKN people will be in this stage.

[3] GKN Leadership Success Profiles (LSP) ca be used to evaluate performance and provides clear standards what we expect from people. Each LSP has Success Factors stating what we expect from each individual. Individual performance can be compared against these Success Factors to determine strenghts, solid performance and development areas (GKN Plc 2011, 15).

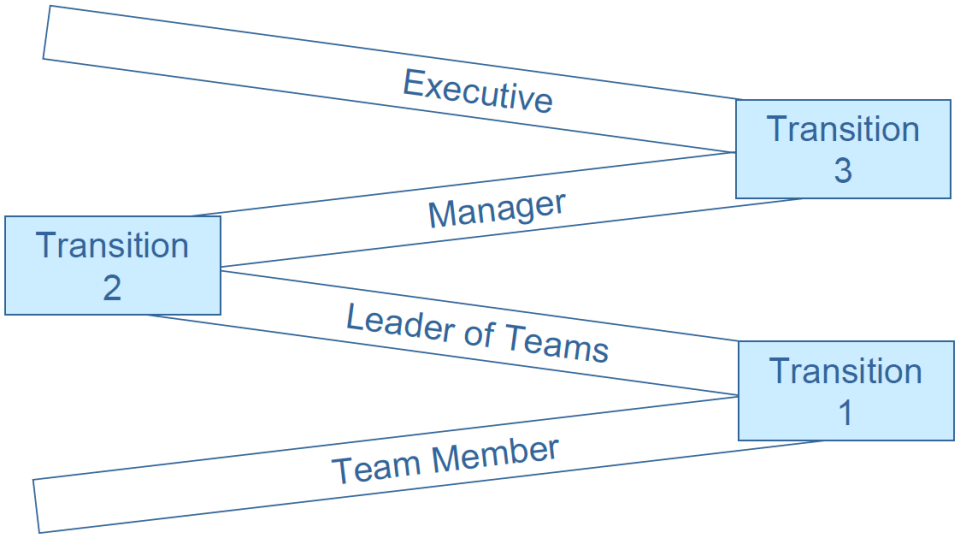


Figure 10: GKN leadership framework

Reference: GKN Plc 2011, 13.

It is very important that each individual receives a clear feedback on the performance. Each employee is evaluated by 2 different ratings: Overal Performance rating and the individual's career in the next five years.

Overall Performance rating includes following (GKN Plc 2011, 20):

- *Below expectations.* Individual does not meet the expectations of the role.
- *Meets expectations*. Individual meets all expectations of the role and performs at or above expectations.
- *Exceeds expectations*. Individual exceeds the expectations of the role and performs beyond these to an exceptionally high standard on a consistent and sustained basis.

The second part of rating is about the individual's career in the next five years. Career is not limited to promotion opportunities and includes either development of the individual in their existing role or transfers to other roles in the organization at the current location or elsewhere in GKN. This rating includes following (GKN Plc 2011, 33):

- *Within current role*. Individual is optimally placed at current level or has reached a ceiling. May be able to move laterally into similar types of role or develop within current role.
- *Within current stage*. Individual is capable of, aspires to and is working towards the type of role that would be a promotion within their current stage of the Leadership Framework. In order to achieve this, the next move may be lateral.
- *Transition to next stage*. Individual is capable of, aspires to and is working towards making the transition to the next stage of the Leadership Framework. One is willing to commit to the flexibility, mobility and development required. In order to achieve longer term career goals the next move may be lateral or within current stage.

Both, the performance ratings and career ratings put employee in appropriate 9-box model that is shown on the figure 11.

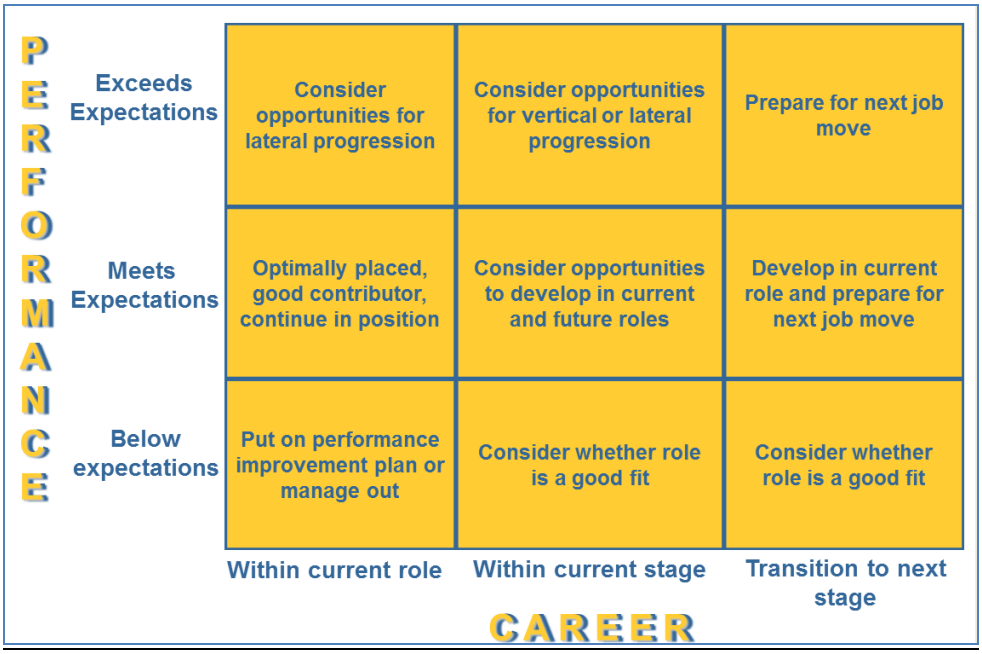


Figure 11: 9-box model

Reference: GKN Plc 2011, 32.

6.2 Purpose and objectives

The purpose of the research was to classify employees according to their stage of performance considering the MHC.

The basics of the master's thesis was that the knowledge of the job performance is the key indicator that guides companies in employee development, human resources planning and shaping of the future organizational structure.

6.2.1 Research hypotheses

In the research, I tested the following hypotheses:

- *Hypothesis 1*: The individual's classification under the MHC and the job hierarchy in the organizational structure are correlated.
- *Hypothesis 2*: The individual's classification under the MHC and his/her job performance are correlated.
- *Hypothesis 3:* Middle managers predominantly function on the systematic level of hierarchical complexity.

- *Hypothesis 4*: Executive managers predominantly function on the metasystematic level of hierarchical complexity.

6.3 Research methodology

Complete research was composed of following steps: identify research problem, identify the purpose and objectives, choose research instrument, prepare survey questionnaire, sample selection, data collecting, processing and data analysing, testing hypotheses and conclusions.
The research instruments employed in the empirical part are based on the MHC, which represents a framework for evaluating hierarchical complexity stages in various areas of life, work and in various cultural environments.

Results of the research will help managers and employees inside GKN Driveline Slovenija to understand that MHC can indicate appropriate job division for an employee and define development activities for a greater performance on complex job tasks.

The research was carried out by means of the SurveyMonkey online survey system. The content of the survey was prepared in cooperation with Core Complexity Assessments managed by Michael Lamport Commons Lamport, Ph.D. and Andrew Michael Richardson. An opportunity sample was used. The comparison of the MHC and job performance, used in the analysis of results, is based on the employee data from the Softscape application, which the company has been using for annual interviews and measuring job performance. The analysis of the survey results was carried out using Rasch analysis and multiple regressions.
Complete data analysis was done using SPSS 18 software, Microsoft Excel and Winsteps.

6.3.1 Presentation of the survey questionnaire

The content of the survey was prepared in cooperation with Core Complexity Assessments managed by Michael Lamport Commons Lamport, Ph.D. and Andrew Michael Richardson, MA cand. The research instruments that were used were questionnaires that took 50 minutes to complete and were carried out by means of the SurveyMonkey online survey system. SurveyMonkey (http://surveymonkey.com) is an online survey tool which allows design flexibility using various scoring means (e.g. multiple choice, rating scales and open-ended text). It also allows sending surveys to multiple target audiences without difficulties, while ensuring the greatest ease of the participant and confidentiality. The data were further imported directly into SPSS for statistical analysis.

The survey questionnaire is divided into three parts. At the beginning of the survey questionnaire, participants were asked to complete a brief demographic section, including items of age, gender, formal education, work experience, job position and major job tasks. For the reason of confidentiality, participants were not asked to identify themselves but to enter a code to differentiate them so they could get individual test results, if they wished to see them.

In the second part of the survey questionnaire, the Perspective-Taking Instrument (PTI) was used. The PTI involves vignettes. The multisystems tasks here were constructed using the method developed by Commons Lamport (Commons Lamport, Miller and Kuhn, 1982) and extended to postformal problems by Commons Lamport, Richards and Kuhn (1982). For the reason of including participants from the business environment, we developed the Manager-Employee interaction which was based on The Doctor-Patient Problem instrument. The Manager-Employee interaction included five vignettes about managers giving business advice to employees in »another country«. Each vignette described a manager with a different perspective for giving advice to the employee. The manager's actions represented different stages of social perspective-taking.[4] Participants were asked to review and assess differing interaction scenarios, followed by three-question opinion poll, each employing a 6-point Likert scale.

The last part of survey questionnaire involved the Decision-Making Instrument (DMI). This was based on the laundry instrument (Bernholt, Parchmann and Commons Lamport 2009, 217-243) that was based on the Inhelder's and Piaget's (1958) pendulum task. The Commons Lamport, Miller, and Kuhn's (1982) laundry problems were derived from Kuhn's and Brannock's (1977) plant problem which, in turn, was derived from an earlier plant problem of Linn and Their (Linn 1975; Linn, Chen and Thier 1976, 1977) and Inhelder's and Piaget's (1958) pendulum problem. Lastly, Inhelder's and Piaget's (1958) problems were in part derived from Binet's intelligence tests. Only the concrete and formal stages were ordinally tested. The concrete and formal tests were extended to concrete, abstract, formal and systematic by Commons Lamport and Charles Ford. The primary, concrete, and metasystematic versions were developed by Commons Lamport and Eric A. Goodheart. The laundry instrument asks participants whether or not a piece of laundry would be clean after varying treatment. In this research, for the same reason of running it in business environment, we developed business content to replace the laundry instrument. This instrument asked participants whether yes or not a project adds value. Participants were required to view a table depicting what had already happened and then make predictions about what would happen in

[4] Social perspective-taking is how individual act in social situations. Perspective taking consists of the strategies we use to figure out what others are thinking, feeling and their perception about situations. Perspective taking requires a kind of social awareness. Taking the perspective of another person is reacting cognitively and emotionally to the situation (Roan et al. 2009, 2).

a new episode. The instrument had 14 items that required the participant to deduce outcomes based on a scenario with predictors of different outcomes and five items that required them to rate how similar two tables were to one another.

Both, the PTI and DMI included tasks at the primary, concrete, abstract, formal, systematic and metasystematic stages in the Model of Hierarchical Complexity.

The survey Instrument was in Slovenian language, and it was taken in Slovenia.

First, the questionnaire was tested on a small group of people from the business environment in order to test its validity. Results of pilot testing did not show any problems with understanding the instructions and the questionnaire.

6.3.2 Sample selection and data collection

The research instruments were sent out to 80 employees from GKN Driveline Slovenija that are taking part in the personal performance development plan (PDP) and are indirectly connected with the company's production. This sample was chosen in order to follow objectives and hypotheses of the research. The job performance used in the research was based on the employee data from PDP. The sample included female and male respondents and employees of various lengths of service at the company. The respondents were employees with secondary to higher education, occupying less and more demanding administrative and management positions.

First introduction of the survey was made on the weekly executive meeting with agreement of pre-defined dates for completing the survey in each department. Access to the survey questionnaire was provided to the participants together with an introductory letter through email. The survey questionnaire was made available online from 12th April 2012 till 20th April 2012. All participants received instructions for completing the instrument when they logged into the test system, and no candidate had seen the test before the actual test time. Once participants have started to work on the actual test, all participants and departments received immediate support in case any procedural questions needed to be answered.

Before starting the actual test, participants received an introduction of all 3 parts of the survey questionnaire including timing, brief content and instructions to complete. They were told to pay attention to use own interpretations of, or perspectives on a given social incident on the field of vignettes. Instructions for the DMI section for participants were to only pay attention to the data given in the questionnaire tables without considering one's own projections. They

were requested to complete the brief demographics inventory at the beginning of the survey questionnaire.

Until 20th April 2012, 75 participants of 80 invited, completed the survey questionnaire, which presented 93,75% response. After the first review of the results, I removed 13 participants for not following instructions and leaving 62 participants in the further analysis, which presented 77,5% response and meet our research criteria for further analysis.

7. RESEARCH RESULTS

I used a set of instruments based on the MHC to research about employee development. The survey questionnaire (appendix 1) was prepared and administered. Complete data analysis was done using SPSS 18 software, Microsoft Excel and Winsteps.

In the first part, the results of participation demographic statistics are presented. In the second part are given the results on how well the order of hierarchical complexity predicted the stage of performance in each task sequence. The third part of the results includes a comparison of mean stage performance of the groups and a correlation of Rasch scaled performance of the participants with performance review results.

7.1. Participation demographic statistics

In order to better test the hypothesis, the participants were split into 3 groups: executive managers, middle managers and employees. The selection criteria for each group were based on demographic questions related to job tasks that each participant focused most of their time on. Executive managers were selected, if in the question about their position they selected the option of being a leader and ithe option of being involved in strategic planning. Middle managers were also selected for being a leader in the question about their position, but they did not select being involved in strategic planning. However, they did select the option that they lead or organize teams. The employee group was formed by everyone left over. At the beginning of research there were 75 participants comprising 15 (20%) executive managers, 16 (21,3%) middle managers and 44 (58,7%) employees. After further review, we removed 13 participants for not following instructions which left 62 participants for further analysis. Of these 62 participants there were 11 (17.74%) executive managers, 15 (24,19%) middle managers and 36 (58,06%) employees. The same split was used in both instruments (DMI and PTI). The gender distribution of the participants was 69,4% male (n = 43) and 30,6% female (n = 19). The age of the 62 participants spanned from 18 to 59 years. The most represented age groups were between 39 and 45 years with 33,9% (n = 21) and 32 and 38 years with 32,3% (n = 20). The next most commonage group was between 46 and 52 years with 21% (n = 13) followed by 25 and 31 years with 8,1% (n = 5), 53 and 59 years with 3,2% (n = 2) and the least represented age group was between 18 and 24 with 1,6% (n = 1).

The most represented degree level of the participants was High School, with 41,9% (n = 26) of the participants and the next, Associate's degree, held by 32,3% (n = 20) of the participants. Following these participants, there were an equal number of Undergraduate degrees with 11,3% (n = 7) and Graduate degrees with 11,3% (n = 7). The least represented degree was Postgraduate degree with 3,2% (n = 2).

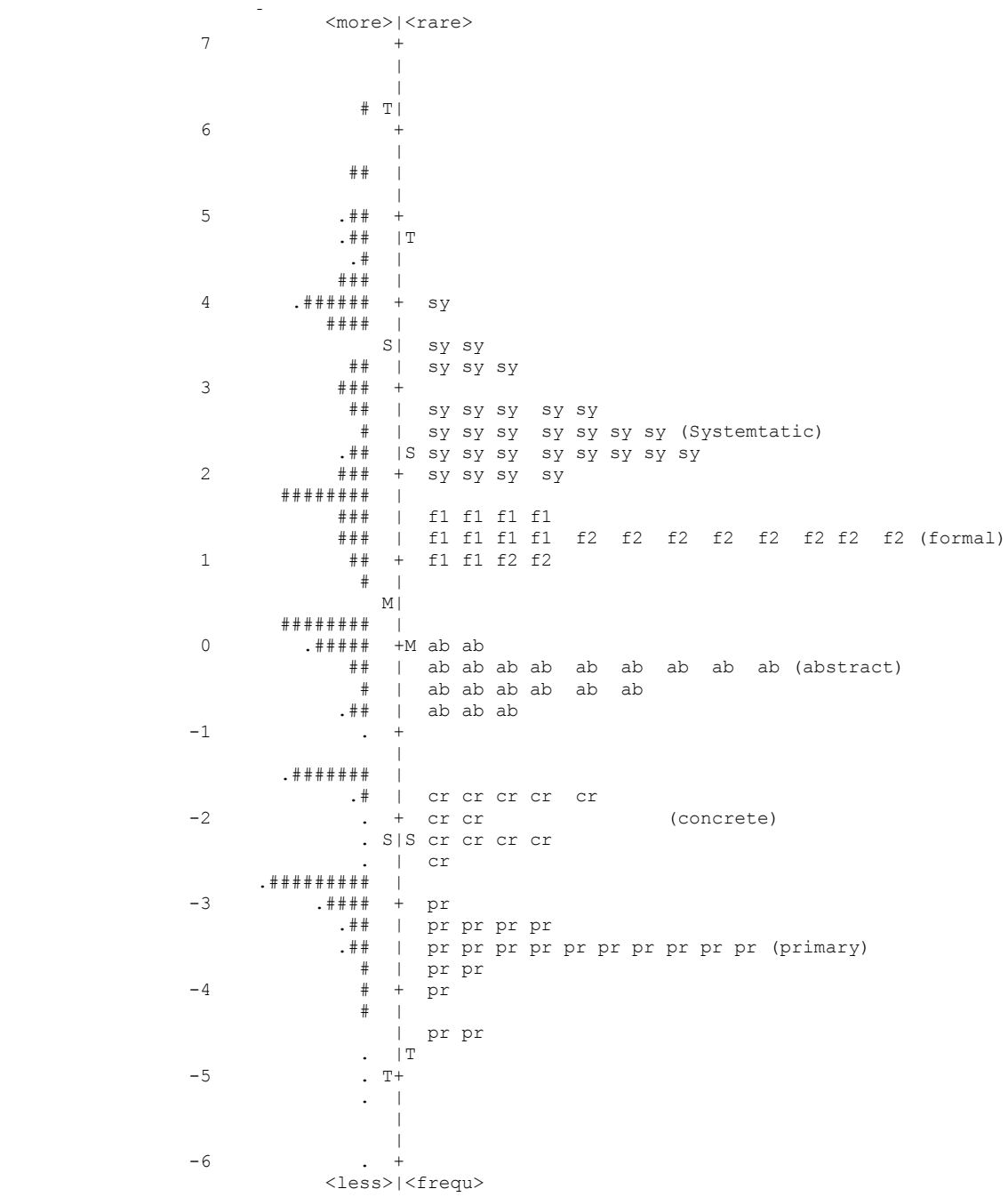
By years of GKN experience, the most represented group was more than 12 years with 58,1% (n = 36) of participants. The second most represented group was between 9 to 12 years of experience with 14,4% (*n* = 9) of participants and 6 to 9 years with 12,9% (*n* = 8) of participants. The next most common group was between 3 to 6 years with 6,5% (*n* = 4) of participants followed by groups between 1 to 3 years and less than 1 year 3,2% (*n* = 2) in. However, 1 participant did not provide any response regarding years of experience in the company.

7.2 Prediction of the Hierarchical Complexity Model

The first issue in data analysis was to determine how well Hierarchical Complexity predicted the stage of performance in each task sequence. To investigate this, a Rasch analysis was performed, the Rasch scores were converted to stage scores, and then a multiple regression of the item stage scores on the item hierarchical complexity was performed for each instrument.
Regression analysis is a statistical method used to determine the impact of one or more variables on another single dependent variable. For example, it can examine the impact of a variety of factors (e.g. age, educational qualifications) on salary. Regression analysis was performed on the stage scores using the order of hierarchical complexity of each item as the independent variable. This was to show that the model successfully predicted how difficult a given task is (Commons Lamport and Richardson 2012, 21).

Rasch analysis is a method for obtaining objective, fundamental, linear measures (qualified by standard and quality-control fit statistics) from observations of ordered responses. It uses logistic regression that serves to minimize the errors in person and item scores at the same time. Rasch analysis takes the raw person and item scores and converts them into equal interval linear scales. The item scores represent how difficult the item was and the person scores present how well a person dealt with the item difficulty. The person and item total raw scores were used to estimate linear measures. Under Rasch model conditions, these measures are item-free (item-distribution-free) and person-free (person-distribution-free). This means that the measures are statistically equivalent for the items regardless of which persons (from the same population) are analysed, and for the people regardless of which items (from the same set) are analysed. Analysis of the data at the response-level indicates to what extent these ideals are realized within any particular data set. The higher a person's performance score is relative to the difficulty of an item, the higher the probability of a correct response on that item by the participant. When a person's location on the latent trait is equal to the difficulty of the item, by definition, there is a 0.5 probability of a correct response (Commons Lamport and Richardson 2012, 21).

The way in which the hierarchical complexity of the items predicts Rasch scale performance was illustrated using a Rasch variable map. An example of what a Rasch variable map should look like when an instrument is performing as expected can be seen in Figure 12. In the figure each '#' is equal to five participants. Each '.' is equal to one participant. In the Rasch map the y axis represents the difficulty of a task. The most biased items are at the bottom. On the right side are the item scores. On the left side are the person's scores. It shows the Rasch-scaled item scores on the right side and the participant-scaled rasch scores on the left side. The closer the items were to the top of the scale, the more difficult they were. Candidates had a 50% chance of correctly answering items. If performance on the items were in perfect order, there would be no item reversals, which means, no cases, in which a higher order item appears below a lower order item. According the MHC, a weaker criterion is to have the Rasch scaled item score means for items of the same order of hierarchical complexity in the right order.



Note: each '#' is equal to five participants. Each '.' is equal to one participant. In the Rasch map the y axis represents the difficulty of a task.

Figure 12: An example of Rasch variable map performing as expected

Reference: Commons Lamport et al., In Press.

7.2.1 Prediction of DMI item performance

There were 75 participants included in the initial analysis. In order to better test the hypothesis, I split participants into three groups: executive managers, middle managers and employees. The selection criteria for each group were based on demographic questions and are explained in detail in chapter 7.1. – Participation demographic statistics.
A regression analysis was performed (Table 1) to determine how well the Order of Hierarchical Complexity (OHC) predicted performance on the items. The results were significant ($r(75) = .587$, $p<.01$) which indicates that the items' Order of Hierarchical Complexity correlated with the stage performance.

Table 1: Regression Analysis, model summary, DMI item performance, all participants

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.587*	.344	.335	1.19188

*Predictors: OHC (Constant),

Further on, Figure 13 shows the initial Rasch variable map for Decision Making Performance (DMI). The variable map shows two outliers, participants 43 and 75, which lead to a large participant spread. From the Rasch Variable Map we could also see that the questions were mixed and did not have any meaningful gaps.

