
FUNDAMENTALS OF A NEW ERA'S RESPONSIVE EDUCATION INSTITUTE

- Case X Institute -



Master's thesis

Business Management and Entrepreneurship

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Sari Péry



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Author

Sari Péry

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ABSTRACT

The thesis is placed to shake the traditionalism, challenge the prevailing practices and conservative ideologies of the education branch by presenting and justifying an extensive alternative truth about the future events. The thesis objective is to find out if the X Institute personnel is ready to leave the old legacy ways behind and reach to the 21st century. The work clarify if the needed future skill set and mentality exist in the company. In tandem the thesis search answers if the company culture is accelerating or decelerating the transformation. The work is conducted to the X Institute Bio-Economy and Entrepreneurship unit in cooperation with the business unit leader.

The knowledge base of this thesis is based on the author's experiential work history in the commissioning company and additional knowledge is sourced with extensive environmental scanning from the various academic literature, multiple magazines, different scientific databases and several web publications. The original impetus for the whole thesis was the theory of the Peter H.Koehn's and James N. Rosenau's Transnational Competence - Empowering Professional Curricula for Horizon-Rising Challenges.

The quantitative research was made with questionnaire using Likert's scale. The survey was delivered with web survey tool SurveyMonkey and the results were analyzed in excel.

The main result indicate that the personnel mostly posses the needed capabilities, yet the company culture regularly hinder the progress by consuming the well-being of the employees and by un-supporting the professional growth. The culture is tightly attached to the leadership and management. The development ideas and main suggestions deliver optional possibilities and viewpoints of future leadership for the company management to address the challenge.

Keywords Fourth industrial revolution, leadership, managing the experts, change management, well-being

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TIIVISTELMÄ

Työ ravistelee perinteisiä koulutusmaailman toimintatapoja ja haastaa konservatiivisia ideologioita esittämällä sekä perustelemalla laajan vaihtoehtoisen näkymän tulevaisuuden pelikentästä. Työn tavoitteena on selvittää onko X Instituutin henkilöstöllä valmiuksia hylätä vanhat perinteikkäät tavat ja tavoitella ensi vuosituhatta. Työ selvittää esiintyykö tarvittavia tulevaisuuden taitoja ja ajatusmaailmaa yrityksessä. Samalla tutkimus etsii vastauksia siihen tukeeko vai hidastaako yrityksen kulttuuri muutosta. Työn tilaajana on X Instituutin luonnonvarat ja yrittäjyys yksikön toimialajohtaja.

Työn tiedollinen perusta kumpuaa kirjoittajan kokemuseräisestä työhistoriasta kyseisessä yrityksessä ja syventävää tietoa on hankittu laajalla ympäristön tutkimisella erilaisista akateemisista lähteistä, aikakauslehdistä, tieteellisistä verkkojulkaisuista sekä lukuisista sähköisistä tietolähteistä. Työn alkuperäinen ensisysäys sai alkunsa Peter H.Koehnin ja James N. Rosenaun kirjasta Transnational Competence, (Kansallisuudet ylittävä osaaminen), Empowering Professional Curricula for Horizon Rising Challenges.

Kvantitatiivinen tutkimus, jolla kartoitettiin henkilöstön kyvykkyyksiä toteutettiin kyselytutkimuksella hyödyntäen Likertin asteikkoa. Tutkimus toimitettiin vastaajille verkkotutkimustyökalulla SurveyMonkey ja tulokset analysoitiin excel -taulukkolaskenta ohjelmassa.

Keskeisimmät tutkimustulokset osoittavat, että henkilöstöllä pääasiallisesti löytyy tarvittavia kyvykkyyksiä tulevaisuuden haasteisiin. Kuitenkin organisaatiokulttuuri säännöllisesti hidastaa kehittymistä kuluttamalla henkilöstön hyvinvointia ja tukemalla heikosti ammatillista kehittymistä. Kulttuuri liittyy olennaisesti johtamiseen. Kehitysideat ja toimintaehdotukset esittelevät vaihtoehtoisia tapoja sekä näkökulmia, joilla yrityksen johto voi tarttua tulevaisuuden haasteisiin.

Avainsanat Neljäs teollinen vallankumous, johtaminen, asiantuntijoiden ohjaaminen, muutosjohtaminen, hyvinvointi

Sivut 102 s. + liitteet 5 kpl.

ABBREVIATIONS

| | |
|-----|--|
| X | - The X Institute |
| CEP | - Complex Event Processing |
| TC | - Transnational Competence |
| RQ | - Research Question |
| WEF | - World Economic Forum |
| TCP | - Transnationally Competent Person |
| ICT | - Information and Communication Technologies |
| EK | - Confederation of Finnish Industries |
| BIT | - Behavioral Insights Team of UK |
| OPH | - The Finnish National Board of Education |
| OKM | - The Finnish Ministry of Education and Culture |
| VET | - Vocational Education and Training |
| ELY | - Centre for Economic Development, Transport and the Environment |

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1 INTRODUCTION

The technological development is dizzying. Continuously, many new innovations arrive and enable new ways of communicating and working. Almost all the information ever invented by a human, is now available through the various networks and devices. The new ways are adapted promptly. "The opportunities of the digital revolution are enormous. Information and Communication Technologies, ICT's, are challenging the social fabric or societies and open up innovative perspectives to education, sciences, creativity, innovation and the media." (Unesco Report. 2014, 10).

As the world is heading to a new era of digitization, many people search encouragement from old times and habits. Although, this kind of behaviour might briefly create a false sense of safety, it is not delivering real security for the future. The technological development is inescapable, and the sight must focus on the horizon, on the dreams of the upcoming and what the society wants to be. This uncertain digital future has many titles and this thesis work is placed to shed light on the ongoing transformation phenomenon with multiple names. It is vital for the companies to understand the structure of the present-day and the prospect scenarios. There is no time to let the fear of future rule. A Swedish organizational theorist and Chief Strategy Officer at Hult International Business School stated in the Nordic Business Forum that when the circumstances change, doing the same thing is a bad strategy. Awareness and determination are the guide lines to lead the way through the challenging times of transformation.

In daily bases, the digitization of the work delivers to the employees and leaders various new circumstances. However, the greatest challenge is not the technology usage itself, yet the people's mental and intellectual adjustment towards the new ways of functioning. The continual readjustment highly consumes the human capital; intellectual ability and mental well-being. When the reforming companies concentrate purely on the technological solutions in their renewal, they neglect the real power which enables the transformation to realize, the personnel. From the business administration and change management point of view, investing in the intangible assets such the well-being and awareness adding education of the personnel, requires a real strategic focus in the transforming times.