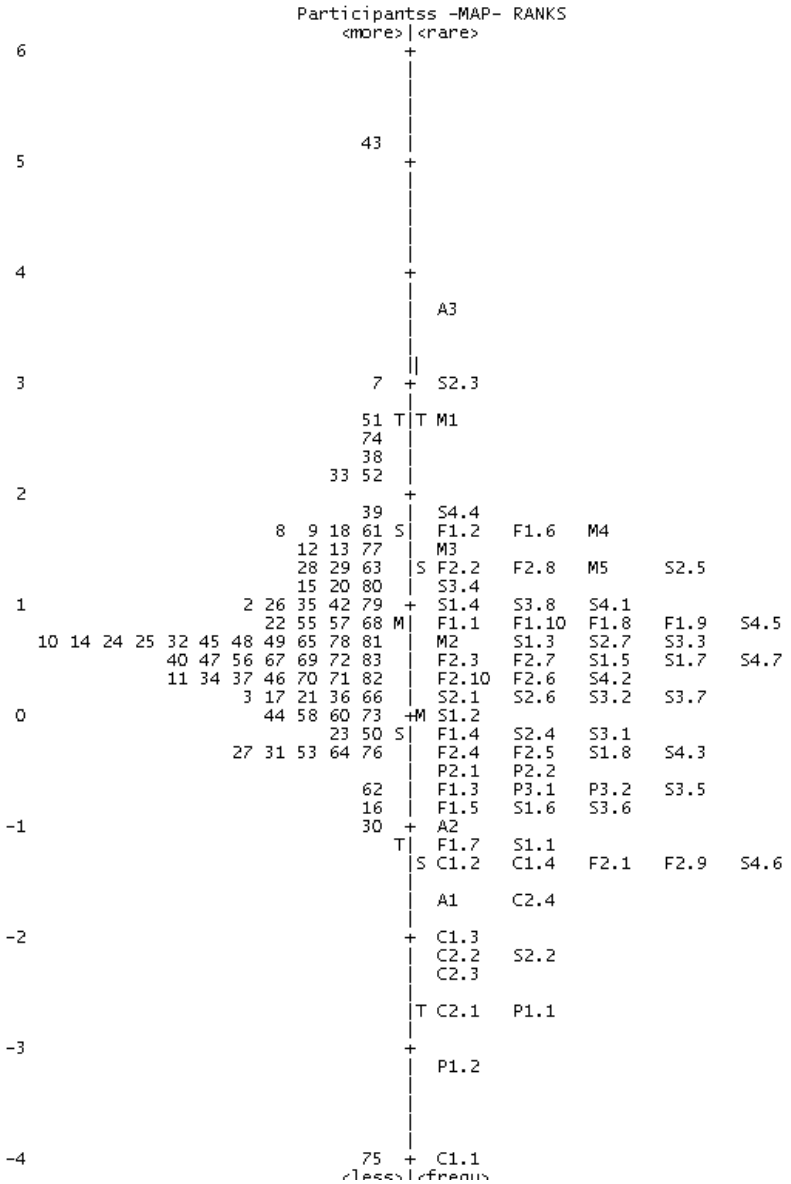


Figure 13: Rasch variable map of DMI item performance

The fact that the items were mixed and that gaps were not present in the initial results indicated that there was some sort of problem with the items. Upon further review of the data, it became clear that there were 13 participants who did not follow instructions. Instructions for the DMI section told participants to only pay attention to the data given in the questionnaire tables without considering own feeling or presumption. In spite of clear instructions, 13 participants did not follow them. Because my goal was to measure the effectiveness of the MHC at predicting performance, I removed these participants from the analysis. The reason for not following the instructions might be due to the chosen subject matter used a management scenario. Management scenario used in questionnaire was about manager leading the business project and how it turned out. With management scenario, some participants had personal experience in leading the projects in real business situation. This

could cause to answer questions based on their experience instead of using questionnaire tables. After excluding participants due to the above reason, the regression analysis (table 2) showed an improved outcome ($r(62) = .690$, $p < .01$).

Table 2: Regression analysis, model summary, DMI item performance, participants cleared

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.690[a]	.476	.469	1.09726

a. Predictors: (Constant), MHC

Figure 14 shows the updated Rasch variable map on decision making performance (DMI) with participants removed. This map began to show some gaps and basic grouping of the items. Still, the order of the items remained quite mixed.

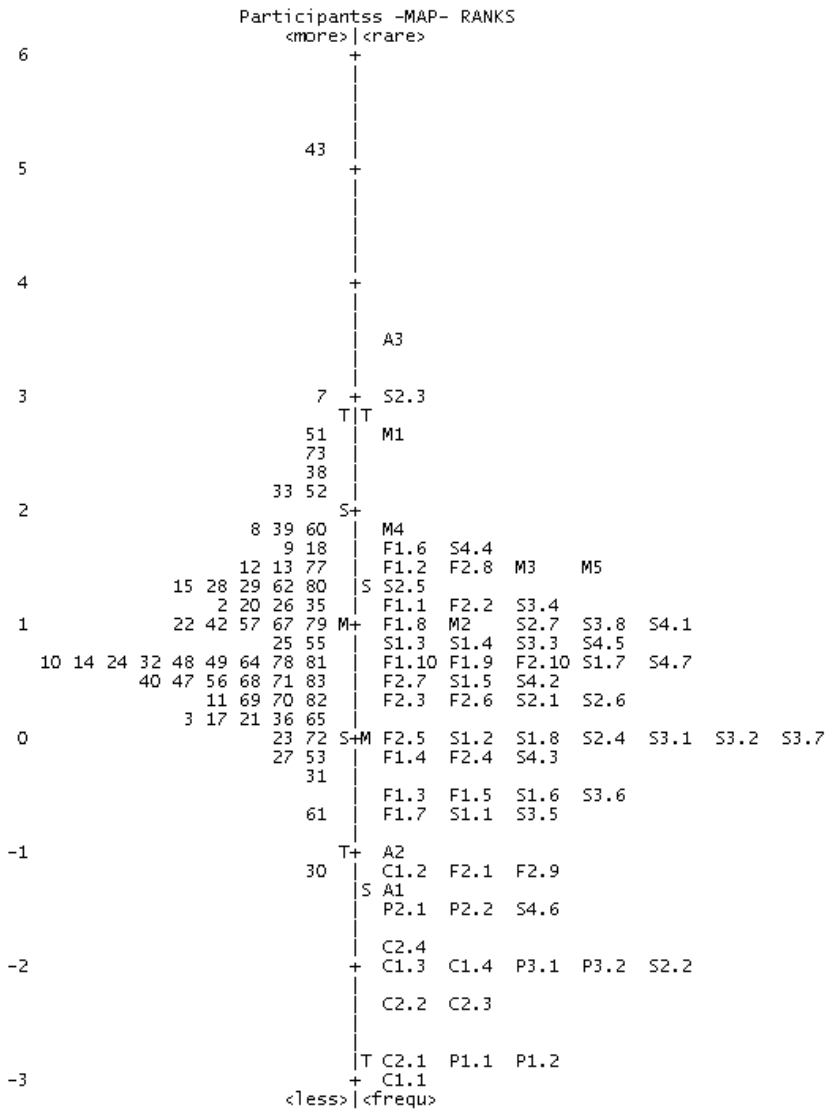


Figure 14: Rasch variable map of DMI item performance – participants cleared

While performing the new analysis, it was discovered that there was a single item in the Abstract section which performed far below expectations. When looking in more detail at the results, I noticed that not 1 participant answered item (question) A3 correctly. Looking back at Figure 14 it was possible to see that question A3 was a serious outlier. After this item was removed, I was able to get a better representation of how well the MHC predicted performance on the remaining items. The regressions analysis, shown in Table 3, with participants cleared and the one abstract item removed performed the best, $r(62) = .751$, $p < .01$.

Table 3: Regression analysis, model summary, DMI item performance - participants removed, item A3 cleared

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.751[a]	.563	.557	.96620

a. Predictors: (Constant), MHC

b. Dependent Variable: P_Clrd_A3_Clrd

A Rasch variable map for decision making performance (DMI) with participants removed and item A3 removed is shown in Figure 15. One can see that the items are still mixed, but not as much as earlier. The easier tasks are mixed together and the most difficult tasks are mixed together, but the easy tasks are not mixed with the most difficult tasks.

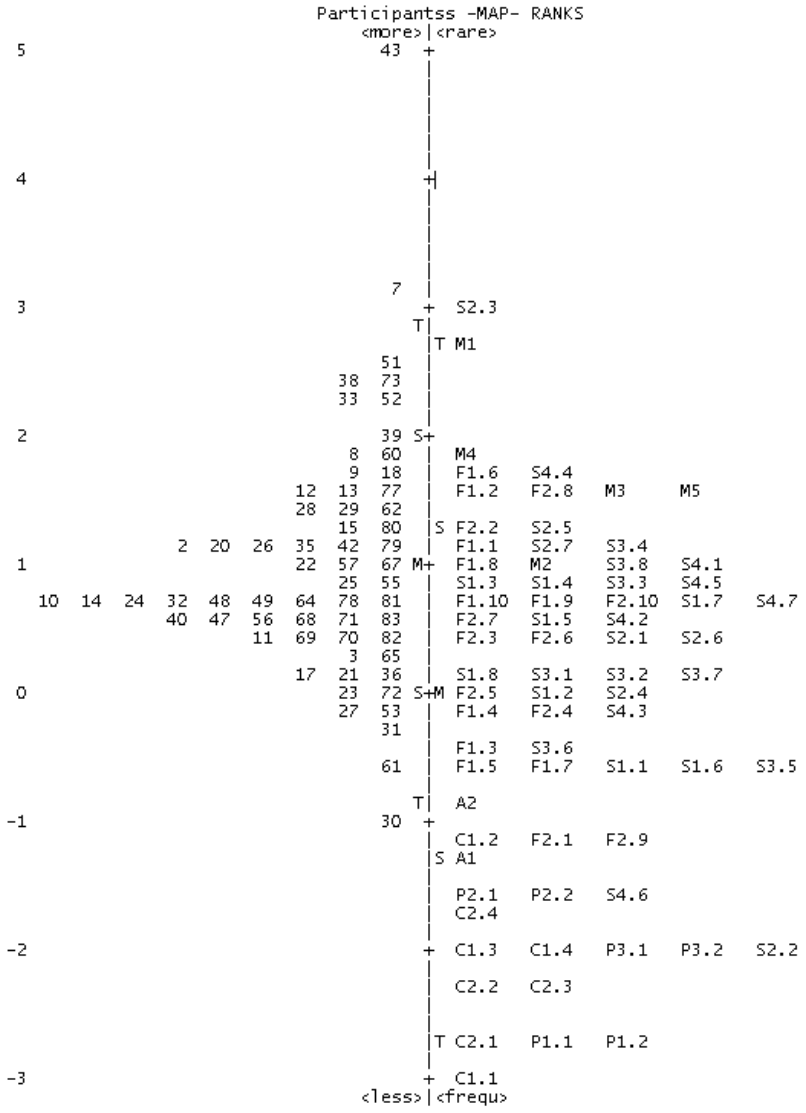


Figure 15: Rasch variable map of DMI item performance – participants cleared, item A3 cleared

The Model of Hierarchical Complexity should be able to predict the stage of performance in each task sequence and can judge an individual's stage of performance based on their stage score. Figure 16 shows a Scatter Plot of Regression Analysis, how items are placed on a scatter plot. Closer they are to the fit the line; the better the model is predicting the performance. I used Regression Analysis and placed them on a scatter plot as seen in Figure 16.

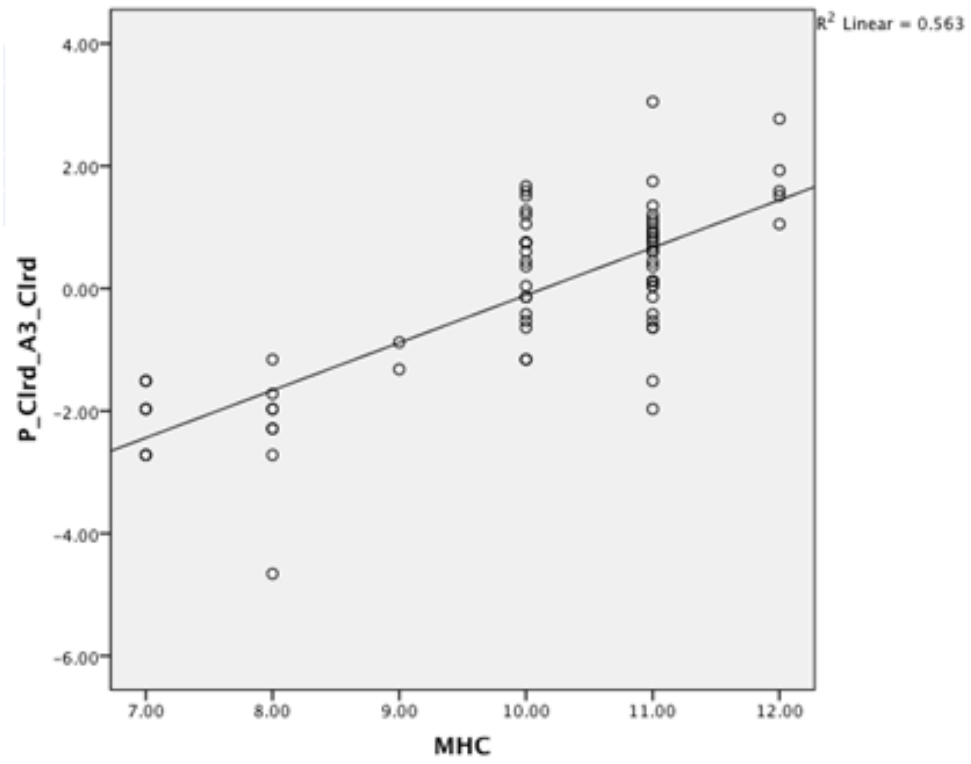


Figure 16: Scatter plot of regression analysis: item order on item rasch score

7.2.2 Prediction of PTI item performance

There were 75 participants included in the initial analysis. A regression analysis was performed (Table 4) to determine how well the Order of Complexity predicted performance on the Vignettes. The results were significant, $r(75) = .820$, $p < .01$, which indicates that items' Order of Hierarchical Complexity correlates with the stage performance.

Table 4: Regression analysis, model summary, vignette – all participants

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.820[a]	.673	.648	.33948

a. Predictors: (Constant), MHC
b. Dependent Variable: Vignette_Unaltered

After removing the participants (table 5), using the same criteria as before, the vignettes performed slightly better, $r(62) = .861$, $p < .01$; however, they performed well even with all participants because instructions did not seem to be an issue.

Table 5: Regression analysis, model summary, vignette –participants cleared

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.861[a]	.742	.722	.29581

a. Predictors: (Constant), MHC
b. Dependent Variable: Vignette Participant Cleaned

7.3 DMI and PTI group stage results

In a further analysis, I used Rasch analysis to analyse how well executive managers, middle managers and employees, performed on average on the test with regards to their respective groups. Stage scores are a direct representation of the stage that someone performs at according to the MHC. Each stage in the MHC is numbered. For example, the Formal stage is the tenth stage, and it is number 10. The higher is the mean score; the better is the performance on the instrument.

7.3.1 DMI group stage score means

In further analysis, I used Rasch analysis to analyse how well representative groups performed on average on the test for Decision Making performance.

Table 6 shows Executive managers on average as a group performed at the Low Systematic stage with a mean stage score of 11.13 ($M = 11.13$, *SD=.467*). Middle managers on average as a group performed at the Upper-Middle Formal stage with a mean stage score of 10.73 ($M = 10.73$, SD= .564). Employees on average as a group performed at the Upper Middle Formal stage with a mean stage score of 10.69 ($M = 10.69$, SD = .479). These results indicated that

executive managers had the highest mean stage of performance as I predicted. However, they did not function at the metasystematic level of hierarchical complexity as I predicted. Middle managers performed at a lower stage than executive managers, but similarly to employees. Employees on average performed almost as well as middle managers. This shows that overall, there were some exceptions in the employee group and that some employees have the potential to grow and become future leaders, which is important for the company to focus on.

Table 6: Rasch analysis, DMI person score report

Hierarchy	Mean	N	Std. Deviation
Executive Management	11.1273	11	.46710
Middle Management	10.7333	15	.56400
Employee	10.6889	36	.47915
Total	10.7774	62	.51738

Each mean stage score also included a sublevel of the stage, which put each mean stage score in its appropriate transition step.

In the next table (table 7), I included all participants without splitting them into 3 groups. Results showed that participants on average performed at the Upper Middle Formal stage with a mean stage score of 10.77 (*M* = 10.77, *SD*=.467). The lowest stage score in the group of all participants was 9.60 and the highest stage score was 12.00.

Table 7: DMI person stage score frequencies

N	Valid	62
	Missing	13
Mean		10.7774
Minimum		9.60
Maximum		12.00

The next table (table 8) shows the Frequency and Cumulative Percent including all participants. The most frequent stage score was Middle Formal stage 10.60 with 14 (22,6%) of the participants. The next most frequent stage score was Systematic stage 11.00 with 9 (14,5%) of the participants. The third most frequent stage score was Formal stage 10.40 and 10.80, both with 7 (11.3%) participants. Results showed that more than half of the participants performed at the Formal and Systematic stage, with stage scores between 10.40 and 11.00.

Table 8: DMI person stage score frequencies and cumulative percent

DMI_Person_Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9.60	1	1.3	1.6	1.6
	9.80	1	1.3	1.6	3.2
	10.00	4	5.3	6.5	9.7
	10.20	4	5.3	6.5	16.1
	10.40	7	9.3	11.3	27.4
	10.60	14	18.7	22.6	50.0
	10.80	7	9.3	11.3	61.3
	11.00	9	12.0	14.5	75.8
	11.20	5	6.7	8.1	83.9
	11.40	3	4.0	4.8	88.7
	11.60	4	5.3	6.5	95.2
	11.80	2	2.7	3.2	98.4
	12.00	1	1.3	1.6	100.0
	Total	62	82.7	100.0	
Missing	System	13	17.3		
Total		75	100.0		

Looking in more detail at the stage performance of each group, table 9 (Hierarchy DMI Person Score Crosstabulation) shows stage scores per group and the related number of participants.

Table 9: Hierarchy DMI person score crosstabulation

		DMI_Person_Score					
		9.60	9.80	10.00	10.20	10.40	10.60
Hierarchy	Executive Management	0	0	0	0	0	3
	Middle Management	1	0	0	1	2	5
	Employee	0	1	4	3	5	6
Total		1	1	4	4	7	14

Hierarchy * DMI_Person_Score Crosstabulation

Count

		DMI_Person_Score					
		10.80	11.00	11.20	11.40	11.60	11.80
Hierarchy	Executive Management	1	2	1	1	1	2
	Middle Management	1	3	0	0	1	0
	Employee	5	4	4	2	2	0
Total		7	9	5	3	4	2

Hierarchy * DMI_Person_Score Crosstabulation

Count

		DMI_Person_Score	
		12.00	Total
Hierarchy	Executive Management	0	11
	Middle Management	1	15
	Employee	0	36
Total		1	62

The lowest stage score for the "Executive Management" group was Upper-Middle Formal stage (10.60). Stage performance below Formal stage does not have the characteristics expected of a supervisor, which indicates that executive managers satisfied the minimum requirement for supervision. The highest stage score for the "Executive Managers" group was Upper Systematic stage (11.80). This result showed that "Executive Managers" did not function at the Metasystematic stage as I predicted, but those performing with transition step of 11.60 and 11.80 are likely to transition into the next stage in the near future, especially if given some challenges.

The lowest stage score for the "Middle Management" group was Upper-Middle Abstract stage (9.60), which indicates that not all middle managers satisfied the required minimum for supervision, which starts at the Formal stage (10.00). However, the Upper-Middle transition step indicated that they are well on their way to fully transitioning to the next stage, which is the Formal stage 10. Looking at the top stage scores for the "Middle Management" group,

there were participants with great potential that performed at the same stage as some executive managers and in some cases even performed at a higher stage than some executive managers. The highest stage score for “Middle Management” was Metasystematic (12.00).

The lowest stage score for the “Employee” group was Upper Abstract (9.80) stage and the highest stage score was Upper-Middle Systematic stage (11.60). These results show that there are employees with potential that perform at the same stage as executive managers, but not higher. There are potentials in the group “Employee” that perform at the Systematic stage, which is the mean and the highest stage score for the group “Executive Management”.

Overall, I noticed that there are differences in stages between all 3 groups, where “Executive Managers” had the highest mean stage score and “Employee” the lowest mean stage score. This shows a correlation between an individual’s classification under the MHC and the job hierarchy in the organizational structure.

Figure 17 shows details about DMI stage performance of each group in the graph. I noticed broad range in the group of middle managers. Participants from the “Middle Management” group performed at the lowest stage Abstract and up to Metasystematic stage. DMI showed potentials and area for development in the group of middle managers.

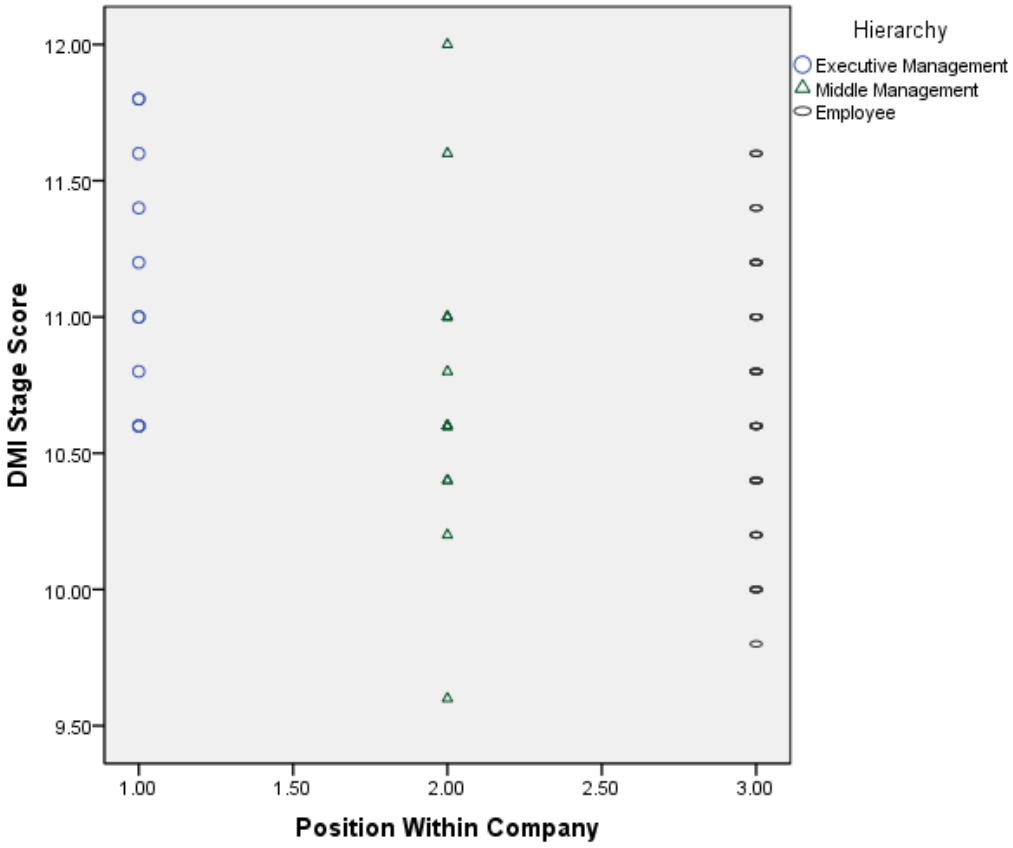


Figure 17: Hierarchy DMI group stage score

Table 10 shows that there was a statistically significant difference between groups of DMI stage scores as determined by one-way ANOVA (F(2,59) = 3.333, p = .043). Tukey's post-hoc test revealed that the DMI stage score mean was statistically significantly higher in the "Executive Management" group compared to the "Employee" group (11.13, SD = .47, p = .035). There were no statistically significant differences between the "Executive Management" and the "Middle Management" groups (p = .124) or the "Middle Management" and "Employee" groups (p = .955).