The knowledge base of this thesis work is sourced with extensive environmental scanning from the various academic literature, multiple magazines, different scientific databases and several web publications. The perspectives remain objective, yet the purpose is to demonstrate issues which concern

both parties of an education company, the personnel and the leaders. The purpose is to widen the viewpoint at many level and support the broadmindedness of the company. Altogether this thesis work creates a fundamental base and understanding about the current state of the operating educational environment and proposes alternative solutions how to tackle the oncoming challenges.

1.1 Company Introduction - The X Institute

The X Institute (X) is a registered association and a part of the X Group alongside with the X Development Ltd. Additionally X Group owns 40 percent of one environmental institute in Finland. The head quarter of the institute is located in Nurmijärvi, Finland. Furthermore, the association has several units around Finland. The X Institute has 1400 members and 218 employees at the end of a fiscal year 2015. In February 2016, the institute forms from five business units which are logistics, vehicles, construction, bio economy & entrepreneurship and research & development.

The X Institutes vision is to be the leading developer of the Finnish work and the institute defines itself as: "We are trustworthy; customer centric, productive, and cooperative and we have high know-how and will to learn." The mission is to build in cooperation with the customer an overall training-, research- and development solutions, which improve the customers' productivity and competitiveness.

The organisation was established in 1924 for the same purpose; to improve productivity and to develop Finnish work. The X Institute is an independent vocational education association and it is not a municipal or state managed school. Due to this, X has the ability to swift in its functions rapidly as the chief executive officer and the board of directors are able to execute many independent decisions during the fiscal year. The strategic decisions, plan of actions and economic calculations are presented for the directorate council twice a year or when needed. The directorate council include Finnish political influencers mainly from the centre party.

The vocational degree training is executed by the national qualifications and by the rules of the Finnish National Board of Education. The functions are financed by the government, with varying types of project assets and direct sales from private customers. X also provides brief training for different valid certifications such as the hot work permit and occupational safety licence.

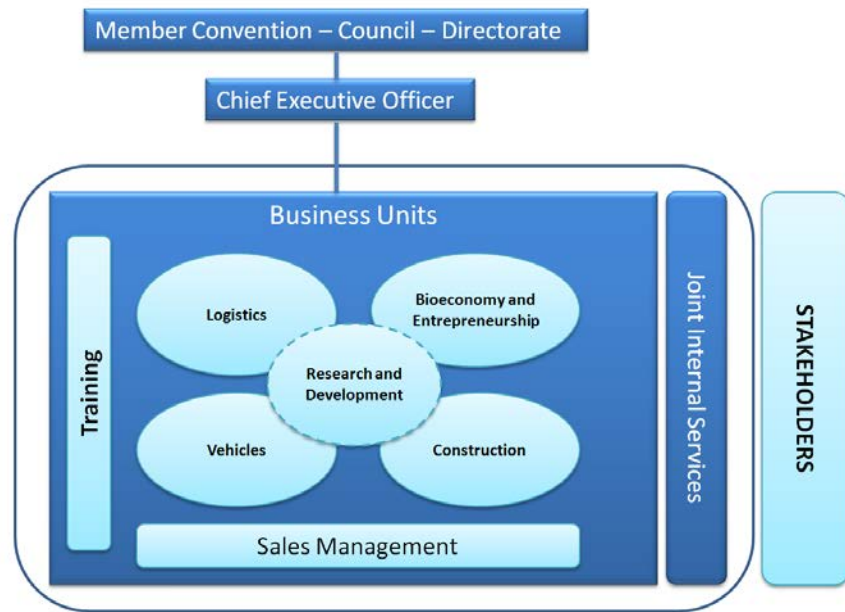


Figure 1. The X Institute Organisation Chart in February 2016.

1.2 The Thesis Background, Concept and Utility for the Company

The topic of this thesis is selected through a genuine interest in the matter and through a personal commitment to education company's development. The ultimate goal of the work is to assist the traditional educational institute to develop its prevailing practices in order to help the organization transform smoothly into an all-powerful future trailblazer of training. The subject of the thesis is current and the research is conducted in cooperation with X Institute. The study will assist the organization by adding awareness of the current times and about the fundamental changes of the environment.

In order to achieve the vision of being the future trailblazer, educational institute must have competent and fearless personnel working for the goal. This study addresses the actual need and identifies the acute improvement requirements which are quickly needed in order to maintain the competitive advantage. The baseline of this thesis is to boost the X institution and its personnel to the new era. This study supports the vitality and productivity of X by producing an extensive general overview of the current radically changing circumstances.

Furthermore, the research charts the current capabilities and competences of the company. The study proposes new methods and solutions for the leaders to execute efficient change in the company and describes how to support the personnel in the transformation. Talented personnel formulate Responsive Organization - The only type of an organization which will

survive as a winner in the challenging times now and in the future. Talented personnel equal people with technological skills, transnational competence and a positive can-do mindset. Globalization and digitization invalidate the old style mono cultural mindset and only those who mentally live in the global "world village" will win. The research reveals if this kind of an attitude and mentality is in there at X Institute.

The purpose of this thesis is to clarify for the reader several current phenomenon in common language. The theoretical framework bases on various, relevant literature and statistics about the modern issues. The sources are multiple as one and only theory about everything do not exist in this present time. This thesis work is entirely cross-scientific and exploits various disciplines. The author aims to keep the perspective modern, therefore the old and stiff theories are on purpose avoided in here. Yet they are applied suitably when necessary to high light the history of some events.

The study objective is to collect wide range of relevant information for the company to define the most relevant tools and methods for the company's future success. In many companies this is a great challenge in the current times information overflow and data hassle. One of the main methods of this theoretical framework data collection come originally from the computer science as the author utilizes complex event processing in the data tracking. This method combines real-time information from multiple sources and correlates these against the historic in order to provide insight analysis of the current situation. The purpose of the method is to identify meaningful events such as opportunities and threats about the current matter under investigation. The complex event processing method is utilized in here alongside with various solutions from business administration and analysis, change management and competence development. Furthermore the thesis takes advantage of organizational psychology and general social science. All the selected instruments are applied in order to deliver the relevant information (Appendix 1).

Organizations must swiftly and actively built their networks and awareness about the challenges and opportunities which the transformation produces. The active awareness building of this thesis is based on the known facts about the current environment. The study assists X Institute to recognize and answer for the future demands in many stages. "When visions vividly describe a desired future, they have the magnetic power to draw us toward them and galvanize action" (Cortes, C.E. & Wilkinson, L.C. 2009, 18). This study paints a sharp visionary picture of a future's winning educational organisation with modern working methods. Furthermore, it de-

scribes the company's competent employees with a relevant and competitive skill set.

Below, a brief methodology explains the main concepts and terminology of the study.