Table 10: ANOVA DMI Person Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.658	2	.829	3.333	.043
Within Groups	14.671	59	.249		
Total	16.328	61			

7.3.2 PTI group stage score means

Table 11 shows "Executive Management" as a group performed in the Upper Concrete Stage with a group mean stage score of 8.94 (*M* = 8.94, *SD=1.277*). Middle managers performed in the Upper-Middle Abstract stage with a group mean stage score of 9.64 (*M* = 9.64, *SD= 1.491*). Employees performed in the Low-Middle Abstract stage with group mean stage score of 9.41 (*M* = 9.41, *SD = 1.598*). These results indicate that executive managers have the lowest mean stage of performance on vignettes and do not function at the metasystematic level of hierarchical complexity as I predicted. Middle managers have the highest mean stage of performance, but do not function on the systematic level of hierarchical complexity as I predicted. Employees on average perform almost as well as middle managers.

Table 11: Rasch Analysis, PTI* person score

Hierarchy_CLRD	Mean	N	Std. Deviation
Executive Management	8.9455	11	1.27778
Middle Management	9.6400	15	1.49131
Employee	9.4111	36	1.59853
Total	9.3839	62	1.51508

* Perspective – taking instrument

In the next table (table 12), I included all participants without splitting them into 3 groups. Results showed that participants on average performed with a mean stage score of 9.38 (*M* = 9.38, *SD= 1.515*). The lowest stage score in the group of all participants was 7.00 (Primary stage) and the highest stage score was 12.00 (Metasystematic stage).

Table 12: PTI* person stage score frequencies

N	Valid	62
	Missing	13
Mean		9.3839
Minimum		7.00
Maximum		12.00

* Perspective – taking instrument

The next table (table 13) shows Frequency and Cumulative Percent including all of the participants. The most frequent stage score was 10.20 with 7 (9,3%) of the participants. The next most frequent stage score was 8.80 with 6 (8%) of the participants. The third most frequent stage score was 10.80 with 5 (6.7%) of the participants. Results show that 50% of the participants performed at the stage 10.00 and above. Results show that the most frequent stage

score was Primary (7.00) with 10 (13,3%) of the participants falling in this stage. The reason for this is that these ten participants repeated the same rating for each vignette with little or no variation. This demonstrated the lack of skill needed to know that each story was not equal. Excluding stage 7, the lowest stage score in the group of all participants was Concrete stage (8.00).

Table 13: PTI person stage score frequencies and cumulative percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7.00	10	13.3	16.1	16.1
	8.00	3	4.0	4.8	21.0
	8.20	3	4.0	4.8	25.8
	8.40	4	5.3	6.5	32.3
	8.60	3	4.0	4.8	37.1
	8.80	6	8.0	9.7	46.8
	9.00	1	1.3	1.6	48.4
	9.20	1	1.3	1.6	50.0
	10.00	2	2.7	3.2	53.2
	10.20	7	9.3	11.3	64.5
	10.40	1	1.3	1.6	66.1
	10.60	7	9.3	11.3	77.4
	10.80	5	6.7	8.1	85.5
	11.00	1	1.3	1.6	87.1
	11.20	4	5.3	6.5	93.5
	11.40	1	1.3	1.6	95.2
	11.60	1	1.3	1.6	96.8
	12.00	2	2.7	3.2	100.0
	Total	62	82.7	100.0	
Missing	System	13	17.3		
Total		75	100.0		

Looking in more detail at the stage performance of each group, table 14 (Hierarchy PTI person score crosstabulation), shows MHC stage scores per group and the related number of participants.

Table 14: Hierarchy PTI person score crosstabulation

		PTI_Person_Score					
		7.00	8.00	8.20	8.40	8.60	8.80
Hierarchy	Executive Management	2	0	0	2	1	2
	Middle Management	1	1	1	1	1	2
	Employee	7	2	2	1	1	2
Total		10	3	3	4	3	6

Hierarchy * PTI_Person_Score Crosstabulation

Count

		PTI_Person_Score					
		9.00	9.20	10.00	10.20	10.40	10.60
Hierarchy	Executive Management	0	0	0	2	1	1
	Middle Management	0	0	1	2	0	1
	Employee	1	1	1	3	0	5
Total		1	1	2	7	1	7

Hierarchy * PTI_Person_Score Crosstabulation

Count

		PTI_Person_Score				
		10.80	11.00	11.20	11.40	11.60
Hierarchy	Executive Management	0	0	0	0	0
	Middle Management	0	1	1	0	1
	Employee	5	0	3	1	0
Total		5	1	4	1	1

Hierarchy * PTI_Person_Score Crosstabulation

Count

		PTI_Person_Score	
		12.00	Total
Hierarchy	Executive Management	0	11
	Middle Management	1	15
	Employee	1	36
Total		2	62

The lowest stage score for the "Executive Management" group was Low-Middle Concrete stage (8.40). Stage performance below Formal stage 10.00 does not have the characteristics expected of a supervisor. This indicated that executive managers did not satisfy the minimum requirement for supervision in social perspective taking.

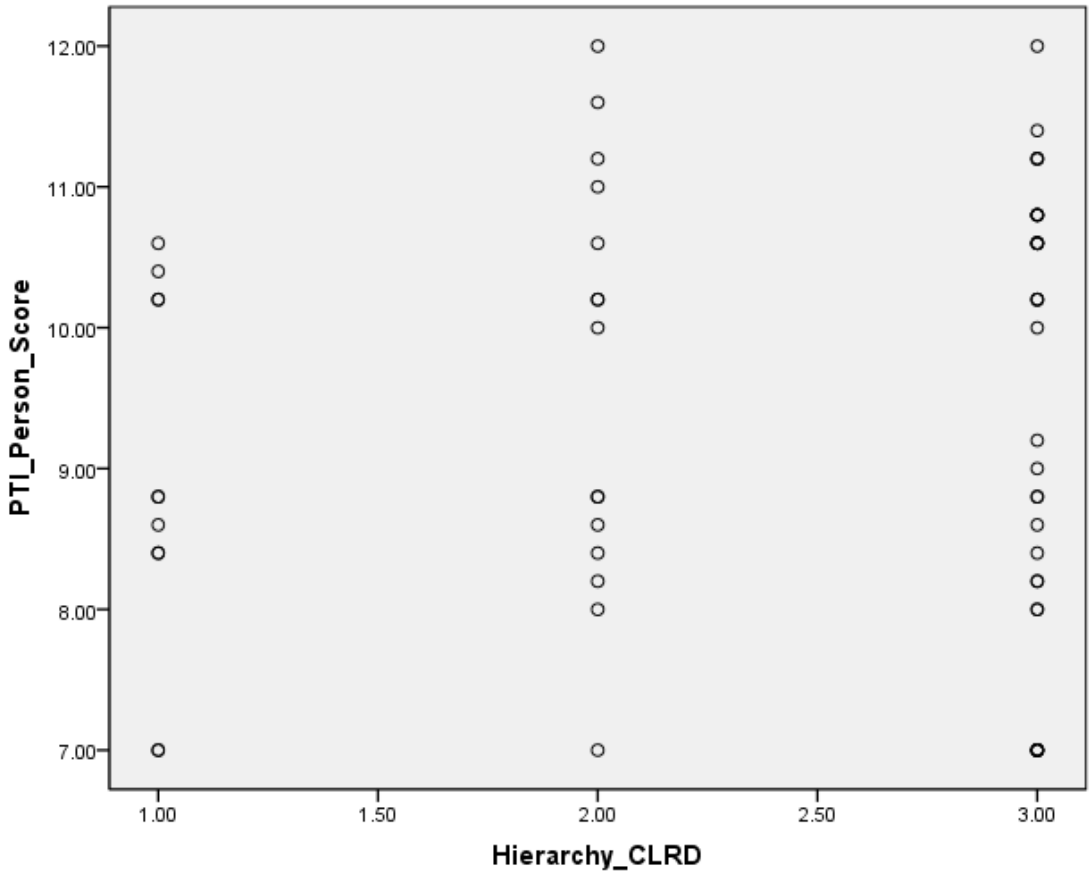
The highest stage score for the "Executive Management" group was Upper-Middle Formal stage (10.60). These results showed that executive managers did not function at the Metasystematic stage as I expected.

The lowest stage score for the “Middle Managers” group was Low Concrete stage (8.00), which indicated that not all middle managers satisfied the minimum requirement for supervision, which starts at the Formal stage (10.00). Looking at the top stage scores for the “Middle Management” group, the highest stage score was Metasystematic (12.00).

Looking at the scores for the “Employee” group, the lowest stage score was Low Concrete (8.00), the same as “Middle Management” group, and the highest stage score was Metasystematic (12.00), again the same as “Middle Management” group. Looking at the top stage scores for “Middle Management” and “Employee” group, we had participants with great potential that performed at the stages we predicted for executive managers.

Overall, I noticed with PTI results that there were differences in stages between all 3 groups. Executive managers did not have the highest mean stage score as I predicted. In fact, their mean stage score was the lowest of all three groups. The highest mean stage score was by “Middle Management” and there was a very small difference in PTI mean stage scores between “Middle Managers” and “Employee”. PTI mean stage scores did not show a correlation between individual’s classification under the MHC and the job hierarchy in the organizational structure as I predicted in hypothesis.

Figure 18 shows details about PTI stage performance of each group in a graph. I noticed overlap and a broad range in the group of middle managers and employees. Both groups started with Primary stage and ranged up to the Metasystematic stage. People that performed above formal stage 10 in the “Employee” group or systematic stage 11 in the “Middle Management” group we considered as potentials. In both, the “Middle Management” and “Employee” groups, we had participants performing at the stage we predicted for “Executive Management” group. This shows potentials in both groups and area for development.



Note: 1.00 Executive Managers 2.00 Middle Managers 3.00 Employees

Figure 18: Hierarchy PTI group stage score

Table 15 shows that there was no statistically significant difference between groups PTI stage scores as determined by one-way ANOVA (F(2,59) = .673, p = .514). PTI stage score mean was the highest for Middle manager group. There was a very small difference in PTI mean stage scores between Middle manager and Employee groups. The lowest mean stage score was for Executive manager group. PTI mean stage scores did not show a correlation between individual's classification under the MHC and the job hierarchy in the organizational structure.

Table 15: ANOVA PTI Person Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.125	2	1.563	.673	.514
Within Groups	136.899	59	2.320		
Total	140.024	61			

7.3.3 Correlation between MHC stage scores and 9-box model

My goal was to research how the MHC stage scores were correlated with the model that the company uses for following individual job performance. As described in chapter 6.1.3, the company is using the PDP process where individual performance is shown in 9-box model.

I predicted that "Executive Managers" should function at the metasystematic level and "Middle Managers" at the systematic level of hierarchical complexity. When someone successfully performed tasks from an order of the MHC that we expected, I placed this person in the box "Meets Expectations" in 9-box model. If the same person performed tasks from a higher order of the MHC then we expected, then I placed this person in the box "Exceeds Expectations" in 9-box model. When someone did not perform tasks from the order of MHC that we expected, then I placed this person in the box "Does Not Meet Expectations" in 9-box model.

For the group of executive managers I concluded that when they function at the metasystematic stage, they meet expectations on the 9-box model. When they function at the systematic stage, which is one stage below metasystematic on the MHC, they are below expectations on the 9-box model. When they function at the paradigmatic stage, which is one stage higher on MHC, they exceed expectations on the 9-box model.

For the group of middle managers I concluded that when they function at the systematic stage, they meet expectations on the 9-box model. When they function at the Formal stage, which is one stage below systematic on the MHC, they are below expectations on the 9-box model. When they function at the metasystematic stage on MHC, which is one stage higher on MHC, they exceed expectations on the 9-box model.

It was possible to compare stages according to the MHC and the 9-box model for "Middle Managers" and "Executive Managers", because both of these roles must satisfy the minimum requirement for supervision that starts with formal stage 10.00. This minimum requirement exists because of those tasks involved with being a supervisor, such as strategic planning, managing a department or multiple departments, being able to look on the corporation etc. With the group of employees, the tasks they must complete are much broader. Their tasks can start with minimum primary (7) stage up till formal (10) or even systematic (11) stage. Primary stage can involve simple loading and unloading boxes. Formal or even systematic stage can involve financial analysis or blow level supervision. Due to the much broader range of behaviours, I could not compare stages on MHC and 9-box model for group of employees without knowing their individual tasks. Since my research was anonymous, that was impossible.

Further tables are extracted from softscape programme that supports PDP process. To be more comparable with MHC stage scores, I split participants into "Executive Managers" group, "Middle Managers" group and "Employee".

Table 16 shows a performance review report for the "Executive Managers" group provided from the internal 9-box model. Results showed that all executive managers were rated with "Meets Expectations". Not one executive manager was rated with "Exceeds Expectations" or "Does Not Meet Expectations". The most represented career rating of the group was within current role with 83% (n = 10) of the participants. Following career rating was within current stage and transition to next stage, both with 8,3% (n = 1) of the "Executive Managers" group.

Table 16: 9-box incumbent report for "Executive Managers" group

	Within Current Role	Within Current Stage	Transition to Next Stage
Exceeds Expectations			
Meets Expectations	x x x x x x x x x x	x	x
Does Not Meet Expectations			

Reference: GKN Driveline Slovenija 2012b.

Table 17 shows performance review report for "Middle Managers" group provided from internal 9-box model. Results showed that 91,6% (n = 11) of middle managers were rated with "Meets Expectations" and 8,3% (n = 1) were rated with "Exceeds Expectations". Not one middle manager has been rated with "Does Not Meet Expectations". The most represented career rating of them was within current role with 66,6% (n = 8) of the participants. Following career rating was "Within Current Stage" with 16,6% (n = 2) and the same by "Transition to Next Stage" with 16,6% (n = 2) of the participants.

Table 17: 9-box incumbent report for "Middle Managers" group

	Within Current Role	Within Current Stage	Transition to Next Stage
Exceeds Expectations	X		
Meets Expectations	X X X X X X X	X X	X X
Does Not Meet Expectations			

Reference: GKN Driveline Slovenija 2012b.

My goal was to research how the MHC stage scores were correlated with the model that the company is using for following individual job performance. Table 18 shows correlations between the company 9-box model, and both MHC stage scores results (DMI and PTI) for the Executive Managers group. Not one participant in the group of executive managers was placed in the box of "Exceeds Expectations" or "Meets Expectations" in the DMI or PTI stage scores. 100% (n = 11) of the participants were placed in "Does Not Meet Expectations" level. With 9-box model, 100 % (n = 12) of the participants were placed in "Meets Expectations" level.

Table 18: 9-box incumbent report and MHC stage scores correlation for "Executive Managers" group

	9 box Model	MHC*	
		DMI**	PTI***
Exceeds Expectations	0	0	0
Meets Expectations	12	0	0
Below Expectations	0	11	11
Total	12	11	11

*MHC Model of hierarchical Complexity

** DMI Decision Making Instrument

*** PTI Perspective Taking Instrument

Table 19 shows correlations between company's model 9-box and both MHC stage score results (DMI and PTI) for "Middle Managers" group. With 9-box model, 8,3% (n =1) of the participants in the "Middle Managers" group were placed in "Exceeds Expectations". 91,6%

(n =11) of the participants were placed in "Meets Expectations" and no participants were placed in the box "Does Not Meet Expectations". With DMI and PTI scores, 6,6% (n =1) of the participants in the group of middle managers were placed in "Exceeds Expectations". 26,6% (n = 4) of the participants were placed in "Meets Expectations" with DMI and 71,4% (n =10) of the participants were placed in "Does Not Meet Expectations" with DMI. 20% (n = 3) of the participants were placed in "Meets Expectations" with PTI. 73,3% (n = 11) of the participants were placed in "Does Not Meet Expectations" with PTI. There is one correlation in the group of middle managers on the level "Exceeds Expectations". One participant was placed on the level "Exceeds Expectations" in 9-box model, DMI and PTI

Table 19: 9-box incumbent report and MHC stage scores correlation for "Middle Managers" group

	9-box Model	MHC*	
		DMI**	PTI***
Exceeds Expectations	1	1	1
Meets Expectations	11	4	3
Below Expectations	0	10	11
Total	12	15	15

*MHC Model of hierarchical Complexity

** DMI Decision Making Instrument

*** PTI Perspective Taking Instrument

Overall, I noticed that it was possible to compare results of individual's MHC stage score with their PDP performance measurement, but the two differed enough to make a meaningful comparison difficult. Individual results measured with 9-box model and MHC stage scores have only one match in the group of executive managers and only one match in the group of middle managers. It was clear that there was no strong correlation between MHC stage scores and PDP process. Looking as a whole, the MHC is not coming out with similar results as the 9-box model.

8. DISCUSSION

The purpose of the research was to classify employees according to the MHC to determine to which stage of hierarchical complexity they perform at. In this chapter I summarize the main research findings and the predicted hypotheses. At the end of the chapter, I discuss some key practical proposals and recommendations for further research.

The first issue in data analysis was to determine how well Hierarchical Complexity predicted the stage of performance in each task sequence. The results were significant and indicate that an items' Order of Hierarchical Complexity correlated with stage performance.

There were 75 participants included in the initial analysis. After further review, I removed 13 participants for not following instructions, which left 62 participants for further analysis.
In order to better test the hypothesis, I split participants into three groups: "Executive Managers", "Middle Managers" and "Employee". I used a Rasch analysis to analyse how well executive managers, middle managers and employees performed on average on the test with regards to their respective groups. I was able to identify differences in stages between all 3 groups, but the executive managers did not have the highest mean stage score. DMI results showed that executive managers had the highest mean stage score, but this was not true for the PTI results.

My goal was to use the DMI to measure the amount and type of information that an individual was able to consider in a decision-making process. The results from a test were reflective of participants' ability to analyse and synthesize information required for complex problem solving and decision making. Executive managers had the highest mean stage score on DMI, which is positive for the company. This is especially important in the fast growing market and global crisis, where managers need to be fast in accepting and adapting to big changes. Under these circumstances, leaders with vision and ability to see bigger picture are very important. The lowest mean stage score was identified in the group of employees. Mean stage score for the group of middle managers was in between. It's important to mention that individual DMI stage score results in the "Middle Managers" and "Employee" group were also very high, but the groups had a lower mean stage score than mean stage score of the "Executive Managers" group. This indicates strong potential in "Middle Managers" and "Employee" group that can significantly help the company in formulating business vision and strategy. I looked at each of the three representative groups to find the highest and the lowest DMI stage score. The highest DMI stage score was 12.00 (metasystematic) in the "Middle Managers" group. The lowest DMI stage score was 9.60 (upper-middle abstract stage) again in the "Middle Managers" group.

I've found participants from the “Executive Manegers” and “Middle Managers” group that performed at stages below the formal stage. Stage performance below the formal stage (10.00) does not have the characteristics expected of a supervisor. I concluded that not all executive managers and middle managers satisfied the minimum requirements for supervision. There is a lack of leadership skills in both groups and it is important for the company to focus on development in this area.

My goal with the PTI was to measure different stages of social perspective taking. The results from a PTI test were reflective of the participants' social perspective taking ability. Great managers should be experts at social perspective taking and making decisions clearly, instead of always choosing the middle way. PTI mean stage scores were in general much lower in all 3 represented groups. I was able to identify one of the reasons for this. Some participants repeated the same rating for each vignette with little or no variation. This demonstrated the lack of skill needed to know that each item was not equal.

With PTI results, I was able to identify differences in stages between all 3 groups. “Executive Managers” did not have the highest mean stage score as I predicted. Their PTI mean stage score was the lowest of all three groups. The highest mean stage score was in the group of middle managers and there were very small differences in PTI mean stage scores between the “Middle Managers” and “Employee” groups.

In the study I found a broad range of stage scores in the group of middle managers and employees. People that performed above formal stage 10 in the Employee group or systematic stage 11 in the “Middle Managers” group were considered as potentials. In both, the “Middle Managers” and “Employee” groups, there were participants performing at the stage, where participants from executive managers group performed. This showed overlap of potentials in both groups (“Employee” and “Middle Managers” group) and area for development.

My goal was also to research how the MHC stage scores were correlated with the model that the company uses for following individual job performance. The company uses the PDP process for following individual performance shown in 9-box model. I recognized that it was possible to compare results of individual job performance measured with MHC stage scores and PDP process. At the same time, I concluded that individual results measured with the 9-box model and MHC stage scores have one match in the group of executive managers and one match in the group of middle managers. I was able to identify no strong correlation between MHC stage scores and PDP process.

8.1 Answers to hypotheses

All four hypotheses were to some extent integrated into three areas of analysis: DMI results, PTI results and in correlation between MHC stage scores and 9–box model. The hypotheses have two dimensions. There are cases where one part of the hypothesis is supported, while the other is rejected. The hypotheses were tested through questionnaire data analysis using SPSS Statistic software 17 and Microsoft Office Excel 2007.

8.1.1 Hypothesis 1

The individual's classification under the MHC and the job hierarchy in the organisational structure are correlated.

The first hypothesis contemplates the focus on correlation between an individual's results under the MHC and the job hierarchy in the organisational structure. In order to better test the hypothesis, I split participants into three groups: "Executive Managers", "Middle Managers" and "Employee". These groups represent the current established organisational structure in the company. Organisational structure put "Executive Managers" at the highest level in the company and "Employee" at the lowest level in the company. "Middle managers" are at the middle level in the organisational structure. With this hypothesis, I assumed that "Executive Managers" as a group would perform with the highest mean stage score under the MHC as they are on top in the organisational structure. I assumed that "Employee" as a group would perform on average with the lowest mean stage score under the MHC, as they are on the bottom in the organisational structure.

The hypothesis was tested with both research instruments (DMI and PTI). In the study with DMI group stage results I found a strong correlation between an individual's classification under the MHC and their position in the job hierarchy. "Executive Managers" on average as a group performed at the Low Systematic stage with the mean stage score of 11.13 (M = 11.13, SD = .467). "Middle Managers" on average as a group performed at the Upper – Middle Formal stage with a mean stage score of 10.73 (M = 10.73, SD = .564). "Employee" on average as a group performed at the Upper Middle Formal stage with a mean stage score of 10.69 (M = 10.69, SD = .479). DMI results indicate that executive managers had the highest mean stage of performance and employees the lowest mean stage of performance under the MHC. This is correlated with job hierarchy in the organisational structure. Therefore, DMI supports Hypothesis 1.

On the other hand, while testing the same hypothesis with PTI, I found a weak correlation between an individual's classification under the MHC and the job hierarchy in the

organisational structure. “Executive Managers” on average as a group performed in the Upper Concrete stage with a group mean stage score of 8.94 (*M* = 8.94, *SD* = 1.277). “Middle Managers” performed in the Upper-Middle Abstract stage with a group mean stage score of 9.64 (M = 9.64, SD = 1.491). “Employee” performed in the Low-Middle Abstract stage with a group mean stage score of 9.41 (M = 9.41, SD = 1.598). PTI results indicate that middle managers had the highest mean stage of performance and executive managers the lowest mean stage of performance. Employees on average performed almost as well as middle managers. As this hypothesis has two dimensions, PTI results partially support it. It is supported only in the way that middle managers have a higher mean stage score than employees, because the middle managers are also at a higher job hierarchical level in the organisational structure than employees. However, executive managers have the lowest mean stage score, but are on the highest job hierarchical level in organisational structure. This last result related to executive managers reject hypothesis 1.

8.1.2 Hypothesis 2

The individual’s classification under the MHC and his/her job performance are correlated.

The second hypothesis focused on the correlation between an individual's results under the MHC and the individual's job performance as measured in the company. In order to better test the hypothesis, I used the split of participants into three groups: “Executive Managers”, “Middle Managers” and “Employee”. For testing the hypothesis, I used results from both research instruments (DMI and PTI) and compared them with the company process for measuring individual job performance. The company is using the PDP process for measuring individual job performance and results are shown in 9-box model. With this hypothesis, I assumed that results for each representative group would show a correlation between the MHC and 9-box model.