- **Adaption** is the capability of quickly shift perspective and change behavior in an appropriate way toward the situation.
- **Competence** is a cluster of related abilities, commitments, knowledge and skills that enable a person or an organization to act effectively in a job or a varying situation. Individually competence is based on diverse and multidimensional talents.
- **Transnationality** is the ability to shift mental "nationality" according to the case and need.
- **Transnationally Competent Person (TCP)** approaches and moves fluently from national mentality to another whilst naturally respecting the cultural differences. Traditional geographic state borders are not crucial factors for TCP's but the opponent person with unique ancestry is conclusive for the suitably modified approach of TCP. "TCP's have a proven skill portability, they are bicultural or multicultural individuals whose valuable personal assets endow them for prospering in today's social, political, economic, cultural, technological and environmentally interconnected world" (Koehn & Rosenhaus 2010, 20).

1.3 The Structure of the Thesis & Demarcations

This thesis includes 10 chapters. First chapter is the introduction, where the author introduces the roots of this study. Additionally, the chapter defines the concept of the study, the main purpose and objectives. Furthermore, it presents the company this study is conducted for and defines the demarcations of the research. The second chapter is opening the current day phenomenon to the reader and establishing the meta-understanding about the ongoing circumstances. The large context of the current circumstances and its causes is worth assimilating as otherwise the viewpoint will remain vague.

Chapter three describes the leadership of the new era. It justifies the need for leadership ideology change and opens new perspectives on the matter by comparing old methods towards today's and future needs. The knowledge base created in here will assist the leaders to manage the training experts

on and to the new era. The chapter also presents modern fresh theories and methods for education leaders to familiarize with. This chapter is an important step towards the fourth chapter as the competencies of a new era's educator are highly relying and being supported by the future talented leaders and managers.

Fourth chapter describes the key competencies required from an educator in the future. Each carefully selected competence is discussed in the chapter and fitted towards educators needs. The main purpose is to open up the current concepts of the competencies and highlight the importance of each as key competence required by the future. Chapter five opens up the prospects of the Finnish education and training field in the future. The purpose is to illuminate the field where the educators will be playing soon and give a quick overall glance over the court.

Sixth chapter explains in detail the research approach, design and methods. In here the research bases are deeply explained and justified. Chapter seven explains the research conducted in the X Institute. This chapter justifies the reliability and validity. Furthermore it analyses the results and reveals the prevailing ideologies and defines possessed competencies. Awareness of these aims to find the methods which assist the personnel to experience the digitalism and transformation adaption lighter. Personnel should embrace the future, it is not a problem or an insurmountable obstacle; it is just a future and it will arrive, wanted or not (Figure 2).

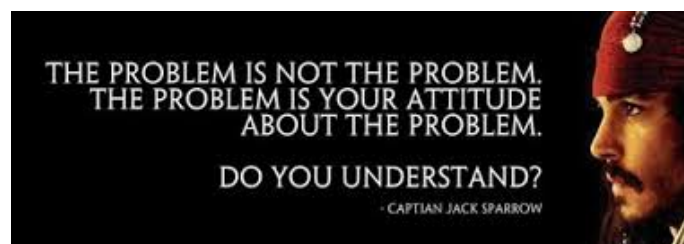


Figure 2. Problem Definition by Sparrow
(www.quotesforbros.com 2016).

The research has its scope on the X Institute's Bio-economy and Entrepreneurship unit and it includes the personnel's current skill and attitude mapping. The research does not include the competence mapping of the other X business units, X research and development personnel nor the supporting functions personnel.

Chapter eight covers the discussion of the research results and in chapter nine the contributions are delivered. Chapter ten includes the conclusions and some selected further reading tips for the leaders and managers of a transforming company.

2 IDENTIFYING THE FEATURES OF THE NEW ERA

"In societies that have more memories than dreams, too many people are spending too many days looking backward" - Thomas L. Friedman.

According to Ashby's Law "the existence of a system is threatened when its complexity is no longer sufficient to provide enough variety to deal with environmental changes" (Socialize your business. 2014, 25). As the time being the environment changes rapidly, and any system or organisation must possess ability to address the changes. If otherwise, the existence of the system is threatened. Evolution is quick and the most efficient way to survive is to be aware of the present state and innovate agile new methods of riding the rapids of change. "Economic studies during the past several decades have concluded that technology innovation, and related capital and human investment, contributes nearly half of the nation's productivity, economic growth and standard of living. It is thus imperative that government and business leadership pay the utmost attention to the role of innovation in growth, competitiveness and quality of life." (Milbergs, E. & Vonortas, N. 2016, 1).

The future does not include tight strategies with restricted visions nor old leadership methods. Nonetheless, "the reformation of the economies and technology has a direction. Although the direction will not lead to any clearly defined destination, it still has a name. The name of the direction is relative advantage obtained from reformation. Finally this relative advantage is considered by the society or company in question." (Leppälä, K. 2014, 89). As Kadenius et al. states in their book, it is no more enough if the company's processes are polished to perfection and the top fit machines are productive without errors. The companies need ability to react quickly for repetitive changes and be able to maintain the functionality in the middle of the instability. In the future, the "success belongs to the companies that have the capacity to create change and maybe even chaos for their competitors and the entire market." (Highsmith, J. 2011, 13).

It all started from the world-wide-web in the 1990's. The first digital natives were born with a mobile phone in their hand. For their five year birthday, they got their own laptops and between 10-18 year old, they held their own tablets and smart phones always on go. Cloud services and social media environments are their backyard forests and the digital natives know these playgrounds like their own pockets. The willingness to connect is a clear message that the people want to be in touch with each other and learn from each other. A wide range of people can be connected and communicate with each

other anywhere anytime. People can have conversations and change opinions in real time. They create collective intelligence tribes, which decide what is wrong and what is right in society.

These adolescents of the digital age have grown up in the world of modern information and communication technologies unlike their teachers. At the time being it is common knowledge that tensions exist between the digital natives and their schools and educational institutions. Frequently these gaps cause frustration whilst prevailing educational practices fail to meet the student intellectually, emotionally, socially and pedagogically.

2.1 On the Threshold of a New Era

By this time, it is clear to everyone that the world is in the middle of an epic change. There is no need to justify this anymore. Yet, it is extremely confusing as the change has been given many different names, such as social- or hyper connected- or even digital era and so far all of them describe the same phenomenon. What is even more confusing is that authors have different names for the future 'newborn'.

Whilst gathering the information for this study with extensive environmental scanning, the author concluded that the ongoing transformation is not itself only social, technological, networked or digital. It is an overwhelming combination of all of these and it will have influence on everything. Hence, it is well founded to state that "the new technologies are changing how we live and who we are. It is a pivotal moment for humanity - and it is being hailed as the Fourth Industrial Revolution." (Sorkin, A.R. 2016). In this study the ongoing transformation will be called the Fourth Industrial Revolution.