When someone successfully performed tasks from an order of the MHC that we would expect, I placed this person in the box of “Meets Expectations” in 9-box model. If the same person performed tasks from a higher order of the MHC that we would expect, then I placed this person in the box of “Exceeds Expectations” in 9-box model. When someone did not perform tasks from the order of MHC that we would expect, then I placed this person in the box of “Below Expectations” in 9-box model.

It was possible to compare stages according to the MHC and the 9-box model for the “Middle Managers” and “Executive Managers”, because both of these levels must satisfy the minimum

requirements[5] for supervision that starts with Formal stage 10.00. Due to the much more broad range of behaviours I could not compare stages on MHC and 9-box model for group of employees without knowing their individual tasks. Since my research was anonymous, that was impossible.

Results show that not one participant in the group of executive managers was placed in the box "Exceeds Expectations" or "Meets Expectations" with the DMI or PTI stage scores. 100% (N = 11) of the participants were placed in "Does Not Meet Expectations" level. With the 9-box model, 100% (N = 12) of the participants were placed in "Meets Expectations" level. In the "Executive Managers" group I found one similarity between the company 9-box model and MHC on the level "Exceeds Expectations". Not one participant in the "Executive Managers" group was placed in the box of "Exceeds Expectations" in the DMI or PTI stage scores. The same was with the 9-box model.

While testing the same hypothesis for the "Middle Managers" group with the 9-box model, 8,3% (N =1) of the participants in the "Middle Managers" group were placed in "Exceeds Expectations". 91,6% (N =11) of the participants were placed in "Meets Expectations" and no participants were placed in the box "Does Not Meet Expectations". With DMI and PTI scores, 6,6% (N =1) of the participants in the group of middle managers were placed in "Exceeds Expectations". 26,6% (N = 4) of the participants were placed in "Meets Expectations" with DMI and 71,4% (N =10) of the participants were placed in "Does Not Meet Expectations" with DMI. 20% (N = 3) of the participants were placed in "Meets Expectations" with PTI. 73,3% (N = 11) of the participants were placed in "Does Not Meet Expectations" with PTI. I also found one similarity between the company 9-box model and MHC on the level "Exceeds Expectations". With DMI and PTI scores there were 6,6% (N =1) of the participants in the group of middle managers placed in "Exceeds Expectations". With 9-box model, 8,3% (N =1) of the participants in the middle managers group were placed in "Exceeds Expectations".

Based on these results I summerized that it was possible to compare an individual's MHC stage score with their PDP performance measurement, but the two differed enough to make a meaningful comparison difficult. Individual results measured with 9-box model and MHC stage scores have only one match in the group of executive managers and only one match in the group of middle managers. It was clear that there was no strong correlation between MHC stage scores and PDP process. Overall, the MHC is not coming out with similar results as the 9-box model. This rejects hypothesis 2.

[5] This minimum requirement exists because of those tasks involved with being a supervisor such as strategic planning, managing a department or multiple departments, being able to look on the corporation etc.

The reason for disagreement between the models might be caused by different approaches of measuring performance. In the 9-box model, an individual's performance is measured with the influence of their manager's subjective evaluation. The 9-box model somewhat includes different variables that can have influence of evaluation. On the other hand, MHC scoring is based on the mathematical complexity of the hierarchical organization of information. With hypothesis 2, I was comparing the personal subjective nature of the 9-box model versus the quantitative nature of the MHC. I predicted that this would give me similar results and show a relationship between PDP performance and MHC stage score, but in fact, it did not.

8.1.3 Hypothesis 3

Middle managers predominantly function on the systematic level of Hierarchical Complexity.

In the third hypothesis I assumed "Middle Managers" would predominantly perform at the systematic[6] stage according to the MHC. When testing the third hypothesis, I focused on results for the "Middle Managers" group. The hypothesis was tested with both research instruments (DMI and PTI).

DMI group stage results showed that "Middle Managers" on average as a group performed at the Upper – Middle Formal stage with a mean stage score 10.73 (M = 10.73, SD = .564). The lowest stage score for the "Middle Managers" group was Upper-Middle Abstract stage (9.60), which indicates that not all middle managers satisfied the required minimum for supervision, which starts at the Formal stage (10.00). The highest stage score for middle managers was Metasystematic (12.00). With the DMI group I found that stage results of "Middle Managers" as a group, on average do not function at the systematic level of hierarchical complexity and this fact rejects hypothesis 3.
In the study with DMI group stage results I recognized that "Middle Managers" performed on average only one stage below systematic stage and their transition step was upper – middle. Related to the theory of transition steps, according to the MHC, someone placed at the upper – middle sublevel of the stage is on their way to fully transition to the next stage. And next stage in this case is systematic stage, as I predicted with third hypothesis.

[6] Someone at the Systematic (11) stage approaches a task by using multiple factors that could contribute to its successful completion. This person works with the amount of information necessary to manage a team. They may also see how their subordinates' individual skills should be utilized to most effectively meet a goal that no one could succeed at alone. Someone at the Systematic stage could orchestrate multiple factors simultaneously, like putting together a good team and orchestrating their work with the marketing, advertising and accounting departments to complete the task (Commons Lamport and Richardson 2012, 44).

On the other hand, looking more at the individual DMI group stage results, 33,3% (*N* =5) of the middle managers functioned at the systematic level of hierarchical complexity and above. This means, some middle managers predominantly functioned at the systematic level of HC or above. This partially supports third hypothesis.

PTI group stage results showed that "Middle Managers" on average as a group performed at the upper-middle abstract stage with a group mean stage score of 9.64 (*M* = 9.64, *SD= 1.491*). The lowest stage score for the "Middle Managers" group was low concrete stage (8.00), excluding stage scores at the primary stage 7.00[7]. Low Concrete stage indicated that not all middle managers satisfied the minimum requirement for supervision, which starts at the Formal stage (10.00). Looking at the top stage scores for the "Middle Managers" group, the highest stage score was Metasystematic (12.00). With the PTI group stage results I found that "Middle Managers" as a group on average did not function at the systematic level of hierarchical complexity and this fact again rejects the hypothesis 3.

Looking at more individual detailed PTI group stage results, 26,7% (*N* =5) of the middle managers function at the systematic level of hierarchical complexity and above. This shows that some middle managers predominantly function on systematic level of HC above. This partially supports third hypothesis.

8.1.4 Hypothesis 4

Executive managers predominantly function on the metasystematic level of Hierarchical Complexity.

In the last hypothesis I assumed that executive managers would predominantly function at the the metasystematic[8] stage of hierarchical complexity. When testing the last hypothesis, I focused on results for "Executive Managers" group. The hypothesis was tested with both research instruments (DMI and PTI).

[7] The reason for this is that 1 participant in the group of middle managers repeated the same rating for each vignette with little or no variation. This demonstrated the lack of skill needed to know that each story was not equal.

[8] Someone at the Metasystematic (12) stage coordinates multiple systems. They can provide direction for marketing, advertising, Research and Development, manufacturing and other areas and lead to the completion of major strategies (Commons Lamport and Richardson 2012, 45).

DMI group stage results showed that executive managers on average as a group performed at the Low Systematic stage with a mean stage score of 11.13 (*M* = 11.13, *SD* =.467). The lowest DMI stage score for the "Executive Managers" group was Upper-Middle Formal stage (10.60). Stage performance below the Formal stage does not have the characteristics expected of a supervisor, which indicates that executive managers satisfied the minimum requirement for supervision. The highest DMI stage score for the "Executive Managers" group was Upper Systematic stage (11.80). These results indicated that executive managers have the highest mean stage of performance as predicted. However, they did not function at the metasystematic level of hierarchical complexity as it was assumed, and this rejects hypothesis 4.

In the study with DMI group stage results I also found that "Executive Managers" perform on average one stage below metasystematic stage and their transition step is Low. Related to the theory of transition steps according to the MHC, someone placed at the Low sublevel of the stage is not likely to transition into the next stage for a number of years. And next stage in this case is metasystematic stage for "Executive Managers" as I predicted in last hypothesis.

PTI group stage results showed that "Executive Managers" as a group on average performed in the Upper Concrete Stage with a group mean stage score of 8.94 (*M* = 8.94, *SD* =1.277). The lowest stage score for the "Executive Managers" group was Low-Middle Concrete stage (8.40), excluding stage scores at the primary stage 7.00[9]. Stage performance below Formal stage 10.00 does not have the characteristics expected of a supervisor. This indicated that executive managers did not satisfy the minimum requirement for supervision in social perspective taking. The highest stage score for the "Executive Managers" group was Upper-Middle Formal stage (10.60). With the PTI group stage results I found that "Executive Managers" as a group on average did not function at the metasystematic level of hierarchical complexity, and this fact rejects hypothesis 4.

[9] The reason for this is that 2 participants in the group of executive managers repeated the same rating for each vignette with little or no variation. This demonstrated the lack of skill needed to know that each story was not equal.

9. CONCLUSION

9.1 Contribution of the study to HR knowledge and practice

The process of researching this topic and writing the current master's thesis represented an opportunity for me to expand my knowledge and get more familiar with an area that I did not know before.

The model of hierarchical complexity is a framework for scoring how complex behaviour is. It is a framework for scoring reasoning stages in any domain as well as in any cultural setting (Commons Lamport et al. 2005, 5).

The research supports the fact that the model can be utilized in Slovenia. The presented Model of Hierarchical Complexity (MHC) offers a new strategic opportunity for Slovene companies, since the model was not yet known in Slovenia before.

According to studies carried out in Germany (Bernholt, Parchmann and Commons Lamport, 2009) and in the USA (McElroy 2009; Commons Lamport et al. In Press), the MHC proved to be a legitimate and effective model for measuring task complexity. It has successfully predicted an individual's task performance. With my research, the presented module was carried out in Slovenia for the first time, and this proves the above statement of the model being able to score reasoning stages in any cultural setting.

MHC was applied in business environment for the first time. This supports the assumption that the model is a framework that can be used in any domain.

With the study I examined that MHC provides insight into the characteristics of employees for a certain position that cannot be identified by performance assessment or competence verification. The complexity of an individual's job tasks, as measured by the MHC, and that same individual's stage score, as measured by the MHC, predicts how successful they will be within a certain job position.

According to studies in the past, carried out worldwide, the MHC proved to be valid and reliabile research instrument. With my research the model was tested again in a new country and in a new domain. Results from my research once again showed, that the model has validity and reliability. It particulary supported external validity.

During my research, I tested the comparison of the model with another module. The company GKN uses the 9-box module for performance measurement. I compared the results of an

individual’s MHC stage score with the 9-box module. The two differed enough to make a meaningful comparison difficult.

The practical value of my work consists in offering guidelines and suggestions in restructuring the field of Human Resources.

MHC can be used in the process of selecting new employees. Organizations' human resource departments usually have a list of job responsibilities that are specified for each job position. Using the presented instrument could help the company to define standards for required stage of performance according to MHC. This information can be used in the process of selecting new employees. If employee was tested successfully as being able to perform a specific task, then the employee's stage of performance on that task would match the task's score. If we then know, how hard a set of tasks is for specific employee to perform successfully; this helps us to indicate appropriate job division for an employee. We can also define development activities. This information can also be helpful further on for employee development, not only in first selection process.

In Slovenia, HR experts are very much focused on appropriate education level of employees. Trend outside Slovenia is not talking about formal education that much, but about experience and competences. While using this instrument, this is a chance for HR as one of the key organization’s functions to start approaching employees differently.

I see the MHC having an important role as a selection tool for leadership. Executive managers are the ones who shape the future and make it happen. They need to act as role models for its values and inspire trust at all times. They need to be flexible, enabling the organisation to anticipate and react in a timely manner. All this is possible for someone performing at minimum on metasystematic level according to the module. When managers are not able to perform at the required stage, the outcome is seen in inappropriate leadership and in repeated failures. Putting the right people in the right roles leads the company to success.

The module offers to HR a new tool that allows decisions related to employees taking objectively. It quantifies the order of hierarchical complexity of a task based on mathematical principles.

MHC can also be used in recognizing talents and other key employees in the company. This can be further on supported by the appropriate development plan. The company could use it as a possibility to recognize future employees and combine it with scholarships.

The module is a step forward in excellence of HR function. It can be used as a supporting tool for EFQM Excellence Model. People are one of the enabler criteria on the left-hand side of

the EFQM Model. Using MHC could help to provide better people results on the right-side of the EFQM Model.

MHC results can increase team work and can be helpful in establishing project teams.

Based on the employee results, the company is able to put together the most excellent people to create and implement the mission and vision by developing and deploying a stakeholder focused strategy.

9.2 Recommendation for further research

Since my research was anonymous, it was impossible to identify specific job tasks for specific participant included in the research. I would recommend a further research, to test participants without keeping them anonymous so that job positions could be perfectly matched to stage performance. This would help to identify individual gaps and create more specific development plans.

Further on, results of the research show individual gaps of participants. Based on results, I can only recommend the company, what to put in the development plan, and what I think could help the participant to improve their stage performance. For further research, I recommend research to focus on what are specific development solutions for each stage that can "push" participant up.

My research was focused on people's social perspective-taking and decision making. One of the areas that were not researched in my case is ability for ethical behaviour. Ethics involves systematizing, defending or recommending concepts of right and wrong conduct (Wikipedia 2013). I believe ethics is important in modern business environment and my recommendation for further research is to focus on people's ability for ethical decision-making and behaviour.

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APPENDICES

Slovenian Summary

Razširjeni povzetek v slovenskem jeziku

1. Opredelitev problema in obseg raziskave

Kljub presežku ponudbe dela je za podjetja še vedno izziv poiskati oz. izbrati zaposlene, katerih potencial (kognitivni, čustveni in strokovni) ustreza delovnim zahtevam na specifičnem delovnem mestu. V podjetje prihaja znanje z novimi zaposlenimi ter z razvojem sedanjih zaposlenih. Zaradi narave spreminjanja znanja, je potrebno znanje dograjevati v procesu učenja, ki ima za posledico večjo uspešnost podjetja. Podjetje lahko doseže konkurenčno prednost, če razpolaga z več relevantnega znanja, kot ga imajo konkurenti. V strokovni literaturi lahko najdemo trditve, da je sposobnost preživetja organizacije predvsem odvisna od kakovosti znanja in sposobnosti zaposlenih v podjetju glede na konkurenco in od uspešnosti podjetja, da v čim večji meri izkoristi potencial (predvsem znanje), ki se skriva v zaposlenih. Podjetja, ki želijo uspeti, morajo tako slediti smeri v doseganju dveh ciljev: (1) pridobiti morajo visoko strokovno usposobljene ljudi in (2) izbrati morajo najboljšo možno strategijo ravnanja z njimi. Medsebojni učinek strategije podjetja in kadrovske strategije je pomembno dejstvo, ki ga podjetja ne smejo zanemariti. V organizaciji mora biti politika in praksa človeških virov povezana s celotno organizacijsko strategijo. Kadri so najpomembnejše premoženje, ki ga ima podjetje in njihovo učinkovito upravljanje je ključ do poslovnega uspeha (Florjančič, Jesenko in Pagon 1991, 16). Pri procesu oblikovanja strategije mora zato vodstvo podjetja vedeti, kakšne so sposobnosti zaposlenih in, ali so te primerne za učinkovito izvedbo posamezne strateške alternative. Potrebno je, da vodstvo podjetja pri oblikovanju strategije natančno prouči in upošteva sposobnosti zaposlenih in je na ta način tudi vključeno v proces zaposlovanja kadrov. Da je strategija uspešno izvedena in z njo doseženi cilji podjetja, morajo zaposleni: (1) učinkovito opraviti določene naloge, (2) imeti potrebne sposobnosti in znanja za izvedbo teh nalog in (3) biti motivirani za učinkovito izvedbo omenjenih nalog (Novak 2008, 65-66).

Načrt razvoja posameznika mora temeljiti na potrebah podjetja, sposobnostih, interesih, željah in zmožnostih delavca. Pri že zaposlenih je potrebno spodbujati razvoj potrebnih zmožnosti, poudarjajo se ustvarjalnost, prilagodljivost in znanje. Ko govorimo o razvojnih možnostih posameznika, mislimo na njegove strokovne, vodstvene in mobilne zmožnosti. Podjetje mora spremljati in razvijati posameznikove zmožnosti, ambicije in želje, še posebej strokovnjakov in tistih, ki kažejo vodstveni potencial. Podjetje na ta način pomaga posamezniku pri osebnem in strokovnem razvoju, na drugi strani pa posameznik nudi podjetju svoje sposobnosti, znanje,

uspešno opravljeno delo in prispevek k celotni uspešnosti podjetja. Uresničevanje strateških ciljev je v veliki meri odvisno od pravočasnega razvoja ljudi, ki bodo znali po vodstveni in strokovni funkciji izvajati strategije za doseganje ciljev (Možina in drugi 1998, 45-46).
Model hierarhične kompleksnosti (MHC) omogoča vpogled v značilnosti kandidatov za določeno delovno mesto, ki jih drugače, s pomočjo ocenjevanja delovne uspešnosti in preverjanja njihove siceršnje kompetentnosti ni mogoče ugotoviti. Uporaba modela pri kadrovanju zaposlenih omogoča višjo stopnjo ohranjanja zaposlitve, manj pritožb s strani kupcev, manj napetosti in stresa na delovnem mestu ter učinkovitejše strateško načrtovanje (Commons Lamport 2008, 306). MHC je v Sloveniji še nepoznan. Raziskava, ki je predstavila njegovo uporabnost, tako pripomore k njegovi večji prepoznavnosti in s tem ponuja novo strateško priložnost za slovenska podjetja na področju upravljanja človeških virov in za kadrovske agencije.

2. Namen in cilji

Namen raziskave je bil razvrstiti zaposlene skladno z MHC in tako ugotoviti, kje se na lestvici hierarhične kompleksnosti nahajajo.

Skladno z namenom raziskave bodo testirane naslednje hipoteze:

> H1: Obstaja korelacija med razvrstitvijo posameznika po MHC in hierarhijo delovnega mesta v organizacijski strukturi.
> H2: Obstaja korelacija med razvrstitvijo posameznika po MHC in njegovo uspešnostjo pri delu.
> H3: Srednji managerji delujejo pretežno na sistematični ravni hierarhične kompleksnosti.
> H4: Vršni managerji delujejo pretežno na metasistematični ravni hierarhične kompleksnosti.

Temeljna teza magistrskega dela pri tem je, da poznavanje stopnje hierarhične kompleksnosti izvedbe delovnih nalog predstavlja ključni kazalnik, ki podjetja usmerja pri razvoju zaposlenih, kadrovskemu načrtovanju in oblikovanju prihodnje organizacijske strukture.

3. Predpostavke in omejitve raziskave

Ker je kakovost raziskave odvisna predvsem od izbranega vzorca anketirancev, sem se odločila, da v raziskavo vključim vse režijske zaposlene, ki sodelujejo v programu osebnega razvoja delovne uspešnosti in so neposredno vezani na proizvodnjo podjetja. Vzorec je zajemal ženske in moške sodelavce podjetja, ki delo v podjetju opravljajo različno dolgo.

Zaposleni vključeni v vzorec premorejo najmanj srednješolsko izobrazbo in zasedajo bolj ali manj zahtevne upravne strokovne in vodilne položaje.

Glede na raziskave, opravljene v Nemčiji (Benholt, Parchmann in Commons Lamport, 2009), in v ZDA (McElroy 2009; Commons Lamport idr, v tiskanju), se je model MHC izkazal kot upravičen in učinkovit pri merjenju kompleksnosti nalog in je uspešno napovedal posameznikovo izvedbo naloge.

Pri tolmačenju rezultatov raziskave je potrebno upoštevati dve omejitvi.
Prvič: Raziskava je lahko problematična zaradi načina, po katerem je bilo treba izpolniti vprašalnik. Pri odgovarjanju na vprašanja so anketiranci lahko upoštevati le podatke, ki so bili navedeni v tabelah vprašalnika. Anketiranci tako niso mogli odgovarjati na osnovi svojih mnenj in prepričanj, temveč so morali slediti le navodilom in uporabiti tabele v vprašalniku.
Druga omejitev se nanaša na dejstvo, da je bila raziskava omejena le na podjetje GKN Driveline Slovenija, zato rezultatov ni mogoče posplošiti za celotno skupino GKN Plc ali širše poslovno okolje.

4. Model hierarhične kompleksnosti (MHC)

Model hierarhične kompleksnosti (MHC) je okvir za vrednotenje kompleksnosti vedenja. MHC predstavlja okvir za vrednotenje stopenj razmišljanja na katerem koli področju dejavnosti, kakor tudi v vsakem kulturnem okolju. Razvrščanje ne temelji na vsebini ali uporabljenem gradivu, temveč na matematični kompleksnosti hierarhične organizacije informacij znotraj delovnih obveznosti. Model je od leta 1980 naprej razvijal Michael Lamport Commons Lamport s sodelavci in je namenjen merjenju reda hierarhične kompleksnosti naloge, ki temelji na matematičnih načelih organiziranja informacij. Model je drugačen od predhodnih opredelitev razvojne stopnje. Namesto da bi starosti posameznika pripisali vpliv na vedenjske spremembe pri razvijanju miselnih struktur, ta model kaže, da zaporedje vedenjskih odzivov na naloge oblikujejo hierarhije, ki postajajo vedno kompleksnejše (Commons Lamport 2007a, 1).

Model hierarhične kompleksnosti (MHC) je kvantitativna vedenjska razvojna teorija in se lahko uporablja na vseh področjih razvoja. Model omogoča razvijanje univerzalnih vzorcev evolucije in razvoja.

Model hierarhične kompleksnosti (MHC) opredeljuje 16 redov hierarhične kompleksnosti. Naloge razdela v dejanje, ki mora biti uspešno izvedeno v ustreznem redu. Na ta način razvrsti vsako nalogo v svoj red hierarhične kompleksnosti. Naloge so hierarhično

kompleksnejše, kadar jih je mogoče razdeliti na podnaloge. Naloge višjega reda so določene z dvema ali več nalogami nižjega reda. Naloge višjega reda so organizirana dejanja teh podnalog in uvrščanje v red je poljubno. Izvajanje nalog nižjega reda je potrebno za uspešno dokončanje nalog višjega reda. Zaporedje nalog oblikuje hierarhijo od enostavnejših do kompleksnejših in bi moral vedno slediti določenemu razvojnemu redu. Če model uporabimo kot generator, lahko oblikujemo kakršno koli zaporedje nalog. Ta zaporedja omogočajo specificiranje nujnih vedenj in vedenjskih ciljev posameznih ukrepov. Pravilna izvedba naloge znotraj določenega reda kompleksnosti predstavlja določeno stopnjo. Zato se razvoj pojavlja v stopnjah, ki odražajo potrebo po usklajevanju dejanj nižjega reda.

MHC opredeli 16 redov hierarhične kompleksnosti in njihove stopnje. Zaporedje je naslednje: (0) računska, (1) senzorično-motorična, (2) ciklično senzomotorična, (3) senzomotorična, (4) nominalna, (5) stavčna, (6) predoperacijska, (7) primarna, (8) konkretna, (9) abstraktna, (10) formalna, (11) sistematična, (12) metasistematična, (13) paradigmatična, (14) interparadigmatična in (15) meta-interparadigmatična.

5. Predstavitev proučevanega podjetja[10]

Za preučitev tega modela sem opravila študijo v podjetju GKN Driveline Slovenija. Vanjo je bilo vključenih 80 zaposlenih, ki so izpolnili vprašalnik. Podjetje GKN Driveline Slovenija se nahaja v Sloveniji in je del mednarodnega podjetja GKN Plc.

GKN Plc. je globalna korporacija s tehnologijo in proizvodi, s katerimi zalaga vodilna svetovna podjetja v avtomobilski in letalski industriji. GKN upravlja štiri glavne oddelke: GKN Driveline/pogonski sistemi za avtomobilsko industrijo, GKN Powder Metallurgy/prašna metalurgija, GKN Aerospace/letalska industrija in GKN Land Systems/zemeljski sistemi. V podjetjih in združenih podjetjih GKN Plc je v več kot 35 državah zaposlenih približno 44.000 delavcev.

Podjetje GKN Driveline Slovenija d.o.o. je globalna proizvodna družba, zavezana stalni rasti in nenehnemu razvoju. Proizvodi, ki jih izdeluje, so namenjeni svetovnim proizvajalcem osebnih avtomobilov s pogonom na prednji kolesi in ciljnim skupinam na trgu z nadomestnimi deli ter obsega izdelke, kot so: pol-gredi, fiksni krogelni zgibi (različnih velikosti in vrst, za različne tipe avtomobilov), notranji ležajni obroči, in povezovalne gredi. Podjetje ima več kot 300 zaposlenih. Več kot dve tretjini zaposlenih dela v proizvodnji, ostali pa v neproizvodnih dejavnostih. Podjetje je organizirano v vertikalni organizacijski strukturi,

[10] Reference: GKN Plc 2013, GKN Driveline Slovenija 2012a.

ki ima na najvišji ravni direktorja podjetja in vodstveni tim. Na nižji ravni so srednji managerji in pod njimi ostali zaposleni.

Večinski lastniki podjetja GKN Driveline Slovenija d.o.o. so tujci. Podjetje ima sedež v Zrečah, na naslovu: GKN Driveline Slovenija, d.o.o., Rudniška cesta 20, 3214 Zreče, Slovenija.

6. Opredelitev instrumenta raziskave

Raziskovalna instrumenta, uporabljena v empiričnem delu naloge, sta bila Decision Making Instrument (DMI) – instrument procesa odločanja (© 2007, 2010 Dare Association, Inc. Cambridge, MA) in Perspective Taking Instrument (PTI) – instrument ugotavljanje stališč drugih (© 2007, 2010 Dare Association, Inc. Cambridge, MA), katera je razvila družba Dare Association in licencirala v okviru organizacije Core Complexity Assessments (CCA). CCA je razvil zaporedje testov, ki so uporabni pri pridobivanju, usposabljanju in razvoju zaposlenih. Razvoj obeh instrumentov je temeljil na modelu hierarhične kompleksnosti (MHC), okvirju za ocenjevanje kompleksnosti vedenja (Commons Lamport in Pekker 2008, 375-382). CCA deluje po sistemu merjenja količine in vrste informacij, ki jih posameznik lahko obravnava v procesu odločanja. Kompleksnost vedenja je opisana v stopnjah, kjer nižje stopnje predstavljajo manj kompleksna vedenja. Rezultati testa se uporabijo za razvrstitev vsakega anketiranca v ustrezno stopnjo, katera odraža njihovo sposobnost za analiziranje in sintetiziranje informacij, ki je potrebna za kompleksno reševanje problemov in pri odločanju (Commons Lamport and Richardson 2012, 8).

Instrument DMI obsega 14 trditev, ki od posameznika zahtevajo, da sklepa o rezultatih, navedenih v tabeli s primeri, ali pa oceni, kako sta si dve tabeli med seboj podobni (Bernhold, Parchmann in Commons Lamport 2009, 217-243). PTI uporablja kratke opise (vinjete). Vinjete temeljijo na raziskovalnem instrumentu postavljanja vprašanj doktor-pacient, ki so ga prvi razvili Rodriguez, Commons Lamport in Hill, 1990. Ta model spada v razred reševanja problemov, imenovanih večsistemske naloge. Te naloge vključujejo raznovrstne zgodbe ali vinjete, ki opišejo različne interpretacije ali poglede na prikazan družbeni dogodek. Ocenjevanje pri obeh modelih, DMI in PTI, temelji na matematični kompleksnosti hierarhične organizacije informacij, namesto na vsebini ali tematiki. Anketirančeva izvedba naloge določenega reda hierarhične kompleksnosti predstavlja njegovo razvojno stopnjo v skladu z modelom. Rezultati CCA lahko podjetjem uspešno pomagajo na različne načine. Vse naloge, ki jih bodo zaposleni izvedli v podjetju, ustrezajo eni izmed stopenj modela MHC. To pomeni, da se rezultati CCA instrumenta lahko uporabijo povsod v organizaciji in sicer z namenom, da se izboljšajo delovni procesi v različnih njenih oddelkih (Commons Lamport in Richardson 2012, 8-9).

7. Metodologija raziskovanja

Celotna raziskava je potekala po naslednjih korakih: opredelitev raziskovalnega problema, opredelitev namena in ciljev, izbira raziskovalnega instrumenta, priprava anketnega vprašalnika, izbor vzorca, zbiranje podatkov, obdelava in analiza podatkov, testiranje hipotez in zaključki.

Raziskava je bila izvedena s pomočjo sistema za izdelavo in analizo anket na svetovnem spletu SurveyMonkey. Vsebina raziskave je bila pripravljena v sodelovanju z organizacijo Core Complexity Assessments, ki jo vodita Michael Lamport Commons Lamport, Ph.D., in Andrew Michael Richardson. Uporabljen je bil priložnostni vzorec. Pri analizi rezultatov so bili za primerjavo med MHC in uspešnostjo pri delu uporabljeni podatki o zaposlenih iz programa Softscape, ki ga podjetje GKN uporablja za izvedbo letnih razgovorov in merjenje uspešnosti pri delu. Pri analizi rezultatov ankete je bila uporabljena Rascheva analiza in multipla regresija.

Celotna analiza podatkov je bila opravljena z uporabo programske opreme SPSS 18, Microsoft Excel in Winsteps.

Tako PTI kot DMI sta vključevala naloge na primarni, konkretni, abstraktni, formalni, sistematični in metasistematični stopnji modela hierarhične kompleksnosti.

Anketni vprašalnik je bil napisan v slovenskem jeziku in uporabljen v Sloveniji.

Da bi se lahko preverila veljavnost in zanesljivost anketnega vprašalnika, je bil ta najprej preizkušen na manjši skupini ljudi iz poslovnega okolja. Rezultati pilotskega testiranja niso pokazali nikakršnih težav pri razumevanju navodil in vprašanj.

8. Povzetek ključnih ugotovitev raziskave

Namen raziskave je bil razvrstiti zaposlene v skladu z modelom MHC in ugotoviti, v katero hierarhično stopnjo kompleksnosti izvedbe spadajo.

Prva naloga pri analizi podatkov je bila ugotoviti, kako dobro hierarhična kompleksnost predvideva stopnjo izvedbe v vsakem zaporedju nalog. Rezultati so zelo pomembni, saj kažejo, da obstaja korelacija med razvrstitvijo anketiranca v določen red hierarhične kompleksnosti in stopnjo njegove izvedbe.

V začetno analizo je bilo vključenih 75 anketirancev. Pri nadaljnjem pregledu sem odstranila 13 anketirancev, saj niso upoštevali navodil za reševanje vprašalnika, zato je za nadaljnjo analizo ostalo 62 anketirancev. Da bi čim bolje preverila hipoteze, sem anketirance razdelila v tri skupine: vršne managerje, srednje managerje in delavce. Te skupine predstavljajo trenutno organizacijsko strukturo v podjetju.

Moj cilj je bil, da z uporabo DMI izmerim količino in vrsto informacij, ki jih je bil posameznik sposoben obravnavati v postopku odločanja. Rezultati testa so pokazali sposobnost anketirancev pri analiziranju in sintetiziranju informacij, potrebnih pri kompleksnem reševanju problemov in sprejemanju odločitev. Vršni managerji so imeli najvišjo povprečno oceno stopnje DMI, kar je pozitivno za podjetje. To je še posebej pomembno na hitro rastočem tržišču in v času globalne krize, kjer morajo biti managerji hitri pri sprejemanju odločitev in prilagajanju nenehnim spremembam. V takšnih okoliščinah so voditelji z vizijo in sposobnostjo, da vidijo širšo sliko, zelo pomembni. Najnižjo povprečno oceno stopnje sem ugotovila pri skupini delavcev. Povprečna ocena stopnje skupine srednjega managementa je bila vmes. Pomembno je izpostaviti, da so bili posamezni rezultati ocenjevanja DMI stopnje v skupinah srednjih managerjev in delavcev prav tako zelo visoki, vendar so bile povprečne vrednosti stopenj teh skupin nižje kot povprečne vrednosti stopnje pri skupini vršnih managerjev. To nakazuje na velik potencial v skupini srednjih managerjev in delavcev, ki lahko pomembno prispevajo pri oblikovanju vizije podjetja in njegovih poslovnih strategijah. Preverila sem vsako od treh reprezentativnih skupin, da bi poiskala najvišjo in najnižjo vrednost stopnje DMI. Najvišja vrednost stopnje DMI je bila 12,00 (metasistematična) v skupini srednjih managerjev. Najnižja vrednost stopnje DMI je bila 9,60 (zgornja-srednja abstraktna stopnja), prav tako v skupini srednjih managerjev.

Ugotovila sem, da so anketiranci iz skupine vršnih in srednjih managerjev izvedli naloge pri stopnjah, ki so nižje od formalne. Izvedba, ki je pod formalno stopnjo (10,00), ne zajema lastnosti, ki so predvidene za vodstveni kader. Iz tega sklepam, da vsi vršni managerji in srednji managerji ne zadovoljujejo minimalnih zahtev za vodstveno funkcijo. V obeh skupinah obstaja pomanjkanje vodstvenih sposobnosti in za podjetje je zelo pomembno, da se osredotoči na razvoj na tem področju.

Moj cilj pri uporabi PTI je bil izmeriti različne stopnje ugotavljanja stališč drugih oseb. Rezultati PTI testa so odražali sposobnost anketirancev za ugotavljanje stališč drugih oseb. Najvišji managerji bi morali biti strokovnjaki pri ugotavljanju stališč drugih in v jasnem odločanju, namesto da bi stalno izbirali srednjo pot. Povprečne ocene stopenj pri uporabi PTI so bile na splošno veliko nižje v vseh treh raziskanih skupinah. Za takšno stanje sem ugotovila vsaj en razlog. Nekateri anketiranci so ponovili enako oceno pri vsaki vinjeti, ki sta

bili malo ali skoraj nič drugačni. To pomeni pomanjkanje sposobnosti pri anketirancu, da bi ugotovil, da postavki nista enaki.

Z rezultati PTI testa sem lahko ugotovila razlike v stopnjah med vsemi tremi skupinami. Vršni managerji niso imeli najvišje povprečne ocene stopnje, kot sem predvidevala. Njihova povprečna ocena stopnje PTI je bila v primerjavi z ostalima skupinama najnižja. Najvišja povprečna ocena stopnje PTI je bila v skupini srednjih managerjev, zelo majhne razlike pri povprečnih ocenah PTI pa so bile pri primerjavi skupine srednjih managerjev in delavcev.

Z raziskavo sem ugotovila širok razpon pri ocenah v skupini srednjih managerjev in delavcev. Posamezniki, ki so izvedli nalogo nad formalno stopnjo 10 v skupini delavcev ali sistematično stopnjo 11 v skupini srednjih managerjev, so bili obravnavani kot obetajoči. V obeh skupinah, tako srednjih managerjev kot delavcev, so bili prisotni anketiranci, ki so izvedli nalogo na isti stopnji kot anketiranci iz skupine vršnih managerjev. Ta rezultat pomeni, odkrivanje nadarjenih in drugih ključnih delavcev v obeh skupinah (skupini delavcev in srednjih managerjev). Nadalje je to lahko podprto tudi z ustreznim razvojnim načrtom.

Moj cilj je bil prav tako raziskati, v kakšni korelaciji so pridobljene ocene stopenj MHC z modelom, ki ga organizacija uporablja pri ocenjevanju delovne uspešnosti posameznikov. Za sledenje posameznikove delovne učinkovitosti podjetje uporablja proces PDP (Performance Development Process - proces razvoja zaposlenih), ki je razdelan v modelu devetih polj (9-box model). Ugotovila sem, da je možno primerjati rezultate posameznikove delovne učinkovitosti, merjene z ocenjevanjem stopenj z modelom MHC ter s procesom PDP. Hkrati sem ugotovila, da imajo posamezni rezultati, merjeni z modelom devetih polj in stopnje, ocenjenje z MHC, eno ujemanje v skupini vršnih managerjev in eno ujemanje v skupini srednjih managerjev. Prišla sem do zaključka, da med MHC modelom in PDP procesom ni močne korelacije.

9. Testiranje hipotez

Vse štiri hipoteze so bile do neke mere vključene v tri področja analize: rezultati DMI, rezultati PTI in v korelacijo med modelom za ocenjevanje stopenj MHC in modelom devetih polj. Hipoteze so dvodimenzionalne. V nekaterih primerih je en del hipoteze podprt, medtem ko je drugi del zavrnjen.

Hipoteza 1

Med razvrstitvijo posameznika po modelu MHC in hierarhijo delovnega mesta v organizacijski strukturi obstaja korelacija.

Prva hipoteza proučuje možnost korelacije med posameznikovimi rezultati, pridobljenimi po modelu MHC, in dejansko hierarhijo delovnega mesta v organizacijski strukturi. Da bi čim bolje preverila hipotezo, sem anketirance razdelila v tri skupine: vršne managerje, srednje managerje in delavce. Te skupine predstavljajo trenutno organizacijsko strukturo v podjetju. Organizacijska struktura postavlja vršne managerje na najvišjo raven v podjetju in delavce na najnižjo. Srednji managerji so v organizacijski strukturi na vmesni ravni. Na osnovi te hipoteze sem predvidevala, da bo skupina vršnih managerjev izvedla naloge z najvišjo povprečno oceno po MHC modelu, saj so na vrhu organizacijske strukture. Domnevala sem, da bo skupina delavcev v povprečju izvedla naloge z najnižjo povprečno oceno po MHC modelu, saj so na dnu organizacijske strukture.

Hipoteza je bila preizkušena z obema instrumentoma (DMI in PTI). V proučevanju z DMI instrumentom ocenjevanja stopnje skupine obstaja močna korelacija med posameznikovo klasifikacijo v MHC in njegovim položajem v hierarhiji delovnega mesta. Skupina vršnih managerjev je v povprečju izvedla nalogo na nižji sistematični stopnji s povprečno vrednostjo 11,13 (*M* = 11,13, *SD* = ,467). Skupina srednjih managerjev je v povprečju izvedla nalogo na zgornji-srednji formalni stopnji s povprečno oceno 10,73 (M = 10,73, SD = ,564). Skupina delavcev je v povprečju kot skupina izvedla nalogo na zgornji-srednji formalni stopnji s povprečno oceno 10,69 (*M* = 10,69, *SD* = ,479). Rezultati DMI nakazujejo, da so po modelu MHC vršni managerji dosegli najvišjo povprečno stopnjo izvedbe naloge in delavci najnižjo povprečno stopnjo. To je dejansko v korelaciji s hierarhijo delovnega mesta v organizacijski strukturi. Zato lahko potrdim, da DMI potrjuje hipotezo 1.

Po drugi strani pa sem med preverjanjem iste hipoteze z modelom PTI ugotovila šibko korelacijo med posameznikovo razvrstitvijo v MHC in dejansko hierarhijo delovnega mesta v organizacijski strukturi. Skupina vršnih managerjev je izvedla nalogo na zgornji konkretni stopnji s povprečno vrednostjo skupine 8,94 (*M* = 8,94, *SD* = 1,277). Srednji managerji so izvedli nalogo v zgornji-srednji abstraktni stopnji s povprečno vrednostjo skupine 9,64 (M = 9,64, SD = 1,491). Delavci so izvedli nalogo v nižji-srednji abstraktni stopnji s povprečno vrednostjo skupine 9,41 (M = 9,41, SD = 1,598). Rezultati PTI prikazujejo, da so srednji managerji imeli najvišjo povprečno vrednost izvedbe, vršni managerji pa najnižjo povprečno vrednost izvedbe. Delavci so v povprečju izvedli nalogo skoraj enako kot srednji managerji. Ker je ta hipoteza dvodimenzionalna, jo rezultati PTI delno podpirajo. Potrjena je le z vidika, da imajo srednji managerji višjo povprečno vrednost kot delavci zato, ker so srednji managerji tudi dejansko na višji hierarhični ravni delovnega mesta v organizacijski strukturi kot delavci. Vendar pa imajo vršni managerji najnižjo povprečno vrednost stopnje, čeprav so na najvišji hierarhični ravni delovnega mesta v organizacijski strukturi. Ta poslednji rezultat, ki se nanaša na vršne managerje, zavrača hipotezo 1.

Appendix 1

Hipoteza 2

Med razvrstitvijo posameznika po MHC in njegovo/njeno delovno uspešnostjo obstaja korelacija.

Druga hipoteza se osredotoča na korelacijo med rezultati posameznika po MHC in njegovo delovno učinkovitostjo, kot jo je izmerilo podjetje. Da bi čim bolje preverila hipotezo, sem anketirance razdelila v tri skupine: vršne managerje, srednje managerje in delavce. Pri preverjanju hipoteze sem uporabila rezultate obeh raziskovalnih instrumentov (DMI in PTI) in jih primerjala s postopkom merjenja posameznikove delovne uspešnosti, ki ga podjetje že uporablja. Za merjenje posameznikove delovne uspešnosti podjetje uporablja proces razvoja zaposlenih in rezultati so prikazani v modelu devetih polj. Pri tej hipotezi sem predvidevala, da bodo rezultati za vsako reprezentativno skupino pokazali korelacijo med MHC in modelom devetih polj.

Ko je nekdo uspešno izvedel nalogo, tako kot se je pričakovalo v določenem redu MHC modela, sem to osebo umestila v polje doseženih pričakovanj v modelu devetih polj. Če je ista oseba izvedla nalogo višjega reda MHC modela, kot je bilo pričakovati, sem to osebo v modelu devetih polj uvrstila v polje preseženih pričakovanj. Ko nekdo ni izvedel naloge v tistem redu, kot predvideva MHC model, sem to osebo v modelu devetih polj uvrstila v polje nedoseženih pričakovanj.

Stopnje po MHC modelu in modelu devetih polj je bilo mogoče primerjati pri srednjih in vršnih managerjih, saj morajo predstavniki obeh ravni zadovoljiti minimalne zahteve[11], ki so potrebne za izvajanje vodenja, in ki se prične pri formalni stopnji 10,00. Ker je bila moja raziskava anonimna, ni bilo mogoče identificirati določenih delovnih nalog pri skupini delavcev, zato te primerjave ni bilo mogoče opraviti pri skupini delavcev.

Rezultati kažejo, da niti eden od anketirancev v skupini vršnih managerjev ni bil uvrščen v polje preseženih pričakovanj ali zadovoljil pričakovanja stopnje po DMI ali PTI. 100 % (N = 11) anketirancev je bilo uvrščenih na raven nedoseženih pričakovanj. Pri modelu devetih polj je bilo 100 % (N = 12) anketirancev uvrščenih na raven doseženih pričakovanj. V skupini vršnih managerjev sem na ravni preseženih pričakovanj ugotovila eno podobnost med modelom devetih polj, ki ga uporablja podjetje, in modelom MHC. Noben od anketirancev v skupini vršnih managerjev ni bil uvrščen v polje preseženih pričakovanj po oceni stopnje z instrumentom DMI ali PTI . Enako velja tudi za model devetih polj.

[11] Te minimalne zahteve obstajajo zaradi nalog, ki se zahtevajo od managerja, npr. strateško načrtovanje, vodenje oddelka ali več oddelkov skupaj, zmožnost opazovanja korporacije, itd.

Med preverjanjem iste hipoteze za skupino srednjih managerjev z modelom devetih polj, je bilo 8,3 % (N =1) anketiranih iz skupine srednjih managerjev uvrščenih v polje preseženih pričakovanj. 91,6 % (N =11) anketirancev je bilo uvrščenih v polje doseženih pričakovanj in noben anketiranec ni bil uvrščen v polje nedoseženih pričakovanj. Z ocenami po DMI in PTI modelu, je bilo 6,6 % (N =1) anketirancev iz skupine srednjih managerjev uvrščenih v red preseženih pričakovanj. 26,6 % (N = 4) anketirancev je bilo uvrščenih v dosežena pričakovanja po DMI in 71,4 % (N =10) anketirancev je bilo uvrščenih v red nedoseženih pričakovanj po DMI. 20 % (N = 3) anketirancev je bilo uvrščenih v polje doseženih pričakovanj po PTI. 73,3 % (N = 11) anketirancev je bilo uvrščenih v polje nedoseženih pričakovanja po PTI. Prav tako sem ugotovila eno podobnost med modelom 9-box, ki ga uporablja podjetje in modelom MHC, in sicer na ravni preseženih pričakovanj. Po DMI in PTI rezultatih je bilo 6,6 % (N =1) anketirancev iz skupine srednjih managerjev uvrščenih v presežena pričakovanja. Po modelu devetih polj je bilo 8,3 % (N =1) anketirancev iz skupine srednjih managerjev uvrščenih v polje preseženih pričakovanj.

Na osnovi teh rezultatov sem povzela, da je bilo mogoče primerjati posameznikove MHC ocene stopenj z meritvami njihove učinkovitosti po modelu PDP, vendar so bile razlike pri obeh modelih tako velike, da je bilo težko opraviti smiselne primerjave. Posamezni rezultati merjeni z modelu devetih polj in razvrščanjem z MHC modelom so imeli le eno ujemanje v skupini vršnih managerjev in le eno ujemanje v skupini srednjih managerjev. To jasno kaže, da močna korelacija med ocenami stopenj MHC in procesom PDP ne obstaja. Če gledamo v celoti, MHC model ne daje podobnih rezultatov kot modelu devetih polj. To hipoteze 2 ne potrjuje.

Razlog za neujemanje med modeloma je lahko v različnih pristopih merjenja učinkovitosti izvedbe naloge. Pri modelu devetih polj se uspešnost izvedbe posameznikov meri pod vplivom subjektivnega ocenjevanja njihovega managerja. Model devetih polj vključuje različne spremenljivke, ki lahko imajo velik vpliv na vrednotenje. Po drugi strani pa razvrščanje po modelu MHC temelji na matematični kompleksnosti hierarhične organizacije informacij. Pri hipotezi 2 sem primerjala osebno subjektivno naravo vrednotenja modela devetih polja z kvantitativno naravo modela MHC. Predvidevala sem, da mi bo primerjava dala podobne rezultate in pokazala povezavo med učinkovitostjo procesa PDP in oceno stopnje MHC, vendar v resnici tega ni bilo.

Appendix 1

Hipoteza 3

Srednji managerji delujejo pretežno na sistematični ravni hierarhične kompleksnosti.

Pri tretji hipotezi sem predvidevala, da srednji managerji delujejo predvidoma na sistematični[12] ravni glede na model MHC. Pri testiranju tretje hipoteze sem se osredotočila na rezultate skupine srednjih managerjev. Hipotezo sem preverjala s pomočjo obeh raziskovalnih instrumentov (DMI in PTI).