The fourth industrial revolution is in progress, yet it is impossible to define any accurate year when it actually started. The fourth revolution follows the third revolution, which began in the late 60's and had a wide impact on the world and societies (Figure3). The first revolution started at the end of 1700. Then the engineering skills were harnessing the steam, water and variety of mechanical production equipment to serve humans. This significantly accelerated the development and in 1870, the second industrial revolution took its place with electricity and mass production possibilities.





| Revolution | Year | Information |
|---|--------|--|
|  | 1 1784 | Steam, water, mechanical production equipment |
|  | 2 1870 | Division of labour, electricity, mass production |
|  | 3 1969 | Electronics, IT, automated production |
|  | 4 ? | Cyber-physical systems |

Figure 3. Navigating the next industrial revolution (www.weforum.org 2016).

It is not the first time that humanity stands in the front of a revolution. As with previous revolutions, there will be casualties, but it has to be counted as a part of the evolution. In the fourth revolution, the victims are going to be the organisations and societies who are not able to lay their eyes on the horizon but only stare at the present stage or rear-view mirror. Furthermore, this partition of futuristic reformers and traditionalists can be covered as a strategic choice of a company; there are those who go to the new territories and those who decide to stay on the old continents. "In the rapidly changing and proceeding global economics, progression requires ability to integrate scattered work-related issues. Progress demands well educated work force, which can adapt new and more demanding assignments." (Korkman, S. 2013. Maaailma 2013 Report. Kauppalehti.)

As Finland is not alone in the world and the population is increasingly multi-cultural, the transnational skills are needed in the domestic environment as much as abroad. In addition, the laws of benefiting from multicultural skills will rule in every market where the organizations are active, national or international. The companies must internalize the opportunities of the digitalization. Furthermore, the personnel must know how they can benefit from the ICT in their own work and in the training delivery. The people must have a low barrier to explore the new ways and techniques of teaching and they need to remain open minded for new solutions for example in the virtual learning environments. The education professionals must possess competence and curiosity to search updated information and participate in transnational learning networks independently. Active exploring experts of this kind will be the soul of the modern companies.

The educational professionals must be aware that the training functions always aim for the future competency. Only in history lessons it is justified to stay in the past. Otherwise, education needs to be at least up-to-date and modern if not futur-

istic. "Those responsible for educating future generations of professionals must keep focused on the dawning horizon" (Koehn, P.H. & Rosenau, J.N. 2010, 22). If not, the society will be left behind from a global comparison and competition. On the World Economic Forum (further WEF) the list of the top ten most competitive global economies, Finland has already been dropping from fourth to eight in two years. "Educators are futurists; they must anticipate tomorrow's needs and equip today's students with the necessary skills to meet those needs" (Cushner, K. & Trifonovitch, G. 1992, 300). The needs of tomorrow are dictated by the Fourth Industrial Revolution, not by any CEO, organisation or nation and this order must be acknowledged. The predictions of the needs and talents of tomorrow are further discussed in chapter four.

2.2 The Cause of the Fourth Industrial Revolution

Understanding the causes of the fourth industrial revolution is very important to gain a deep comprehension about what actually happens at the very moment.

Throughout history there have been wise persons, savants, who lead society. They held all the power and knowledge. Now the knowledge is more accessible to everyone, the savants are not solely holding the keys to the power. This will inevitably lead to a situation that the power is redistributed. The power of knowledge will be resettled through the reformation of the knowledge possession. A regime, selected by a narrow scope of savant electors, will no longer stand through this new transparency anywhere on globe. "Indeed, in making boundary-spanning judgements, the street smarts of informally educated people can be more useful than the prescriptions of highly educated experts." (Koehn, P.H. & Rosenau, J.N. 2010, 20).

Times are changing and the cards will be dealt differently. The current situation is visualized in the figure 4, with an isosceles triangle standing on its sharp head. The large triangle represents the full society and the small various colour triangles inside the big one demonstrates the different layers of the society. The rare part of the society who used to possess the power, savants, is demonstrated in the model with the red triangle under the knowledge interface line. Before and now, the savants were the only one's officially having the relevant first hand information and they were given the power to lead the full societies and decide what is best for everyone. Through the collective intelligence, formed through the information transparency and technological possibilities, the triangle will be forced to turn. It tilts from its sharp head on its long side just now and in the nearby future.

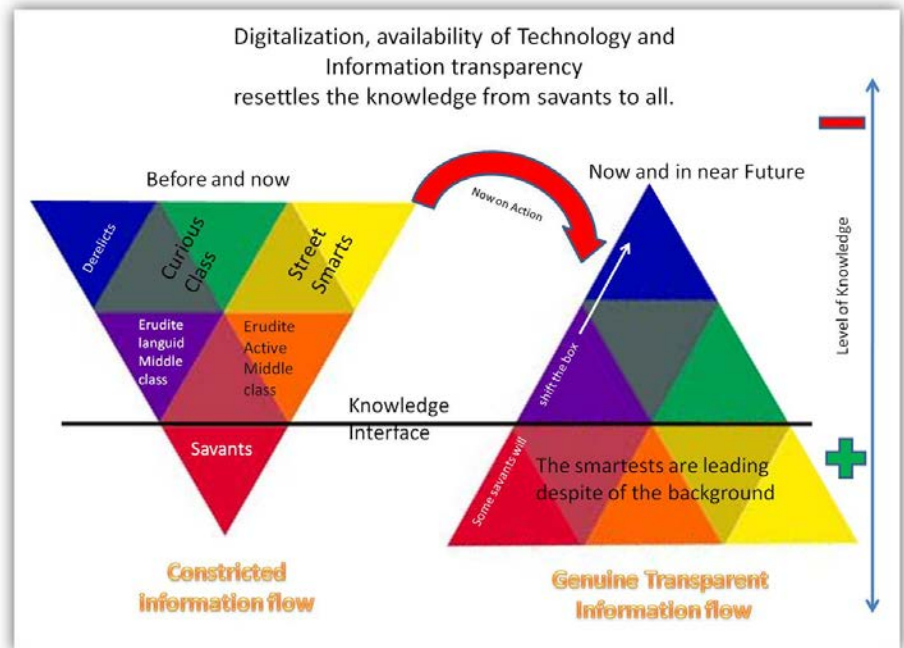


Figure 4. The Flip - Reformation of Knowledge Possession

"When communication rises to the main context of work it demo crises economics and society in a unique way. The one, who has a statement, collects followers and liker's. Those leaders who built their organizations on third industrial era's logic - on one way communication and its obstacles - will be walking alone to the sunset." (Aitamurto et al. 2011, 141.)

This digital transformation sets the societies in front of a totally new challenge and order. The Fourth Industrial Revolution is on. The constricted information no longer exists and the genuine transparent information flow is a reality. This means that companies/societies cannot be managed anymore by dictators, fear, appointed officers or limited democracy and information flow, but with an authentic open attitude where people choose who to follow, despite of the background. The epic question is; who will handle The Flip and land as a winner? (Figure 4).

The scale of the flip is so monumental, that it is almost impossible to understand. Just like all the revolutions when they are underway, the big picture is hard to form at the moment. Still it is not wise to wait and close the eyes now. The turn of the triangle is frightening, but it is better try to see where to land than leave it all on a chance. This turn, fourth industrial revolution, will shake everything what is now known and leave the world in completely new circumstances. "The mitigation of wicked horizon-rising transnational challenges will require coordinated and holistic efforts on the part of diverse professionals, networks and partnerships" (Koehn, P.H. & Rosenau, J.N. 2010, 23). The traditional party political methods are not anymore functional as modern people confess

ideologies over the traditional borders. In the other words, the world village people will choose to use the tool which is most suitable for the task in hand. The networking and future partnerships will not acknowledge the traditional political party structure. Yet they are more interested to succeed through genuine cooperation with various people from various background. The diversity is seen as an asset and accelerator.

After the flip, those institutes and states which still are alive, but not having a direction, will follow the smart surviving ones, leaders of the new era. It goes without saying, that the leaders are the one who appoints the new rules and wraps the biggest profits. "The King of the new era is not anymore a hierarchical commander. The King is the one who masters the interaction and in that game everyone has a equal standing. This will fundamentally change the leadership and job descriptions. The roles can change swiftly according to the ongoing situation." (Aitamurto et al. 2011, 140.) The leader is not anymore the one who has the title, but the one who is believable and people are following. The King is the person who gets employees motivated and gets the job done.

The digital society inhabitants are driven by values, not by hierarchies and they experience everyone's existence on equal level. This society embraces ideas and things shared with each other's and by doing so, they cross many of the traditional boundaries. The worldview of digital society is the genuine democracy and equality with minimum restricted institutional structure. Together the digital natives and immigrants are just now finding the final way to make the triangle to turn. The older generations will not be able to prevent this event, as their time and firepower has passed the today's requirements.

A famous American writer and futurist, Alvin Toffler has stated that the possible future is not singular, but plural, subject to the choices we make among innumerable arrayed options. Moreover, the tools we have for identifying possible and probable futures are still very primitive. Yet some lines of development are more likely than others, and it is only by making our explicit assumptions about where we seen to be going that we can formulate sensible goals. Only in this way can we deduce the kinds of human abilities, skills and growth patterns that need to be encouraged. As the future is impossible to know precisely, the companies can only do their very best to develop successful strategies. The strategy decisions are based more or less on the explicit assumptions about what is going to be. Nevertheless, the strategic future speculation can be seen as a more active awareness building than just going with the flow and living in the moment.

2.3 Fourth Industrial Revolution in Progress

Everything new is always either exciting or frightening; depending on the way it is viewed. In the overall scanning of the current environment, the author found that the public discussion provides the impression where everything about this matter is either one of the other and nothing in between. Either society is on board to the new world or then it is left behind. Fortunately, the picture does not need to be that black and white.

Those organisations and societies who are still not transforming can still profit from the new environments the revolution creates. Thus, they have to catch up using the new tools and absorb the new methods in some state. Therefore, it is not too late, but swift actions are required. "Many traditional truths about projects, product development or business, need to be challenged. Cornerstones of those factors - fore sighting, restricted planning, gradual processes and strict task descriptions - prevent people responding to the transformation and wreck the creativity and complex problem solving skills of the experts." (Kadenius et al.2015, 15).

There is an acute need for new beginnings at the global and state level. Big streams start from small brooks. The change starts from individuals and the individuals are forming the companies / societies. "The companies, which have the new direction clarified fast enough, will be leading the rest to the future. It just requires a whole lot of courage and willingness to abandon the old legacy ways. There is a need for the fearless attitude and boldness to dive into the cold water. Impossible objectives are the new beginning." (Steinberg 2015. HS 10.4.2015).

As a phenomenon, the fourth industrial revolution with a digitally networked world can be compared with the discovery of America. Now the new area has been detected and the possibilities are being charted. Organisations and societies who are more into novelties act like settlers and make way for the others. From a business point of view, adopting early enough is seen as a good strategy, as the successful endeavours in a new market are often very profitable. It was already like that when the consignors shipped sugar and potatoes from America to Europe with incredible revenues. Even so, the new market is not fully ruled out for late arrivals, the fact is, that the stragglers are often going to be the copiers, not the trailblazers. Nevertheless, the new world will keep on developing and creating opportunities for many companies, societies and individuals for a long time to come.

The fourth industrial revolution has an extensive impact on the labour market and the current job families. According to several studies nearly 50 percent of the current work descriptions will be reformed or they will completely disappear. The implication of increased turnover on the labour market is that the demand for flexibility will increase. The countries that are best adapted to transfer labour resources from old contracting sectors to new and expanding ones will have an advantage in terms of lower unemployment rates and higher potential growth. (Borg, A. www.weforum.org. Accessed 1.2.2016.) One of the basic rules of economics is that there is inevitably a strong correlation between productivity and resource utilization. If the organizations and societies are not able to utilize their resources wisely in the transforming environment, they will lose in competitiveness.

The form of the traditional contract employment is renewed and the future employees are going to be self-employed with short-term contracts with the seasonal work and part-time employment. The job security as it is currently recognized with social benefits, will no longer dominate. Figure 5 presents' different job families and describes their evolution from 2015 to 2020. Office and administrative tasks alongside manufacturing and production will be digitized and replaced with robotics. These job families are estimated to vanish in most of the work places. On the other hand, the business and financial operations with management, education and training are ascending job families. Additionally, the same trend is seen in job families of computing, mathematics and sales.