Rezultati vrednotenja skupine po DMI razvrščajo srednje managerje kot skupino z izvedbo na zgornji-srednji formalni stopnji s povprečno oceno stopnje 10,73 (M = 10,73, SD = ,564). Najnižja ocena stopnje skupine srednjih managerjev je bila zgornja-srednja abstraktna stopnja (9,60), kar nakazuje, da niso vsi srednji managerji izpolnili potrebnega minimuma za vodenje in nadzor, ki se prične na formalni stopnji (10,00). Najvišja ocena stopnje skupine srednjih managerjev je bila metasistematična (12,00). Pri rezultatih vrednotenja skupine po DMI se je pokazalo, da srednji managerji kot skupina v povprečju ne delujejo na sistematični ravni hierarhične kompleksnosti in to je dejstvo, ki ne potrjuje tretje hipoteze.

Pri raziskovanju rezultatov pridobljenih z DMI modelom sem ugotovila, da srednji managerji poprečno izvajajo naloge samo eno stopnjo pod sistematično in njihov korak prehoda je zgornji-srednji. Glede na teorijo o korakih prehoda po modelu MHC so posamezniki, ki so razvrščeni v zgornji-srednji podnivo stopnje, na poti k polnemu prehodu na naslednjo stopnjo. Naslednja stopnja je v tem primeru sistematična stopnja, kot sem predvidevala pri tretji hipotezi.

Po drugi strani, če pogledamo bolj individualne rezultate skupine, pridobljene s pomočjo modela DMI, je 33,3 % (N =5) srednjih managerjev delovalo na sistematični ravni hierarhične kompleksnosti in višje. To pomeni, da so nekateri srednji managerji pretežno delovali na sistematični ravni hierarhične kompleksnosti ali višje. To deloma potrjuje tretjo hipotezo.

[12] Nekdo na sistematični stopnji (11) se loti naloge s pomočjo več različnih dejavnikov, ki lahko pripomorejo k njeni uspešni izpolnitvi. Ta oseba deluje s toliko informacij, kot jih potrebuje za vodenje ekipe. Morda tudi vidijo, kako je treba sposobnosti posameznih podrejenih uporabiti na najbolj učinkovit način, da se doseže cilj, ki ga nihče ne bi mogel doseči sam. Oseba na sistematični stopnji lahko istočasno usklajuje več različnih dejavnikov, kot je sestavljanje dobre ekipe in usklajevanje njihovega dela z oddelki za trženje, oglaševanji in računovodstvo, da tako izpolnijo nalogo (Commons Lamport in Richardson 2012, 44).

Rezultati vrednotenja stopnje skupine po modelu PTI prikazujejo srednje managerje kot skupino z izvedbo na zgornji-srednji abstraktni stopnji, s skupno povprečno oceno stopnje 9,64 (*M* = 9,64, *SD= 1,491*). Najnižja ocena stopnje skupine srednjih managerjev je bila spodnja konkretna stopnja (8,00), z neupoštevanjem ocene stopnje na primarni stopnji 7,00[13]. Spodnja konkretna stopnja prikazuje, da niso vsi srednji managerji zadovoljili minimalnih zahtev za vodenje in nadzor, ki se prične na formalni stopnji (10,00). Pri preverjanju najvišjih ocen stopnje pri skupini srednjih managerjev je bila najvišja ocena stopnje metasistematična (12,00). Pri analizi rezultatov, pridobljenih s pomočjo modela PTI, sem ugotovila, da skupina srednjih managerjev v poprečju ni delovala na sistematični ravni hierarhične kompleksnosti in to dejstvo je ponovno zavrnilo hipotezo 3.

Če natančneje pogledamo rezultate skupine, pridobljene s pomočjo PTI bolj individualno, je 26,7 % (*N* =5) srednjih managerjev delovalo na sistematični ravni hierarhične kompleksnosti in višje. To pomeni, da je nekaj srednjih managerjev pretežno delovalo na sistematični ravni hierarhične kompleksnosti ali višje. To dejstvo le deloma potrjuje tretjo hipotezo.

Hipoteza 4

Vršni managerji delujejo pretežno na metasistematični ravni hierarhične kompleksosti.

V zadnji hipotezi sem predvidevala, da vršni managerji delujejo pretežno na metasistematični[14] ravni hierarhične kompleksnosti. Pri preverjanju zadnje hipoteze sem se osredotočila na rezultate skupine vršnih managerjev. Hipotezo sem preverjala s pomočjo obeh raziskovalnih instrumentov (DMI in PTI).

Rezultati vrednotenja skupine po DMI razvrščajo vršne managerje kot skupino z izvedbo na nižji sistematični stopnji, s povprečno oceno stopnje 11,13 (*M* = 11,13, *SD* =,467). Najnižja ocena stopnje skupine vršnih managerjev po DMI je bila zgornja-srednja formalna stopnja (10,60). Izvedba pod formalno stopnjo nima lastnosti, ki so pričakovane za vodenje in nadzor, kar kaže na to, da so vršni managerji zadovoljili minimalne zahteve, potrebne za nadzor. Najvišja ocena stopnje skupine vršnih managerjev po DMI je bila zgornja sistematična stopnja (11,80). Ti rezultati kažejo, da imajo vršni managerji najvišjo povprečno stopnjo

[13] Razlog za to je, da je en anketiranec v skupini srednjih managerjev pri vsaki vinjeti z malo ali nič odstopanja ponavljal isto oceno. To kaže na pomanjkanje spretnosti, potrebne za uvid, da vse zgodbe niso enake.

[14] Oseba na metasistematični stopnji (12) koordinira več sistemov. Zagotavljajo lahko vodenje trženja, oglaševanja, raziskav in razvoja, proizvodnje in drugih področij ter vodi v smeri izpolnjevanja glavnih strategij (Commons Lamport in Richardson 2012, 45).

izvedbe, kot sem predvidevala. Vendar pa v nasprotju s pričakovanji ne delujejo na metasistematični ravni hierarhične kompleksnosti in to dejstvo ne potrjuje hipoteze 4.

Pri raziskavi z DMI sem pri skupnih rezultatih stopnje ugotovila, da je uspešnost vršnih managerjev v povprečju eno stopnjo pod metasistematično ravnjo, njihov korak prehoda pa je v spodnjem položaju. V zvezi s teorijo korakov prehoda v skladu z MHC nekdo, ki je postavljen na spodnjo podraven stopnje, po vsej verjetnosti precejšnje število let ne bo prešel na naslednjo stopnjo. V tem primeru je naslednja stopnja za vršne managerje metasistematična stopnja, kot sem predvidevala z zadnjo hipotezo.

Skupni rezultati stopnje za PTI so pokazali, da so vršni managerji kot skupina v povprečju dosegali zgornjo konkretno stopnjo s povprečno skupno oceno stopnje 8,94 (*M* = 8,94, *SD* =1,277). Najnižja ocena stopnje za vršne managerje je bila spodnja srednja konkretna stopnja (8,40), ob tem pa so izključene ocene na primarni stopnji 7,00[15]. Izvedba, ki ne dosega formalne stopnje 10,00, nima lastnosti, ki se pričakujejo od nadzornika. Iz tega je bilo razvidno, da vršni managerji niso izpolnili minimalnih zahtev za vodenje in nadzor pri ugotavljanju stališč drugih oseb. Najvišja ocena za vršne managerje je bila zgornja srednja formalna stopnja (10,60). Pri skupnih rezultatih stopnje glede PTI sem ugotovila, da vršni managerji kot skupina v povprečju niso delovali na metasistematični ravni hierarhične kompleksnosti, in to dejstvo ne potrjuje hipoteze 4.

10. Prispevek raziskave k znanju in praksi upravljanja človeških virov

Proces raziskovanja te teme in pisanje magistrske naloge sta bila zame priložnost, da razširim svoje znanje in se bolje seznanim s področjem, ki ga prej nisem poznala.

Model hierarhične kompleksnosti je okvir za ocenjevanje, kako kompleksno je neko vedenje. Ta okvir je namenjen ocenjevanju stopenj razmišljanja na katerem koli področju in v katerem koli kulturnem okolju (Commons Lamport idr. 2005, 5).

Raziskava podpira dejstvo, da je model mogoče uporabiti v Sloveniji. Predstavljeni model hierarhične kompleksnosti (MHC - Model of Hierarchical Complexity) slovenskim podjetjem ponuja novo strateško možnost, saj takega modela doslej v Sloveniji še nismo poznali.

[15] Razlog za to je, da sta dva udeleženca v skupini vršnih managerjev pri vsaki vinjeti z malo ali nič odstopanja ponavljala isto oceno. To kaže na pomanjkanje spretnosti, potrebne za uvid, da vse zgodbe niso enake.

Glede na raziskave, opravljene v Nemčiji (Benholt, Parchmann in Commons Lamport, 2009) in v ZDA (McElroy, 2009; Commons Lamport idr, v tiskanju), se je model MHC izkazal kot upravičen in učinkovit pri merjenju kompleksnosti nalog in je uspešno napovedal posameznikovo izvedbo naloge. V moji raziskavi je bil predstavljeni model prvič uporabljen v Sloveniji, kar dokazuje zgoraj navedeno trditev, da model lahko ocenjuje stopnje razmišljanja v katerem koli kulturnem okolju.

MHC se je tokrat prvič uporabil v poslovnem okolju. To govori v prid predpostavki, da je model okvir, ki se lahko uporabi na katerem koli področju.

V raziskavi sem preučevala, kako model hierarhične kompleksnosti (MHC) omogoča vpogled v značilnosti kandidatov za določeno delovno mesto, ki jih z ocenjevanjem delovne uspešnosti in preverjanjem kompetentnosti ni mogoče ugotoviti. Kompleksnost posameznikovih delovnih nalog, kot jih meri MHC, in njegovih doseženih točk, izmerjenih z MHC, napovedujejo, kako uspešni bodo na določenem delovnem mestu.

Glede na pretekle študije, ki so jih izvedli v svetu, se je MHC izkazal za veljaven in zanesljiv raziskovalni instrument. Z mojo raziskavo je bil model ponovno preskušen v še eni državi in na novem področju. Rezultati te raziskave so ponovno potrdili, da je model veljaven in zanesljiv. Zlasti je podprl zunanjo veljavnost.

Med raziskavo sem naredila testno primerjavo modela z drugim modelom. Za merjenje uspešnosti zaposlenih, podjetje GKN uporablja model devetih polj (9-box model). Posameznikove rezultate dosežene glede na stopnjo MHC, sem primerjala z rezultati po modelu devetih polj. Med obema modeloma obstaja tolikšna razlika, da je bila težko izvesti smiselno primerjavo.

Praktično vrednost mojega dela predstavljajo smernice in napotki pri prestrukturiranju področja človeških virov.

MHC je mogoče uporabiti v postopku izbiranja novih sodelavcev. Kadrovski oddelki v organizacijah imajo običajno izdelan seznam delovnih obveznosti in odgovornosti, ki so predpisane za vsako delovno mesto. Uporaba predstavljenega modela lahko podjetju pomaga pri opredelitvi standardov za posamezna delovna mesta v skladu z opredeljenimi stopnjami po MHC. Te informacije je mogoče uporabiti v postopku izbiranja novih delavcev. Če je delavec uspešno opravil preizkus po modelu MHC in je sposoben opraviti določeno nalogo, je to vidno na način, da se bo delavčeva stopnja uspešnosti pri tej nalogi ujemala z opredeljeno stopnjo te naloge po MHC. Če tako poznamo zahtevnost nalog, ki naj jih določen delavec

uspešno izvede, nam to pomaga pri ugotavljanju ustrezne delitve dela za delavca. Iz tega lahko opredelimo tudi aktivnosti za razvoj zaposlenih. Te informacije so lahko v pomoč ne le pri začetnem postopku izbire delavca, ampak tudi pri njegovem nadaljnjem razvoju.

Strokovnjaki za človeške vire v Sloveniji se pretežno osredotočajo na ustrezno izobrazbeno raven delavcev. Usmeritve zunaj Slovenije pa ne govorijo toliko o formalni izobrazbi, ampak bolj o izkušnjah in kompetencah. Z uporabo tega modela ima kadrovska služba kot ena od ključnih funkcij organizacije možnost, da začne spreminjati pristop k zaposlenim.

V MHC vidim pomembno orodje za izbiranje zaposlenih pri vodstvenih funkcijah. Vršni managerji v podjetju so tisti, ki oblikujejo prihodnost podjetja in jo poskušajo uresničiti. Delovati morajo kot vzorniki, ki vedno stojijo za vrednotami in vlivajo zaupanje. S svojo prilagodljivostjo morajo omogočati organizaciji, da predvidi tok dogodkov in se pravočasno odzove. To je mogoče pri nekom, ki v skladu z modelom deluje najmanj na metasistematični ravni. Ko vodilni delavci ne zmorejo delovati na zahtevani stopnji, je rezultat tega viden v neustreznem vodenju in ponavljanju neuspehov. Postavljanje pravih ljudi v prave vloge vodi podjetje k večji uspešnosti.

Model ponuja kadrovski službi novo orodje, ki omogoča objektivno sprejemanje odločitev v zvezi z zaposlenimi. Model po matematičnih načelih izrazi red hierarhične kompleksnosti naloge.

MHC se lahko uporabi tudi za odkrivanje nadarjenih in drugih ključnih delavcev v podjetju. Nadalje je to lahko podprto tudi z ustreznim razvojnim načrtom. Podjetje bi ga lahko uporabilo kot možnost za prepoznavanje svojih bodočih delavcev in to povezalo s štipendijami.

Model je korak naprej pri odličnosti kadrovanja. Lahko se uporabi tudi kot podporno orodje za model odličnosti EFQM (European Foundation for Quality Management). Eno od meril operativnosti na levi strani modela EFQM so ljudje. MHC je lahko pomoč pri zagotavljanju boljših rezultatov glede ljudi na desni strani modela EFQM.

Rezultati MHC lahko okrepijo timsko delo in so v pomoč pri ustanavljanju projektnih timov.

Na osnovi rezultatov zaposlenih lahko podjetje poveže skupaj najodličnejše ljudi, ki oblikujejo in uresničujejo poslanstvo in vizijo s tem, da razvijajo in izpopolnjujejo strategijo, osredotočeno na vse zainteresirane.

9.2 Priporočila za nadaljnjo raziskavo

Ker je bila moja raziskava anonimna, ni bilo mogoče identificirati določenih delovnih nalog za določenega anketiranca v raziskavi. Za izvajanje nadaljnjih raziskav bi odsvetovala ohranjanje anonimnosti anketirancev, tako da bi bilo mogoče delovna mesta zanesljivo primerjati z izvedbo stopnje. To lahko pomaga pri opredeljevanju posameznih vrzeli in oblikovanju bolj natančnih razvojnih načrtov.

Rezultati raziskave pri anketirancih pokažejo tudi posamezne vrzeli. Na osnovi rezultatov lahko le priporočim, kaj naj podjetje vnese v svoj razvojni načrt. Gre za to, kaj bi po mojem mnenju pomagalo anketirancu, da izboljša svojo izvedbo stopnje. Priporočam, da se nadaljnje raziskave osredotočijo na specifične razvojne rešitve za vsako stopnjo ki lahko anketiranca "potisnejo" navzgor.

Moja raziskava je bila usmerjena v ugotavljanje stališča drugih in v proces odločanja. Eno od področij, ki jih v mojem primeru nisem raziskovala, je zmožnost etičnega vedenja. Etika vključuje sistematiziranje, zagovarjanje ali priporočanje konceptov pravilnega in napačnega vedenja (Wikipedia 2013). Prepričana sem, da je v sodobnem poslovnem okolju etika pomembna in zato priporočam, da se nadaljnje raziskave osredotočajo na zmožnost ljudi za etično odločanje in vedenje.

Appendix 2

Survey Questionnaire in English language

GKN Assessment - English

1. Demographic Questions

1. Gender (mark):

- ◯ Male
- ◯ Female

2. Age:

- ◯ 18 till 24 years
- ◯ 25 till 31 years
- ◯ 32 till 38 years
- ◯ 39 till 45 years
- ◯ 46 till 52 years
- ◯ 53 till 59 years

3. Education finished:

- ◯ Primary School
- ◯ Secundary School
- ◯ Higher Technical School
- ◯ Associate's Degree
- ◯ Graduate Degree
- ◯ Masters Degree

4. Position:

- ◯ Leader
- ◯ Employee

5. Working Area:

- ◯ Administration (Finance, HR, IS/IT, Supply Chain, Purchasing)
- ◯ Production, Maintenance
- ◯ Engineering, Quality, Tooling

Appendix 2

GKN Assessment - English

6. My job involves following tasks (choose tasks that describe your daily work)

- ☐ Preparing evidence
- ☐ Preparing reports
- ☐ Leading projects
- ☐ Communication with external customer
- ☐ Communication with internal customer
- ☐ Teach, mentor and train employees
- ☐ Involvement in strategic planning process
- ☐ Involvement in setting the objectives of the company
- ☐ Develop processes
- ☐ Lead different teams
- ☐ Work in different teams
- ☐ Preparing documentation
- ☐ Lead and organize work inside department
- ☐ Other professional tasks from my workplace

7. Years of working in GKN:

- ◯ Up to 1 year
- ◯ Between 1 and 3 years
- ◯ Between 3 and 6 years
- ◯ Between 6 and 9 years
- ◯ Between 9 and 12 years
- ◯ More than 12 years

8. Please fill out the following information. It will be used only to anonymously track your responses. Please remember your code or write it down.

First letter of your father's name: _____

First letter of your mother's name: _____

First letter of your birth town: _____

Your month of birth: _____

GKN Assessment - English

2. The Manager - Employee Interaction

The following 5 stories are set in another country. In each story, manager tries to help an employee solve a given set of problems. The problems are serious. It is now time to choose a proposal to improve the situation. All the managers want to help their employees equally. All the managers highly recommend and provide the same basic knowledge. But, the manager arrive at their choice of how to help in different ways. In every case, the problems worsen and those who are affected suffer. During a general review of these bad results, each manager's method of choosing a proposal was looked at. Below, the managers give accurate accounts of their usual talk with their employees. Read all five accounts carefully and then answer the questions that follow.

Manager Boris speaks with the employee to assess the problem. During the conversation, Boris offers a proposal plan seen as most effective in solving this problem. Boris presents other solution, and discusses the benefits and risks of each, including doing nothing. Boris, seeking to understand the employee's problem to be faced, asks and answers many questions. Boris sees if the employee's body language matches their statements. Boris asks if the employee is ready to make a choice, based on their previous discussion. Feeling Boris knows best, the employee decides to undergo the proposal..

1. A rating of 1 means you think that Manager has done his work Extremely Poor. A rating of 6 means you think that Manager has done his work Extremely Well.

	Extremely Poor 1	2	3	4	5	Extremely Well 6
Rate the Manager's method.	◯	◯	◯	◯	◯	◯
Rate the degree to which the Manager helped to inform employee about the situation.	◯	◯	◯	◯	◯	◯
Rate how likely you would be able to accept the guidance offered by the Manager.	◯	◯	◯	◯	◯	◯

Manager Simon offers a proposal that has been studied and is shown to work well. Simon shares the fact that not everyone has had a positive outcome from the proposal. Simon then reads a description of the proposal and its risks from a colleague's book. Simon points out that any solution will have risks. Simon asks if the employee understands the proposal and its outcome possibilities. After thinking carefully, Simon's employee feels comfortable that Simon is a capable leader. Feeling that Simon knows best, the employee prepares to undergo the proposal.

2. A rating of 1 means you think that Manager has done his work Extremely Poor. A rating of 6 means you think that Manager has done his work Extremely Well.

	Extremely Poor 1	2	3	4	5	Extremely Well 6
Rate the Manager's method.	◯	◯	◯	◯	◯	◯
Rate the degree to which the Manager helped to inform employee about the situation.	◯	◯	◯	◯	◯	◯
Rate how likely you would be able to accept the guidance offered by the Manager.	◯	◯	◯	◯	◯	◯

GKN Assessment - English

Manager David offers the employee a proposal preferred by colleagues. David says that others who are friends use this solution. A colleague is called in to tell the employee again about the proposal. With great concern, David asks if the employee would like to hear a third person explain this proposal. David's employee is told that these people had good results with that proposal. David instruct the employee to support the proposal. David's employee thinks seriously about what David has said. Feeling that David knows best, David's employee prepares to undergo the proposal.

3. A rating of 1 means you think that Manager has done his work Extremely Poor. A rating of 6 means you think that Manager has done his work Extremely Well.

	Extremely Poor 1	2	3	4	5	Extremely Well 6
Rate the Manager's method.	◯	◯	◯	◯	◯	◯
Rate the degree to which the Manager helped to inform employee about the situation.	◯	◯	◯	◯	◯	◯
Rate how likely you would be able to accept the guidance offered by the Manager.	◯	◯	◯	◯	◯	◯

Manager Zoran offers an effective proposal that compares well to other solutions for this problem. Zoran explains the helping effects of every proposal. Zoran also describes all the risks that may come out of these proposals. Zoran asks the employee to relate back to him with that explanation. Zoran explains to employee, it is up to the employee to support a proposal. Zoran asks if the employee supports the proposal. Zoran's employee thinks about what Zoran has previously said. Feeling that Zoran knows best, Zoran's employee prepares to undergo the proposal.

4. A rating of 1 means you think that Manager has done his work Extremely Poor. A rating of 6 means you think that Manager has done his work Extremely Well.

	Extremely Poor 1	2	3	4	5	Extremely Well 6
Rate the Manager's method.	◯	◯	◯	◯	◯	◯
Rate the degree to which the Manager helped to inform employee about the situation.	◯	◯	◯	◯	◯	◯
Rate how likely you would be able to accept the guidance offered by the Manager.	◯	◯	◯	◯	◯	◯

Manager Marko recently completed training on a proposal that was designed for the employee's problem. Marko says that the best leaders regularly recommend this proposal. Marko explains the method and tells the employee that it will probably work for him as well. Marko also tells the employee about other solutions that may work. The employee is asked if the employee has any questions. The employee does not have questions, and Marko asks if the employee wants to accept the recommended proposal. Feeling that Marko knows best, the employee prepares to undergo the proposal.

GKN Assessment - English

5. A rating of 1 means you think that Manager has done his work Extremely Poor. A rating of 6 means you think that Manager has done his work Extremely Well.

	Extremely Poor 1	2	3	4	5	Extremely Well 6
Rate the Manager's method.	◯	◯	◯	◯	◯	◯
Rate the degree to which the Manager helped to inform employee about the situation.	◯	◯	◯	◯	◯	◯
Rate how likely you would be able to accept the guidance offered by the Manager.	◯	◯	◯	◯	◯	◯

Appendix 2

GKN Assessment - English

3. Challenge in Managing #1

Instructions for solving the following tasks:
The following table includes two examples. Each example tells how the manager led the business project and how it turned out. Use the following example table to answer the questions.

1. The business project called Alpha was chosen. Here are two ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Employee engagement	-->	Value added
Employee disengagement	-->	Non value added

1. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

	Value added	No value added
Employeee disengagement	◯	◯
Employee engagement	◯	◯

2. The business project called Beta was chosen. Here are two ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Employee engagement	-->	No value added
Employee disengagement	-->	Value added

2. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

	Value added	No value added
Employeee disengagement	◯	◯
Employee engagement	◯	◯

3.The business project called Gamma was chosen. Here are two ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Employee disengagement	-->	Value added
Employee engagement	-->	No value added

GKN Assessment - English

3. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

	Value added	No value added
Employee engagement	◯	◯
Employeee disengagement	◯	◯

Appendix 2

GKN Assessment - English

4. Challenge in Managing #2

Instructions for solving the following tasks:
The following table includes four examples. Each example tells how the manager led the business project and how it turned out. Use the following example table to answer the questions.