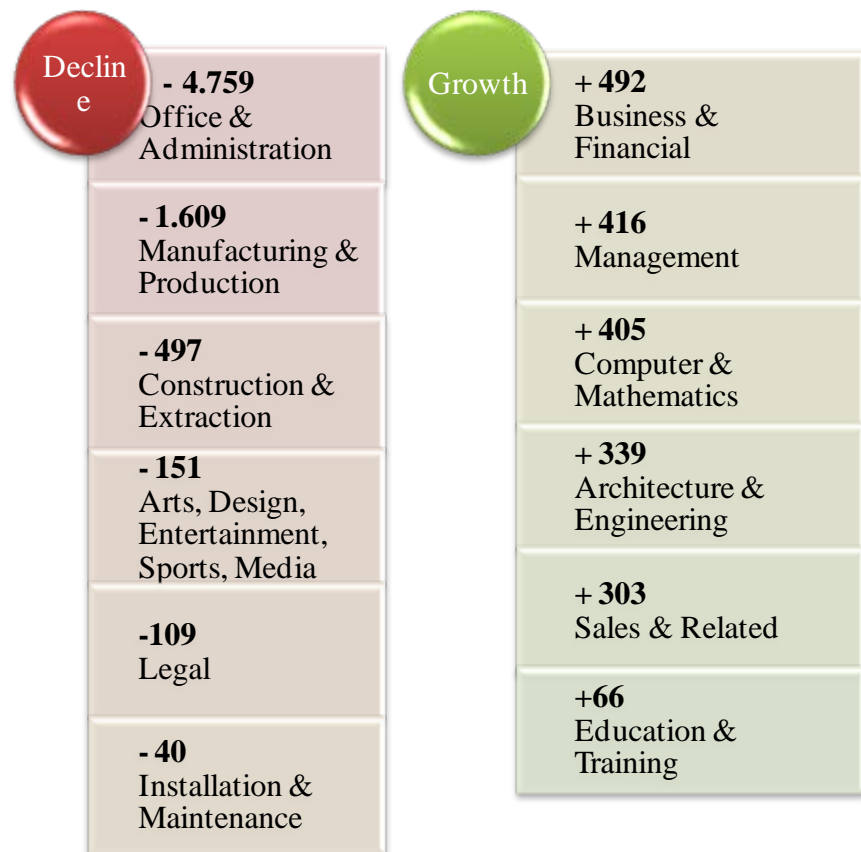


Figure 5. Employment outlook across job families.
Jobs change in thousands, 2015 - 2020. (www.weforum.org 2016)

This influence of the fourth industrial revolution towards work life is presented here, as it will have a straight influence on educators individual competence demands. The working people of any company must understand why they need to develop and keep up with their professional market value with up-dated skills. The professional skills of the personnel must be the top of their branch and the experts also need to know how to sell and promote their expertise and the company. In the future, successful personnel are the most significant business resources of any company. Talented people reach the level of acceptance and adaption swiftly in the rapidly changing world. The ongoing evolution is really on a spin and the agile adaption is the only way to ensure the survival of an individual, organization and society.

2.4 Prevailing Educational and Social Practices

According to Unesco's medium term strategy of 2014-2021 the literacy and access to education have made significant progress in the past ten years. Nevertheless there is a growing call for increasing the quality and relevance of education. "Education systems designed for the second half of the twentieth century begin to fall short of meeting the demands for

twenty-first century knowledge societies." (Unesco 37C/4 Report. 2014, 9). Finland has heard these statements and is working to modernize the education in every field. The challenge is that digitalization is not only matter about equipment and technology; it is even more about ideologies and attitudes of the education professionals.

The time has come where rapid change is required in education field. There is no time for real careful consideration and forecasting and commonly the time requires doing before thinking. "The companies are in a hurry to identify their competent employees and to fully benefit from their abilities." (Leppänen, J. 2013, 10). The company is as strong and talented as its employees. At the old days the Finnish education system and educators were celebrated around the world as the best. In few years the environment has changed so fast that the Finnish system is struggling to stay on board despite all the efforts. The traditional educational practices are in revolution alongside with the competencies of the teachers. The education companies must quickly map the power they possess through their employees and adjust them to match the future requirements.

The most sinister factor hindering the development is the hazardous old information. Everyone are not cheering for the further training, developing new manners and searching for new information continuously. It is often thought that the existing level is enough. Nevertheless this ideology leads in to inefficiency and through which it is obligatory to put even more trouble to survive at the work. The human behaviour and actions are naturally trying to minimize the load and the threat. This fear of a failure guides too much the education professionals nowadays. The false senses of the safe old manners attract even if they would not work. The habits and knowledge stay stable if the individual has not discovered why they should be changed. The routine, fear and laziness keep people to stay on the adapted style. "When the professional education organizations do not transcend national boundaries in their deliberations with regard to practice implications, they impede progress." (Koehn & Rosenau 2010, 19).

Nevertheless, some of the traditional educational practices remain valid. Any profound expertise still serve well as a foundation for the new practices. Trainers do not need to fully renew themselves and change into something that they are naturally not. Thus the new era demands new approaches, the old professional knowledge will hold as a strong base and corner stone. However, the traditional education infrastructure and companies need a metamorphosis. The old-fashioned

leading and teaching styles are not functional anymore due to reasons described before.

In Finland, the revolution is marked in the form of the refugees searching for asylum and increasing dissatisfaction of the society. In these radically changing circumstances the governments are desperately holding on to their old governmental programs which are impossible to utilize in the revolution. According to Henkka Hyppönen, the ideology of the governmental establishment about the current crises, is not leading Finland anywhere. The mixed messages are not going through the society and are not promising anything. The only logical consequence of this crises intimidation is a bloody battle over the diminishing resources and emotionally faint-hearted citizens. (Hyppönen, 2016 HS 15.3.2016). These cost-efficiency programs significantly influence the education branch as the state is decreasing the funding. Several education institutes are forced to resign people. Wide scale dismissals create enormous insecurity and fear amongst the professionals. Furthermore, the far-reaching consequences are yet to be seen.

2.5 Work Related Stress in Transforming Environment

The revolution leads to several new paradigms. No matter how scary the metamorphosis is, the old familiar procedures must go. However, the transforming environment is highly stressful for people, as generally most of the humans prefer stability in their life. The stress reaction is a natural physical reaction of a human body towards some threatening matter. It is an inside built mechanism which purpose is ultimately protect a person by maintaining an alarm mode in the body. In the origin, it was developed by evolution and the main purpose was to keep the individual prepared for action, i.e. escaping the predators. These features still remain in people, even if the threats of the modern days are different.

Nevertheless, the insecurity and fear are still a part of the human emotional scale. The work related stress often has its origin in these basic feelings. Society based on performance and productivity creates stress and anxiety. It is hard to remain on a peaceful mind in the rapidly changing environment where the challenge behind the corner is always unknown. Managing the work related stress in the transforming world is getting more important. Therefore it is relevant to understand the main causes which are creating stress in the modern working life.

In the pan-European opinion poll of occupational safety and health in 2013 the 16000 respondents from different nations named the most stressing work related cause the job reorgani-

sation or job insecurity. The next biggest stress causing factor is the hours worked or workload amount. The being subject to unacceptable behaviours such as bullying or harassment was named as a third factor from the respondents. Lack of support and clarity on roles were mentioned as fourth and fifth element of stress cause (Figure 6).

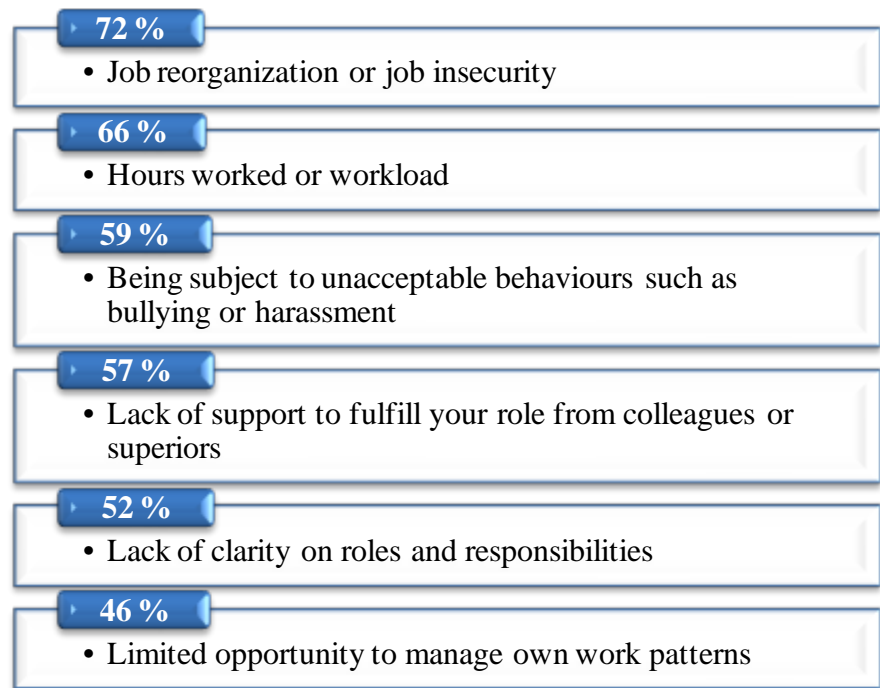


Figure 6. Common causes of work-related stress in %. (Pan-European Poll 2013. Accessed 25.2.2016. <https://osha.europa.eu>).

A similar kind of poll was conducted by Career Cast in January 2016, and the three main findings it recognized as a main stress factors at work, were unforeseen events (26%), workplace atmosphere (21%) and tight deadlines (20%). There were 834 respondents from different branches and 62 percent of them evaluated their work highly stressing. (<http://www.careercast.com/jobs-rated/most-stressful-jobs-2016>, Accessed 7.3.2016).

The results of these surveys demonstrate clearly that the main stress factor of the current days is the insecurity and unforeseen events. In general people do not like surprises at work as they are often experienced as negative events. Negative stress is also a huge issue preventing people to utilize their full potential, adjust and assimilate novelties. If the leaders of a company are not able to deal with the work-related stress and add the ability of resilience of the employees, they are losing huge amount of intangible and concrete assets. People need to feel safe despite of the circumstances.

On an opinion page of Helsingin Sanomat (14 of March 2016) there was an article written by a tired proletarian. Exceptionally, the writing was published anonymously, so it is not possible to identify the gender or the company in question. S/He explains in the writing that the author is suffering from repetitive exhaustion due to work-related stress. The work protection, occupational health and safety unit of the organisation has taken actions into the matter, but unable to solve the issues. The author mentions in the text that there are other employees of the company also in the same situation and this causes long periods of sick leave and leads to the high turnover of the workers. The workplace atmosphere and the work itself endanger the employees' mental and physical well-being. The author also reveals that the company where this happens is financially solid, as otherwise the work-related stress expenses could not be covered. The author also implies that the basis of the situation scores to the lousy leadership and bad management.

According to the Confederation of Finnish Industries (EK), the average sick leave day cost 350 euro's for the employer and the work related stress causes 60 - 70 percent of the lost working days. According to the statistics from 2013, the average number of sick leave days per person in a year was eleven days. If 70 percent of this amount, is due to the work related stress it means around 7-8 days absence and expense of €2800 per year. This might sound like trifles for a solid company, but when the amount is multiplied with ten and then added the expenses of the high turnover of the workers, a good million is a small amount spent on errors like unaddressed work-related stress. The average turnover expense of an experienced worker is 50 000 euro's in a service sector and 70 000 euro's in an industrial sector. (Kesti, M. Accessed 14.3.2016).

There is an ongoing challenge of how to manage employees and the work related stress so that it will not hinder the progress and the transformation of the company? These issues will be addressed in the next chapter of the leadership on the new era.

3 LEADERSHIP ON THE NEW ERA

"Be aware of a man who carries only one book." - Thomas Aquinas

As the times are changing and the change always creates insecurity, it is seen in many companies that the hesitating leaders are conducting wacky manoeuvres. The transformation generates freezing fear. Since the offering of the new business fads is almost limitless, it is easy to get lost and follow the latest business isms even if those would be useless for the company in question. The "playing with the organisation structure is on the comfort zone of many leaders." (Mattila 2014, Optio 18.9.2014). It is easier to renew a technical system, the company structure, than to tolerate and manage the changing environment requirements which demands intensive interfering in to organisations social systems and external/internal substance.

It is justified to claim, that currently many leaders on private and on public branches are completely lost. Furthermore, it is not many lost person who are mentally strong and capable to calm down the others whilst crises. The fear is holding many leaders back and keeping them on safe playgrounds. On familiar ground they think that they are more competent to maintain the order alongside the employees. How can the leaders manage their employees fear as they do not know how to survive their own? These leaders who seem to have no direction or ability to manage in the transforming environment, can be called Lost Leaders Squad.

In this Lost Leaders Squad, the most harmful one is not the one who is hesitating and being uncertain in the battle of the revolution. The most harmful one is the leader who relies on the old methods and is carrying one, old handbook in the under arm. The methods of the handbooks that got them into this day, will not take them further to the future. These leaders are the worst block of the progress. They still rely blindly on old isms of leadership metaphors from baseball and they are too proud to confess their fears. It should be realized, that the children of the new age, digital society, do not confess these old methods. The digital society is not playing old-fashioned baseball at all. Instead, they enjoy multiplayer pinball where the ball can end up randomly to anyone and the game lasts as long as the individuals are talented enough to keep the ball on the court. If the ruler of the game is stuck with old game structures, the digital society just simply goes elsewhere to play games, which are up-to-date.

The other damaging division of the lost leaders' squad is the ones who pretend to be up-to-date. Their comprehension of

the pinball game is more apparent than real. They are superficially using the applications of the digital world, thus they do not understand the ideology, rules, full potential nor the core functions. These leaders are picking up randomly the latest trends from social networks and applying them into their organisations without any consideration. The thread is lost without real sense of the phenomenon and ideology transformation on hand. One of the main misbelieves of these leaders is that they seriously think that they can master the pin-pall game and manage the networked society.

"Damage has realised, when the organisations change of direction has been inspired by a randomly assorted fad." (Mattila 2014, Optio 18.9.2014). Often the form of these craze surpass the functionality and after the game season passes the tired organisation spots that the old picture was only moved into new frames. Sometimes it is justified to make swift technical and structural reformations to shake the company awake, but these actions must be secured to succeed. Repetitive missed rounds frustrate the society and the game players quickly.