1. The business project called Delta was chosen. Here are four ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Delegation	-->	No value added
Constructive Feedback	Supervision	-->	Value added
Constructive Feedback	Delegation	-->	No value added
Recognition	Supervision	-->	Value added

1. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

	Value added	No value added
Constructive Feedback Supervision	☐	☐
Recognition Delegation	☐	☐
Recognition Supervision	☐	☐
Constructive Feedback Delegation	☐	☐

2. The business project called Epsilon was chosen. Here are four ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Supervision	Trust	-->	Value added
Delegation	Trust	-->	Value added
Supervision	Mistrust	-->	No value added
Delegation	Mistrust	-->	No value added

2. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

	Value added	No value added
Delegation Mistrust	☐	☐
Supervision Mistrust	☐	☐
Supervision Trust	☐	☐
Delegation Trust	☐	☐

GKN Assessment - English

5. Challenge in Managing #3

Instructions for solving the following tasks:
The following table includes three examples. Each example tells how the manager led the business project and how it turned out. Use the following example table to answer the questions.

1. The business project called Dzeta was chosen. Here are three ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Supervision	Employee Disengagement	-->	No value added
Delegation	Employee Engagement	-->	Value added
Supervision	Employee Engagement	-->	Value added

1. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

		Value added	No value added
Delegation	Employee Disengagement	◯	◯

2. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

		Value added	No value added
Delegation	Recognition	◯	◯

3. The business project called Sigma was chosen. Here are three ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Employee Engagement	Mistrust	-->	No value added
Employee Disengagement	Trust	-->	Value added
Employee Disengagement	Mistrust	-->	Value added

3. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

		Value added	No value added
Employee Engagement	Trust	◯	◯

Appendix 2

GKN Assessment - English

6. Challenge in Managing #4

Instructions for solving the following tasks:
The following table includes six examples. Each example tells how the manager led the business project and how it turned out. Use the following example table to answer the questions.

1. The business project called Omega was chosen. Here are six ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Delegation	Mistrust	Employee disengagement	-->	No value added
Constructive feedback	Supervision	Trust	Employee engagement	-->	Value added
Recognition	Delegation	Trust	Employee engagement	-->	No value added
Constructive feedback	Delegation	Trust	Employee disengagement	-->	No value added
Recognition	Supervision	Mistrust	Employee engagement	-->	Value added
Constructive feedback	Supervision	Mistrust	Employee disengagement	-->	Value added

GKN Assessment - English

1. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

				Value added	No value added
Constructive feedback	Delegation	Mistrust	Employee engagement	☐	☐
Recognition	Supervision	Mistrust	Employee disengagement	☐	☐
Recognition	Delegation	Trust	Employee disengagement	☐	☐
Constructive feedback	Supervision	Mistrust	Employee engagement	☐	☐
Constructive feedback	Delegation	Mistrust	Employee disengagment	☐	☐
Constructive feedback	Delegation	Trust	Employee engagement	☐	☐
Recognition	Supervision	Trust	Employee engagement	☐	☐
Recognition	Delegation	Mistrust	Employee engagement	☐	☐
Constructive feedback	Supervision	Trust	Employee engagement	☐	☐
Recognition	Supervision	Trust	Employee disengagement	☐	☐

2. The business project called Pluto was chosen. Here are six ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Supervision	Trust	Employee engagement	Constructive feedback	-->	Value added
Delegation	Trust	Employee disengagement	Constructive feedback	-->	Value added
Supervision	Mistrust	Employee engagement	Recognition	-->	No value added
Delegation	Trust	Employee engagement	Recognition	-->	No value added
Delegation	Mistrust	Employee disengagement	Recognition	-->	No value added
Supervision	Mistrust	Employee disengagement	Constructive feedback	-->	Value added

Appendix 2

GKN Assessment - English

2. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

				Value added	No value added
Delegation	Trust	Employee engagement	Constructive feedback	☐	☐
Supervision	Trust	Employee engagement	Recognition	☐	☐
Delegation	Mistrust	Employee engagement	Constructive feedback	☐	☐
Delegation	Mistrust	Employee engagement	Recognition	☐	☐
Delegation	Trust	Employee disengagement	Recognition	☐	☐
Supervision	Mistrust	Employee engagement	Constructive feedback	☐	☐
Supervision	Trust	Employee disengagement	Constructive feedback	☐	☐
Delegation	Mistrust	Employee disengagement	Constructive feedback	☐	☐
Supervision	Mistrust	Employee disengagement	Recognition	☐	☐
Supervision	Trust	Employee disengagement	Recognition	☐	☐

GKN Assessment - English

7. Challenge in Managing #5

Instructions for solving the following tasks:
The following table includes eight examples. Each example tells how the manager led the business project and how it turned out. Use the following example table to answer the questions.

1. The business project called Venera was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Delegation	Mistrust	Employee disengagement	-->	Value added
Recognition	Delegation	Trust	Employee disengagement	-->	Value added
Constructive feedback	Delegation	Mistrust	Employee engagement	-->	No value added
Constructive feedback	Supervision	Trust	Employee engagement	-->	Value added
Constructive feedback	Delegation	Trust	Employee engagement	-->	Value added
Constructive feedback	Supervision	Mistrust	Employee disengagement	-->	No value added
Recognition	Supervision	Trust	Employee engagement	-->	Value added
Recognition	Supervision	Mistrust	Employee disengagement	-->	Value added

1. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

				Value added	No value added
Recognition	Delegation	Trust	Employee engagement	☐	☐
Recognition	Supervision	Mistrust	Employee engagement	☐	☐
Constructive feedback	Supervision	Mistrust	Employee engagement	☐	☐
Constructive feedback	Delegation	Trust	Employee disengagement	☐	☐
Recognition	Supervision	Trust	Employee disengagement	☐	☐
Constructive feedback	Delegation	Mistrust	Employee disengagement	☐	☐
Constructive feedback	Supervision	Trust	Employee disengagement	☐	☐
Recognition	Delegation	Mistrust	Employee engagement	☐	☐

Appendix 2

GKN Assessment - English

2. Look back again at the examples in the table. For each project, will the outcome always be obtained with the leadership style shown for the project?

							Yes	No
No value added	-->	Employee engagement	_____	_____	Mistrust		☐	☐
Value added	-->	_____	Constructive feedback	_____	Trust		☐	☐
Value added	-->	Employee engagement	Constructive feedback	_____	_____		☐	☐
No value added	-->	Employee engagement	_____	Supervision	_____		☐	☐
No value added	-->	Employee disengagement	Constructive feedback	_____	Mistrust		☐	☐
Value added	-->	_____	Constructive feedback	Delegation	Mistrust		☐	☐
No value added	-->	_____	Recognition	Supervision	Trust		☐	☐

3. The business project called Zemlja was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Employee disengagement	Mistrust	Delegation	-->	No value added
Constructive feedback	Employee engagement	Trust	Delegation	-->	No value added
Recognition	Employee disengagement	Mistrust	Supervision	-->	Value added
Constructive feedback	Employee disengagement	Trust	Supervision	-->	No value added
Recognition	Employee engagement	Trust	Delegation	-->	No value added
Constructive feedback	Employee disengagement	Mistrust	Delegation	-->	No value added
Recognition	Employee engagement	Trust	Supervision	-->	Value added
Recognition	Employee disengagement	Trust	Delegation	-->	No value added

GKN Assessment - English

3. Look back at the examples in the table. Will the way the manager leads the business project add value or not?

				Value added	No value added
Constructive feedback	Employee engagement	Mistrust	Delegation	☐	☐
Recognition	Employee engagement	Mistrust	Delegation	☐	☐
Recognition	Employee disengagement	Trust	Supervision	☐	☐
Constructive feedback	Employee engagement	Trust	Supervision	☐	☐
Constructive feedback	Employee disengagement	Mistrust	Supervision	☐	☐
Constructive feedback	Employee disengagement	Trust	Delegation	☐	☐
Recognition	Employee engagement	Mistrust	Supervision	☐	☐
Constructive feedback	Employee engagement	Mistrust	Supervision	☐	☐

GKN Assessment - English

4. Look back again at the examples in the table. For each project, will the outcome always be obtained with the leadership style shown for the project?

						Yes	No
No value added	-->	Constructive feedback	_____	Delegation	_____	☐	☐
Value added	-->	Recognition	Employee disengagement	Supervision	_____	☐	☐
No value added	-->	_____	_____	Supervision	_____	☐	☐
Value added	-->	Recognition	_____	_____	Trust	☐	☐
No value added	-->	_____	_____	Delegation	_____	☐	☐
Value added	-->	Recognition	_____	Supervision	_____	☐	☐
No value added	-->	Recognition	Employee engagement	_____	_____	☐	☐

GKN Assessment - English

8. Challenge in Managing #6

Comparisons

Instructions for solving the following tasks: In each case, a relationship between possible events that affect outcomes is presented. All the cases deal how the manager lead the business project and how it turned out. In this way the cases are similar. All the cases have a different problem. In this way they are all different. Not including this similarity and difference, you will be asked to answer wheather a pair of cases is extremely similar, somewhat similar, or extremely dissimilar. Not all the answers need to be used and a particular answer may be given to more than one case.

1. The business project called Mars was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Employee engagement	Recognition	Supervision	Trust	-->	No value added
Employee disengagement	Constructive feedback	Delegation	Mistrust	-->	No value added
Employee engagement	Constructive feedback	Supervision	Trust	-->	No value added
Employee engagement	Constructive feedback	Delegation	Mistrust	-->	Value added
Employee disengagement	Recognition	Delegation	Trust	-->	No value added
Employee engagement	Recognition	Delegation	Trust	-->	Value added
Employee disengagement	Constructive feedback	Supervision	Trust	-->	No value added
Employee engagement	Recognition	Delegation	Mistrust	-->	Value added

1. The business project called Jupiter was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Constructive feedback	Employee engagement	Trust	Supervision	-->	No value added
Recognition	Employee disengagement	Trust	Supervision	-->	No value added
Constructive feedback	Employee disengagement	Trust	Delegation	-->	No value added
Constructive feedback	Employee engagement	Mistrust	Supervision	-->	Value added
Recognition	Employee engagement	Trust	Delegation	-->	No value added
Constructive feedback	Employee disengagement	Mistrust	Delegation	-->	Value added
Recognition	Employee engagement	Mistrust	Delegation	-->	No value added
Constructive feedback	Employee disengagement	Mistrust	Supervision	-->	Value added

1. Select the right answer:

◯ Extremely similar ◯ Somewhat similar ◯ Extremely dissimilar

GKN Assessment - English

2. The business project called Saturn was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Delegation	Mistrust	Employee disengagement	-->	Value added
Recognition	Delegation	Trust	Employee disengagement	-->	Value added
Constructive feedback	Delegation	Mistrust	Employee engagement	-->	No value added
Constructive feedback	Supervision	Trust	Employee engagement	-->	Value added
Constructive feedback	Delegation	Trust	Employee engagement	-->	Value added
Constructive feedback	Supervision	Mistrust	Employee disengagement	-->	No value added
Recognition	Supervision	Trust	Employee engagement	-->	Value added
Recognition	Supervision	Mistrust	Employee disengagement	-->	Value added

2. The business project called Uran was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Delegation	Mistrust	Employee disengagement	-->	Value added
Constructive feedback	Delegation	Mistrust	Employee engagement	-->	No value added
Recognition	Delegation	Trust	Employee engagement	-->	Value added
Constructive feedback	Delegation	Trust	Employee disengagement	-->	Value added
Recognition	Supervision	Mistrust	Employee engagement	-->	Value added
Constructive feedback	Supervision	Mistrust	Employee engagement	-->	No value added
Constructive feedback	Supervision	Trust	Employee disengagement	-->	Value added
Recognition	Supervision	Trust	Employee engagement	-->	Value added

2. Select the right answer:

◯ Extremely similar ◯ Somewhat similar ◯ Extremely dissimilar

3. The business project called Neptun was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Employee disengagement	Recognition	Supervision	Trust	-->	Value added
Employee engagement	Constructive feedback	Delegation	Mistrust	-->	No value added
Employee disengagement	Constructive feedback	Delegation	Trust	-->	No value added
Employee disengagement	Constructive feedback	Supervision	Mistrust	-->	Value added
Employee engagement	Recognition	Delegation	Trust	-->	No value added
Employee disengagement	Recognition	Delegation	Trust	-->	No value added
Employee engagement	Constructive feedback	Delegation	Trust	-->	No value added
Employee disengagement	Recognition	Supervision	Mistrust	-->	Value added

GKN Assessment - English

3. The business project called Pluton was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Constructive feedback	Employee disengagement	Trust	Supervision	-->	Value added
Recognition	Employee engagement	Mistrust	Supervision	-->	No value added
Constructive feedback	Employee engagement	Mistrust	Supervision	-->	Value added
Recognition	Employee engagement	Trust	Delegation	-->	Value added
Recognition	Employee disengagement	Mistrust	Supervision	-->	No value added
Recognition	Employee engagement	Trust	Delegation	-->	Value added
Recognition	Employee disengagement	Mistrust	Supervision	-->	No value added
Constructive feedback	Employee engagement	Mistrust	Delegation	-->	Value added

3. Select the right answer:

◯ Extremely similar ◯ Somewhat similar ◯ Extremely dissimilar

4. The business project called Decem was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Employee engagement	Mistrust	Delegation	-->	No value added
Constructive feedback	Employee disengagement	Trust	Supervision	-->	No value added
Recognition	Employee disengagement	Mistrust	Delegation	-->	No value added
Recognition	Employee disengagement	Trust	Supervision	-->	Value added
Constructive feedback	Employee engagement	Trust	Delegation	-->	No value added
Recognition	Employee engagement	Trust	Delegation	-->	Value added
Constructive feedback	Employee disengagement	Mistrust	Delegation	-->	No value added
Recognition	Employee engagement	Trust	Supervision	-->	Value added

4. The business project called Triginta was chosen. Here are six ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Recognition	Delegation	Mistrust	Employee disengagement	-->	No value added
Constructive feedback	Supervision	Trust	Employee engagement	-->	Value added
Recognition	Delegation	Trust	Employee engagement	-->	No value added
Constructive feedback	Delegation	Trust	Employee disengagement	-->	No value added
Recognition	Supervision	Mistrust	Employee engagement	-->	Value added
Constructive feedback	Supervision	Mistrust	Employee disengagement	-->	Value added

4. Select the right answer:

◯ Extremely similar ◯ Somewhat similar ◯ Extremely dissimilar

Appendix 2

GKN Assessment - English

5. The business project called Octoginta was chosen. Here are six ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Supervision	Trust	Employee engagement	Constructive feedback	-->	Value added
Delegation	Trust	Employee disengagement	Constructive feedback	-->	Value added
Supervision	Mistrust	Employee engagement	Recognition	-->	No value added
Delegation	Trust	Employee engagement	Recognition	-->	No value added
Delegation	Mistrust	Employee disengagement	Recognition	-->	No value added
Supervision	Mistrust	Employee disengagement	Constructive feedback	-->	Value added

5. The business project called Nonaginta was chosen. Here are eight ways the manager can lead the project and how it will turn out. Sometimes the project will have value added and sometimes it will have no value added.

Supervision	Recognition	Employee engagement	Mistrust	-->	Value added
Delegation	Recognition	Employee engagement	Trust	-->	No value added
Delegation	Recognition	Employee disengagement	Trust	-->	Value added
Delegation	Recognition	Employee disengagement	Mistrust	-->	Value added
Supervision	Constructive feedback	Employee engagement	Trust	-->	Value added
Delegation	Constructive feedback	Employee engagement	Trust	-->	No value added
Delegation	Constructive feedback	Employee disengagement	Mistrust	-->	Value added
Supervision	Constructive feedback	Employee disengagement	Trust	-->	Value added

5. Select the right answer:

◯ Extremely similar ◯ Somewhat similar ◯ Extremely dissimilar

You have successfully completed the questionaire. Thank you for your time. Results will be available from Sabina Ravničan.

Survey Questionnaire in Slovenian language

Appendix 3

GKN Assessment

1. Demografska vprašanja

1. Spol (obkroži):

- ◯ Moški
- ◯ Ženski

2. Vaša starost:

- ◯ 18 do 24 let
- ◯ 25 do 31 let
- ◯ 32 do 38 let
- ◯ 39 do 45 let
- ◯ 46 do 52 let
- ◯ 53 do 59 let

3. Stopnja dosežene izobrazbe:

- ◯ končana osnovna šola
- ◯ srednješolska
- ◯ višješolska strokovna
- ◯ visokošolska strokovna
- ◯ univerzitetna
- ◯ magisterij

4. Kakšno delo opravljate:

- ◯ vodja
- ◯ zaposleni

5. Označite področje vašega dela:

- ◯ Administracija (finance, kadrovska služba, informatika, oskrbna logistika, nabava)
- ◯ Proizvodnja in vzdrževanje
- ◯ Tehnologija, kakovost, priprava orodja

GKN Assessment

6. Moje delo zajema naslednje naloge:
(izberite naloge, ki na splošno opisujejo vaše delo, pri vprašanju lahko izberete več odgovorov)

- ☐ Priprava evidenc
- ☐ Priprava poročil
- ☐ Vodenje projektov
- ☐ Redna komunikacija z zunanjimi strankami
- ☐ Redna komunikacija z notranjimi strankami
- ☐ Poučevanje, uvajanje in usposabljanje sodelavcev
- ☐ Sodelovanje pri postavljanju strategije podjetja
- ☐ Sodelovanje pri postavljanju ciljev podjetja
- ☐ Razvoj procesov
- ☐ Vodenje različnih timov
- ☐ Sodelovanje v različnih timih
- ☐ Priprava dokumentacije
- ☐ Vodenje in organizacija dela znotraj službe
- ☐ Opravljanje strokovnih opravil s svojega področja

7. Delovna doba v podjetju:

- ◯ manj kot 1 leto
- ◯ med 1 in 3 leta
- ◯ med 3 in 6 let
- ◯ med 6 in 9 let
- ◯ med 9 in 12 let
- ◯ več kot 12 let

8. Prosim izpolnite spodnjo tabelo s podatki, iz katerih bo oblikovana vaša šifra za vpogled individualnih rezultatov:

Prva črka imena vašega očeta:	
Prva črka imena vaše matere:	
Prva črka vašega kraja rojstva:	
Mesec vašega rojstva (s številko):	

Appendix 3

GKN Assessment

2. Sodelovanje med vodji in zaposlenimi

Spodnjih pet zgodb se dogaja v različnih državah. V vsaki zgodbi vodja poskuša pomagati zaposlenemu pri problemih, ki so zelo resni. Pri tem je naloga vodje, da izbere predlog in tako poskuša izboljšati položaj. Vsi vodje imajo enako raven osnovnega znanja, pri tem pa se sami odločijo, kako bodo pomagali zaposlenemu. V vsakem primeru se problemi poslabšajo in prizadeti udeleženci utrpijo. Pri splošnem pregledu slabih rezultatov je bila natančno pregledana metoda vsakega vodje. V zgodbah, ki sledijo, vodje opisujejo pogovore s svojimi zaposlenimi. Natančno preberite vseh pet pričevanj in potem odgovorite na vprašanja, ki sledijo.

Vodja Boris se pogovarja z zaposlenim, da bi skupaj ocenila problem. Med pogovorom vodja Boris predlaga načrt, za katerega meni, da je najbolj učinkovit za rešitev problema. Boris predstavi tudi drugo rešitev, se pogovori o koristih in tveganjih obeh, vključno z možnostjo, da se ne stori ničesar. Boris postavlja in odgovarja na veliko vprašanj z namenom boljšega razumevanja problema zaposlenega. Boris opazuje ali se telesna govorica zaposlenega sklada z njegovimi izjavami. Boris vpraša, ali se zaposleni lahko odloči glede na opravljeni pogovor. Ker zaposleni meni, da ima vodja Boris najboljšo rešitev, se odloči za to rešitev.

1. Ocena 1 pomeni, da je vodja opravil svojo nalogo zelo pomanjkljivo. Ocena 6 pomeni, da je vodja opravil svojo nalogo odlično.

	Zelo pomanjkljivo 1	2	3	4	5	Odlično 6
Ocenite, kakšna je po vašem mnenju metoda, ki jo je uporabil vodja.	◯	◯	◯	◯	◯	◯
Ocenite, ali je vodja pomagal zaposlenemu pri obrazložitvi nastale situacije.	◯	◯	◯	◯	◯	◯
Ocenite, ali bi vi upoštevali nasvet ponujen s strani vodje.	◯	◯	◯	◯	◯	◯

Vodja Simon ponudi predlog, ki je že bil preučen in dokazano deluje. Vodja Simon prav tako pove, da ta predlog ni vedno za vse predstavljal pozitivnih rezultatov. Simon potem iz kolegove knjižice prebere opis predloga in tveganja, ki so povezana s tem predlogom. Pri tem Simon poudari, da vsaka rešitev predstavlja določena tveganja. Simon zaposlenega vpraša, ali razume predlog in vse možne rezultate. Po skrbnem premisleku Simonov zaposleni čuti in meni, da je Simon zelo sposoben vodja. Ker zaposleni meni, da ima vodja Simon najboljšo rešitev, se odloči za to rešitev.

2. Ocena 1 pomeni, da je vodja opravil svojo nalogo zelo pomanjkljivo. Ocena 6 pomeni, da je vodja opravil svojo nalogo odlično.

	Zelo pomanjkljivo 1	2	3	4	5	Odlično 6
Ocenite, kakšna je po vašem mnenju metoda, ki jo je uporabil vodja.	◯	◯	◯	◯	◯	◯
Ocenite, ali je vodja pomagal zaposlenemu pri obrazložitvi nastale situacije.	◯	◯	◯	◯	◯	◯
Ocenite, ali bi vi upoštevali nasvet ponujen s strani vodje.	◯	◯	◯	◯	◯	◯

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Vodja David zaposlenemu ponudi predlog, ki je ljubši njegovim kolegom. David pravi, da njegovi prijatelji izvajajo to rešitev. Vodja David tako pokliče kolega, ta pa zaposlenemu ponovno obrazloži predlog. Izražajoč skrb, vodja David vpraša zaposlenega, ali bi želel, da mu predlog razloži še tretja oseba. Davidovemu zaposlenemu je rečeno, da so ti ljudje dosegli dobre rezultate prav zaradi tega predloga. Vodja David tako zaposlenemu naroči, da naj podpre njegov predlog. Davidov zaposleni resno razmisli o tem, kar mu je povedal David. Ker zaposleni meni, da ima vodja David najboljšo rešitev, se odloči za to rešitev.

3. Ocena 1 pomeni, da je vodja opravil svojo nalogo zelo pomanjkljivo. Ocena 6 pomeni, da je vodja opravil svojo nalogo odlično.

	Zelo pomanjkljivo 1	2	3	4	5	Odlično 6
Ocenite, kakšna je po vašem mnenju metoda, ki jo je uporabil vodja.	◯	◯	◯	◯	◯	◯
Ocenite, ali je vodja pomagal zaposlenemu pri obrazložitvi nastale situacije.	◯	◯	◯	◯	◯	◯
Ocenite, ali bi vi upoštevali nasvet ponujen s strani vodje.	◯	◯	◯	◯	◯	◯

Vodja Zoran ponudi učinkovit predlog, ki je v primerjavi z drugimi rešitvami za ta problem zelo dober. Zoran razloži možne učinke vsakega predloga. Vodja Zoran prav tako opiše vsa tveganja, ki bi lahko izhajala iz teh predlogov. Zoran zaposlenega prosi, naj mu pove tudi svoje mnenje. Zoran zaposlenemu razloži, da je od njega odvisno, če bo podprl predlog. Zoran vpraša, ali zaposleni želi podpreti njegov predlog. Zoranov zaposleni premisli o tem, kar mu je pravkar povedal Zoran. Ker zaposleni meni, da ima vodja Zoran najboljšo rešitev, se odloči za to rešitev.

4. Ocena 1 pomeni, da je vodja opravil svojo nalogo zelo pomanjkljivo. Ocena 6 pomeni, da je vodja opravil svojo nalogo odlično.

	Zelo pomanjkljivo 1	2	3	4	5	Odlično 6
Ocenite, kakšna je po vašem mnenju metoda, ki jo je uporabil vodja.	◯	◯	◯	◯	◯	◯
Ocenite, ali je vodja pomagal zaposlenemu pri obrazložitvi nastale situacije.	◯	◯	◯	◯	◯	◯
Ocenite, ali bi vi upoštevali nasvet ponujen s strani vodje.	◯	◯	◯	◯	◯	◯

Vodja Marko je pred kratkim zaključil usposabljanje na področju, ki je povezano s predlogom in je bilo ustvarjeno za rešitev problema zaposlenega. Marko pravi, da najboljši vodje ta predlog priporočajo na redni osnovi. Marko razloži metodo in zaposlenemu razloži, da bo tudi v njegovem primeru dobro deloval. Marko zaposlenemu razloži tudi ostale rešitve, ki bi lahko delovale. Zaposlenega vpraša, ali ima slučajno kakšna vprašanja. Vendar pa zaposleni nima nobenih vprašanj, zato Marko vpraša, ali zaposleni želi sprejeti priporočeni predlog. Ker zaposleni meni, da ima vodja Marko najboljšo rešitev, se odloči za to rešitev.

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5. Ocena 1 pomeni, da je vodja opravil svojo nalogo zelo pomanjkljivo. Ocena 6 pomeni, da je vodja opravil svojo nalogo odlično.

	Zelo pomanjkljivo 1	2	3	4	5	Odlično 6
Ocenite, kakšna je po vašem mnenju metoda, ki jo je uporabil vodja.	◯	◯	◯	◯	◯	◯
Ocenite, ali je vodja pomagal zaposlenemu pri obrazložitvi nastale situacije.	◯	◯	◯	◯	◯	◯
Ocenite, ali bi vi upoštevali nasvet ponujen s strani vodje.	◯	◯	◯	◯	◯	◯

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3. IZZIV PRI VODENJU #1

Navodila za reševanje naslednjih nalog:
V nadaljevanju sta v vsaki tabeli navedena po dva primera, kako vodja vodi poslovni projekt in kakšen je rezultat. Preberite spodnje naloge in odgovorite na vprašanja, ki sledijo. Pri odgovorih uporabite tabelo.

1. Izbran je bil poslovni projekt z nazivom Alpha. V tabeli sta navedena dva primera, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Zavzetost zaposlenih	-->	Dodana vrednost
Nezavzetost zaposlenih	-->	Nedodana vrednost

1. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Nezavzetost zaposlenih	◯	◯
Zavzetost zaposlenih	◯	◯

2. Izbran je bil poslovni projekt z nazivom Beta. V tabeli sta navedena dva primera, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Zavzetost zaposlenih	-->	Nedodana vrednost
Nezavzetost zaposlenih	-->	Dodana vrednost

2. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Nezavzetost zaposlenih	◯	◯
Zavzetost zaposlenih	◯	◯

3. Izbran je bil poslovni projekt z nazivom Gamma. V tabeli sta navedena dva primera, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Nezavzetost zaposlenih	-->	Dodana vrednost
Zavzetost zaposlenih	-->	Nedodana vrednost

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3. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Zavzetost zaposlenih	◯	◯
Nezavzetost zaposlenih	◯	◯

GKN Assessment

4. IZZIV PRI VODENJU #2

Navodila za reševanje naslednjih nalog:
V nadaljevanju so v vsaki tabeli navedeni po štirje primeri, kako vodja vodi poslovni projekt in kakšen je rezultat.
Preberite spodnje naloge in odgovorite na vprašanja, ki sledijo. Pri odgovorih uporabite tabelo.

1. Izbran je bil poslovni projekt z nazivom Delta. V tabeli so navedeni štirje primeri, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	nadzor	-->	Dodana vrednost
Konstruktivna kritika	delegiranje	-->	Nedodana vrednost
Pohvala	nadzor	-->	Dodana vrednost

1. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Konstruktivna kritika nadzor	☐	☐
Pohvala delegiranje	☐	☐
Pohvala nadzor	☐	☐
Konstruktivna kritika delegiranje	☐	☐

2. Izbran je bil poslovni projekt z nazivom Epsilon. V tabeli so navedeni štirje primeri, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

nadzor	Zaupanje	-->	Dodana vrednost
delegiranje	Zaupanje	-->	Dodana vrednost
nadzor	Nezaupanje	-->	Nedodana vrednost
delegiranje	Nezaupanje	-->	Nedodana vrednost

2. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
delegiranje Nezaupanje	☐	☐
nadzor Nezaupanje	☐	☐
nadzor Zaupanje	☐	☐
delegiranje Zaupanje	☐	☐

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5. IZZIV PRI VODENJU #3

Navodila za reševanje naslednjih nalog:
V nadaljevanju so v vsaki tabeli navedeni trije primeri, kako vodja vodi poslovni projekt in kakšen je rezultat. Preberite spodnje naloge in odgovorite na vprašanja, ki sledijo. Pri odgovorih uporabite tabelo.

1. Izbran je bil poslovni projekt z nazivom Dzeta. Navedeni so trije primeri, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

nadzor	Nezavzetost zaposlenih	-->	Nedodana vrednost
delegiranje	Zavzetost zaposlenih	-->	Dodana vrednost
nadzor	Zavzetost zaposlenih	-->	Dodana vrednost

1. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Delegiranje / Nezavzetost zaposlenih	◯	◯

2. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
delegiranje / Pohvala	◯	◯

3. Izbran je bil poslovni projekt z nazivom Sigma. Navedeni so trije primeri, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Zavzetost zaposlenih	Nezaupanje	-->	Nedodana vrednost
Nezavzetost zaposlenih	Zaupanje	-->	Dodana vrednost
Nezavzetost zaposlenih	Nezaupanje	-->	Dodana vrednost

3. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Zavzetost zaposlenih / Zaupanje	◯	◯

GKN Assessment

6. IZZIV PRI VODENJU #4

Navodila za reševanje naslednjih nalog:
V nadaljevanju je v vsaki tabeli navedenih šest primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. Preberite spodnje naloge in odgovorite na vprašanja, ki sledijo. Pri odgovorih uporabite tabelo.

1. Izbran je bil poslovni projekt z nazivom Omega. Navedenih je šest primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	delegiranje	Nezaupanje	Nezavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Pohvala	delegiranje	Zaupanje	Zavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	delegiranje	Zaupanje	Nezavzetost zaposlenih	-->	Nedodana vrednost
Pohvala	nadzor	Nezaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	nadzor	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost

1. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
Konstruktivna kritika, delegiranje, Nezaupanje, Zavzetost zaposlenih	☐	☐
Pohvala, nadzor, Nezaupanje, Nezavzetost zaposlenih	☐	☐
Pohvala, delegiranje, Zaupanje, Nezavzetost zaposlenih	☐	☐
Konstruktivna kritika, nadzor, Nezaupanje, Zavzetost zaposlenih	☐	☐
Konstruktivna kritika, delegiranje, Nezaupanje, Nezavzetost zaposlenih	☐	☐
Konstruktivna kritika, delegiranje, Zaupanje, Zavzetost zaposlenih	☐	☐
Pohvala, nadzor, Zaupanje, Zavzetost zaposlenih	☐	☐
Pohvala, delegiranje, Nezaupanje, Zavzetost zaposlenih	☐	☐
Konstruktivna kritika, nadzor, Zaupanje, Nezavzetost zaposlenih	☐	☐
Pohvala, nadzor, Zaupanje, Nezavzetost zaposlenih	☐	☐

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2. Izbran je bil poslovni projekt z nazivom Pluto. Navedenih je šest primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

nadzor	Zaupanje	Zavzetost zaposlenih	Konstruktivna kritika	-->	Dodana vrednost
delegiranje	Zaupanje	Nezavzetost zaposlenih	Konstruktivna kritika	-->	Dodana vrednost
nadzor	Nezaupanje	Zavzetost zaposlenih	Pohvala	-->	Nedodana vrednost
delegiranje	Zaupanje	Zavzetost zaposlenih	Pohvala	-->	Nedodana vrednost
delegiranje	Nezaupanje	Nezavzetost zaposlenih	Pohvala	-->	Nedodana vrednost
nadzor	Nezaupanje	Nezavzetost zaposlenih	Konstruktivna kritika	-->	Dodana vrednost

2. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

	Dodana vrednost	Nedodana vrednost
delegiranje, Zaupanje, Zavzetost zaposlenih, Konstruktivna kritika	☐	☐
nadzor, Zaupanje, Zavzetost zaposlenih, Pohvala	☐	☐
delegiranje, Nezaupanje, Zavzetost zaposlenih, Konstruktivna kritika	☐	☐
delegiranje, Nezaupanje, Zavzetost zaposlenih, Pohvala	☐	☐
delegiranje, Zaupanje, Nezavzetost zaposlenih, Pohvala	☐	☐
nadzor, Nezaupanje, Zavzetost zaposlenih, Konstruktivna kritika	☐	☐
nadzor, Zaupanje, Nezavzetost zaposlenih, Konstruktivna kritika	☐	☐
delegiranje, Nezaupanje, Nezavzetost zaposlenih, Konstruktivna kritika	☐	☐
nadzor, Nezaupanje, Nezavzetost zaposlenih, Pohvala	☐	☐
nadzor, Zaupanje, Nezavzetost zaposlenih, Pohvala	☐	☐

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7. IZZIV PRI VODENJU #5

Navodila za reševanje naslednjih nalog:
V nadaljevanju je v vsaki tabeli navedenih osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat.
Preberite spodnje naloge in odgovorite na vprašanja, ki sledijo. Pri odgovorih uporabite tabelo.

1. Izbran je bil poslovni projekt z nazivom Venera. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	Delegiranje	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Pohvala	Delegiranje	Zaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	Delegiranje	Nezaupanje	Zavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	Nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	Delegiranje	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	Nadzor	Nezaupanje	Nezavzetost zaposlenih	-->	Nedodana vrednost
Pohvala	Nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Pohvala	Nadzor	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost

1. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

				Dodana vrednost	Nedodana vrednost
Pohvala	Delegiranje	Zaupanje	Zavzetost zaposlenih	☐	☐
Pohvala	Nadzor	Nezaupanje	Zavzetost zaposlenih	☐	☐
Konstruktivna kritika	Nadzor	Nezaupanje	Zavzetost zaposlenih	☐	☐
Konstruktivna kritika	Delegiranje	Zaupanje	Nezavzetost zaposlenih	☐	☐
Pohvala	Nadzor	Zaupanje	Nezavzetost zaposlenih	☐	☐
Konstruktivna kritika	Delegiranje	Nezaupanje	Nezavzetost zaposlenih	☐	☐
Konstruktivna kritika	Nadzor	Zaupanje	Nezavzetost zaposlenih	☐	☐
Pohvala	Delegiranje	Nezaupanje	Zavzetost zaposlenih	☐	☐

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2. Ponovno uporabite zgornjo tabelo s primeri. Ali bo rezultat za projekt vedno dosežen z načinom vodenja, ki je prikazan za ta projekt?

							Da	Ne
Nedodana vrednost	-->	Zavzetost zaposlenih	_____	_____	Nezaupanje		☐	☐
Dodana vrednost	-->	_____	Konstruktivna kritika	_____	Zaupanje		☐	☐
Dodana vrednost	-->	Zavzetost zaposlenih	Konstruktivna kritika	_____	_____		☐	☐
Nedodana vrednost	-->	Zavzetost zaposlenih	_____	nadzor	_____		☐	☐
Nedodana vrednost	-->	Nezavzetost zaposlenih	Konstruktivna kritika	_____	Nezaupanje		☐	☐
Dodana vrednost	-->	_____	Konstruktivna kritika	delegiranje	Nezaupanje		☐	☐
Nedodana vrednost	-->	_____	Pohvala	nadzor	Zaupanje		☐	☐

3. Izbran je bil poslovni projekt z nazivom Zemlja. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	Neavzetost zaposlenih	Nezaupanje	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Nedodana vrednost
Pohvala	Nezavzetost zaposlenih	Nezaupanje	nadzor	-->	Dodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Zaupanje	nadzor	-->	Nedodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Nezaupanje	delegiranje	-->	Nedodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	nadzor	-->	Dodana vrednost
Pohvala	Nezavzetost zaposlenih	Zaupanje	delegiranje	-->	Nedodana vrednost

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3. Uporabite zgornjo tabelo s primeri. Ali bo način, kako vodja vodi poslovni projekt imel dodano vrednost ali nedodano vrednost?

				Dodana vrednost	Nedodana vrednost
Konstruktivna kritika	Zavzetost zaposlenih	Nezaupanje	Delegiranje	☐	☐
Pohvala	Zavzetost zaposlenih	Nezaupanje	Delegiranje	☐	☐
Pohvala	Nezavzetost zaposlenih	Zaupanje	Nadzor	☐	☐
Konstruktivna kritika	Zavzetost zaposlenih	Zaupanje	Nadzor	☐	☐
Konstruktivna kritika	Nezavzetost zaposlenih	Nezaupanje	Nadzor	☐	☐
Konstruktivna kritika	Nezavzetost zaposlenih	Zaupanje	Delegiranje	☐	☐
Pohvala	Zavzetost zaposlenih	Nezaupanje	Nadzor	☐	☐
Konstruktivna kritika	Zavzetost zaposlenih	Nezaupanje	Nadzor	☐	☐

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4. Ponovno uporabite zgornjo tabelo s primeri. Ali bo rezultat za projekt vedno dosežen z načinom vodenja, ki je prikazan za ta projekt?

							Da	Ne
Nedodana vrednost	-->	Konstruktivna kritika	_____	Delegiranje	_____		☐	☐
Dodana vrednost	-->	Pohvala	Nezavzetost zaposlenih	Nadzor	_____		☐	☐
Nedodana vrednost	-->	_____	_____	Nadzor	_____		☐	☐
Dodana vrednost	-->	Pohvala	_____	_____	Zaupanje		☐	☐
Nedodana vrednost	-->	_____	_____	Delegiranje	_____		☐	☐
Dodana vrednost	-->	Pohvala	_____	Nadzor	_____		☐	☐
Nedodana vrednost	-->	Pohvala	Zavzetost zaposlenih	_____	_____		☐	☐

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8. IZZIV PRI VODENJU #6

Primerjave med tabelami

Navodila za reševanje naslednjih nalog: V posamezni tabeli je predstavljen odnos med dogodki, ki vplivajo na rezultate. Vse tabele so si med sabo podobne, saj prikazujejo kako vodja vodi poslovni projekt in kakšen je rezultat. Hkrati ima vsaka tabela drugačen problem, zato so si med sabo tudi različne. Brez upoštevanja teh podobnosti in razlik, odgovorite na spodnja vprašanja, ali sta si posamezni tabeli med sabo zelo podobni, nekoliko podobni ali različni.

1. Izbran je bil poslovni projekt z nazivom Mars. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Zavzetost zaposlenih	Pohvala	nadzor	Zaupanje	-->	Nedodana vrednost
Nezavzetost zaposlenih	Konstruktivna kritika	delegiranje	Nezaupanje	-->	Nedodana vrednost
Zavzetost zaposlenih	Konstruktivna kritika	nadzor	Zaupanje	-->	Nedodana vrednost
Zavzetost zaposlenih	Konstruktivna kritika	delegiranje	Nezaupanje	-->	Dodana vrednost
Nezavzetost zaposlenih	Pohvala	delegiranje	Zaupanje	-->	Nedodana vrednost
Zavzetost zaposlenih	Pohvala	delegiranje	Zaupanje	-->	Dodana vrednost
Nezavzetost zaposlenih	Konstruktivna kritika	nadzor	Zaupanje	-->	Nedodana vrednost
Zavzetost zaposlenih	Pohvala	delegiranje	Nezaupanje	-->	Dodana vrednost

1. Izbran je bil poslovni projekt z nazivom Jupiter. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Konstruktivna kritika	Zavzetost zaposlenih	Zaupanje	nadzor	-->	Nedodana vrednost
Pohvala	Nezavzetost zaposlenih	Zaupanje	nadzor	-->	Nedodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Zaupanje	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	Zavzetost zaposlenih	Nezaupanje	nadzor	-->	Dodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Nezaupanje	delegiranje	-->	Dodana vrednost
Pohvala	Zavzetost zaposlenih	Nezaupanje	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Nezaupanje	nadzor	-->	Dodana vrednost

1. Izberi pravi odgovor?

◯ Zelo Podobni ◯ Nekoliko Podobni ◯ Popolnoma Različni

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2. Izbran je bil poslovni projekt z nazivom Saturn. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	Delegiranje	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Pohvala	Delegiranje	Zaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	Delegiranje	Nezaupanje	Zavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	Nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	Delegiranje	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	Nadzor	Nezaupanje	Nezavzetost zaposlenih	-->	Nedodana vrednost
Pohvala	Nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Pohvala	Nadzor	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost

2. Izbran je bil poslovni projekt z nazivom Uran. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	delegiranje	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	delegiranje	Nezaupanje	Zavzetost zaposlenih	-->	Nedodana vrednost
Pohvala	delegiranje	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	delegiranje	Zaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Pohvala	nadzor	Nezaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	nadzor	Nezaupanje	Zavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	nadzor	Zaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost
Pohvala	nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost

2. Izberi pravi odgovor?

◯ Zelo Podobni ◯ Nekoliko Podobni ◯ Popolnoma Različni

3. Izbran je bil poslovni projekt z nazivom Neptun. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Nezavzetost zaposlenih	Pohvala	nadzor	Zaupanje	-->	Dodana vrednost
Zavzetost zaposlenih	Konstruktivna kritika	delegiranje	Nezaupanje	-->	Nedodana vrednost
Nezavzetost zaposlenih	Konstruktivna kritika	delegiranje	Zaupanje	-->	Nedodana vrednost
Nezavzetost zaposlenih	Konstruktivna kritika	nadzor	Nezaupanje	-->	Dodana vrednost
Zavzetost zaposlenih	Pohvala	delegiranje	Zaupanje	-->	Nedodana vrednost
Nezavzetost zaposlenih	Pohvala	delegiranje	Zaupanje	-->	Nedodana vrednost
Zavzetost zaposlenih	Konstruktivna kritika	delegiranje	Zaupanje	-->	Nedodana vrednost
Nezavzetost zaposlenih	Pohvala	nadzor	Nezaupanje	-->	Dodana vrednost

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3. Izbran je bil poslovni projekt z nazivom Pluton. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Konstruktivna kritika	Nezavzetost zaposlenih	Zaupanje	nadzor	-->	Dodana vrednost
Pohvala	Zavzetost zaposlenih	Nezaupanje	nadzor	-->	Nedodana vrednost
Konstruktivna kritika	Zavzetost zaposlenih	Nezaupanje	nadzor	-->	Dodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Dodana vrednost
Pohvala	Nezavzetost zaposlenih	Nezaupanje	nadzor	-->	Nedodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Dodana vrednost
Pohvala	Nezavzetost zaposlenih	Nezaupanje	nadzor	-->	Nedodana vrednost
Konstruktivna kritika	Zavzetost zaposlenih	Nezaupanje	delegiranje	-->	Dodana vrednost

3. Izberi pravi odgovor

◯ Zelo Podobni ◯ Nekoliko Podobni ◯ Popolnoma Različni

4. Izbran je bil poslovni projekt z nazivom Decem. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	Zavzetost zaposlenih	Nezaupanje	delegiranje	-->	Nedodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Zaupanje	nadzor	-->	Nedodana vrednost
Pohvala	Nezavzetost zaposlenih	Nezaupanje	delegiranje	-->	Nedodana vrednost
Pohvala	Nezavzetost zaposlenih	Zaupanje	nadzor	-->	Dodana vrednost
Konstruktivna kritika	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Nedodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	delegiranje	-->	Dodana vrednost
Konstruktivna kritika	Nezavzetost zaposlenih	Nezaupanje	delegiranje	-->	Nedodana vrednost
Pohvala	Zavzetost zaposlenih	Zaupanje	nadzor	-->	Dodana vrednost

4. Izbran je bil poslovni projekt z nazivom Triginta. Navedenih je šest primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

Pohvala	delegiranje	Nezaupanje	Nezavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	nadzor	Zaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Pohvala	delegiranje	Zaupanje	Zavzetost zaposlenih	-->	Nedodana vrednost
Konstruktivna kritika	delegiranje	Zaupanje	Nezavzetost zaposlenih	-->	Nedodana vrednost
Pohvala	nadzor	Nezaupanje	Zavzetost zaposlenih	-->	Dodana vrednost
Konstruktivna kritika	nadzor	Nezaupanje	Nezavzetost zaposlenih	-->	Dodana vrednost

4. Izberi pravi odgovor?

◯ Zelo Podobni ◯ Nekoliko Podobni ◯ Popolnoma Različni

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5. Izbran je bil poslovni projekt z nazivom Octoginta. Navedenih je šest primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

nadzor	Zaupanje	Zavzetost zaposlenih	Konstruktivna kritika	-->	Dodana vrednost
delegiranje	Zaupanje	Nezavzetost zaposlenih	Konstruktivna kritika	-->	Dodana vrednost
nadzor	Nezaupanje	Zavzetost zaposlenih	Pohvala	-->	Nedodana vrednost
delegiranje	Zaupanje	Zavzetost zaposlenih	Pohvala	-->	Nedodana vrednost
delegiranje	Nezaupanje	Nezavzetost zaposlenih	Pohvala	-->	Nedodana vrednost
nadzor	Nezaupanje	Nezavzetost zaposlenih	Konstruktivna kritika	-->	Dodana vrednost

5. Izbran je bil poslovni projekt z nazivom Nonaginta. Navedenih je osem primerov, kako vodja vodi poslovni projekt in kakšen je rezultat. V nekaterih primerih bo poslovni projekt imel dodano vrednost, v nekaterih primerih bo imel nedodano vrednost.

nadzor	Pohvala	Zavzetost zaposlenih	Nezaupanje	-->	Dodana vrednost
delegiranje	Pohvala	Zavzetost zaposlenih	Zaupanje	-->	Nedodana vrednost
delegiranje	Pohvala	Nezavzetost zaposlenih	Zaupanje	-->	Dodana vrednost
delegiranje	Pohvala	Nezavzetost zaposlenih	Nezaupanje	-->	Dodana vrednost
nadzor	Konstruktivna kritika	Zavzetost zaposlenih	Zaupanje	-->	Dodana vrednost
delegiranje	Konstruktivna kritika	Zavzetost zaposlenih	Zaupanje	-->	Nedodana vrednost
delegiranje	Konstruktivna kritika	Nezavzetost zaposlenih	Nezaupanje	-->	Dodana vrednost
nadzor	Konstruktivna kritika	Nezavzetost zaposlenih	Zaupanje	-->	Dodana vrednost

5. Izberi pravi odgovor?

◯ Zelo Podobni ◯ Nekoliko Podobni ◯ Popolnoma Različni

Uspešno ste zaključili anketni vprašalnik. Hvala za vaše sodelovanje. Rezultati ankete vam bodo na voljo pri Sabini Ravničan.