Professor William Torbert who has been working 40 years of research in Harvard, Yale and Boston College "has shown that only 5 percent of leaders demonstrate a consistent capacity to innovate and to successfully transform their organisations. Those leaders have developed deep mental, emotional and relational capacities to lead complex, systemic change." (amara.fi, accessed 3.3.2016). These are the hesitating and uncertain leaders of the Lost Leaders Squad. They are strong with their mental, emotional and relational skills and they are not afraid to express their vulnerability. They are willing to ask the employees and experts' opinions. They are open for new suggestions, but are not steerable. They are able to form the overall picture from the information around and guide the people. They are innovative, creative and embrace the failures. They are not under the illusion of managing the society. The strong, winning praise is paradox and can only be achieved through sensitivity and sincerity.

Often there is not enough time to develop leadership talents and the organisational processes/practices. In the worst case the company structure is breaking and the transformation is exhausting for the leaders and the employees. Collective ideation and real, transparent cooperation is pressured secondary in priorities and is conducted only occasionally. The work societies and employees become the targets of the development, thus they should be active and enthusiastic developers of it. The greatest resource of success and the thread are lost.

"In this misty universal time it is vital to practise strategic observation, sniffing and listening, but it is still dangerous to trust blindly the latest hits." (Mattila 2014, Optio 18.9.2014). The leadership of the new era demands visionary who can set a clear scope and hold the line whilst moving towards the goal with agile and coherent manners. The leaders who are able to guide their organizations/societies in to the future are the ones who can see the horizon and are not stalking every moment to save money at present. A strategy, and the assets and resources invested on it, will not themselves take any society forward, but the people with right attitude and organisation culture will.

3.1 The Leadership Ideology Transformation

Whilst talking about business, many of the traditional leaders are twiddling their eyes and throwing cynical statements when it comes to issues like diversity, trust and respect in business. Traditionally, the importance of business administration is seen mainly in financial figures, not in the company's intangible assets. Nevertheless, studying the history of business and leadership for a while, reveals that the organizational functions around the globe are full of events, which the financial analyses and trade theories cannot explain. Business affairs just not realize strictly in exact economic figures in the profit and loss account or on balance sheet. There is much more in it and the transforming times forces the traditional views to develop. If the board of the organization consider the soft values and humanism as a humbug in business, the company is in trouble. A global IMB survey Making Change Work, clearly indicated that the main reason why the companies fail in transformation, is that they overlook the influence of the soft values like the company culture, attitudes, complexity and mental support of the personnel.

The leadership ideology transformation starts from the critical self-evaluation towards the known circumstances. In this evaluation it is absolutely vital that the leaders are able to keep in mind clear difference between critical and cynical. In addition, it is necessary that the self-evaluation is honest. Leaders must have a sincere will trying to do their best seeing the future, new ideology and others in the positive light with open mind. "As you enter this work, I ask that you not judge any of what follows as "right" or "wrong", but ask how much of this could apply, where might this work and what ways are there to try it out." (Merchant, N. 2013, 19). Commonly it is seen, that the old style leadership actors have the old methods deeply assimilated and it is extremely hard to see outside the box even with a decent amount of a good will.

There used to be the time when the brightest minds of the known world declared that the earth is flat. In their time they did not have the slightest doubt it could be a wrong assumption. Therefore, if the brightest minds were wrong at that time, it can happen again. On these days, it is bold from any leader to claim, that there is not a minimum chance that any of these new ideology could not scale in their company/society. Humbleness is the key to open an old mind towards new thoughts.

Moving on to the new era the Finnish society and the companies have to accept the fact that the time for transformation is now. Fighting against is not an option. In order to live and grow tomorrow, it is a necessity to leave the childhood home behind. Hesitating on the doorstep will not eliminate the inescapable. Putting your head in the sand and hiding from the action, hoping that the uncomfortable situation will pass, will not work. It is time to leave behind many things which was earlier believed as the truth. Even if it is not anymore possible to hold all of those things concretely on board, like a lessons from a childhood home, those things which were learned before, will help through the times to come. It all just needs to be realized and accepted.

Changing the ideology is incredibly challenging. It dares people to jeopardize everything where their whole identity might be based on. Reforming the ideology and individual identity is frightening. It is like that, as in that process one must break them down before new can be reconstructed. "It is tempting to continue in the same way, only trying little harder, even if the better solution would be a completely new way." (Kadenius et al.2015, 10). In their book of New Thinking - New Leadership Kadenius, Markkanen and Törmälä introduce six points of false assumptions about polarity of prevailing practises and new ideologies;

- The opposite of command and control is not mischief and indiscipline
- The opposite of a hierarchy is not anarchy nor disorder
- The opposite of a restricted plan is not unstructured plan
- Making a mistake is not the same than failure
- Dividing the power does not mean reduce of the authority.
"Do what I say" and "Do whatever you want" are not contrary
- Giving up from own control does not diminish control, instead it increases the overall control

Kadenius, Markkanen and Törmälä discuss false leadership assumptions. Several old fashioned leaders are justifying why they maintain things as they are by explaining that without hierarchy there would be uncontrollable anarchy or without control and command the workers would slip into indiscipline and would not perform their tasks. This kind of old-fashioned mechanical leadership ideology is heritage from industrial time where people were performing simple tasks by conveyor belt and they were only seen as a factor of production. As this is not the case anymore, the ideology has to change. Currently and in the future, the work is more and more creative as the change is permanent. The ruling leadership ideologies must be inspected by every leader in order to reveal mental status quo of the company/society board. One of the main threats is, that the leaders refuse to see themselves genuinely and then the ideologies cannot be truly reconstructed and the company will not be able to response to the future challenges.

In their book Kadenius et al. do not really mention the opposites of the command and control, hierarchy, restricted plan and making mistake, which are typical features of a mechanical leader. According to the extensive environmental scanning and all the sources that the author has gone through, it can be suggested that the option, still not an opposite, for command and control is self-steering and motivation. For hierarchy the option is networking, for restricted plan it is agile plan and for mistake making it is another change.

Transforming the leadership ideology is about seeing the world through different eyes than before. In order that the change can happen in an organization/society, the leaders must change the way they see the present state. The development is about learning new and often this comes with the demand of stepping out of the comfort zone. It also might be relieving to bear in mind that the failure is an option and there is not the best practices yet existing, they are building up under the way.

3.2 Redefining the Leadership

According to Mika Mäkeläinen, publisher of One on One Publishing, the concept of leadership must be redefined. As the professional life in future is scattered, various and constantly changing, the leaders must survive without familiar safety structures around them. It is not a matter about new a leadership trend, but of a change of the full leadership paradigm. "Whereas the leader used to be an individual person and the leadership was based on status, in the future the leadership is a collective process, which spreads and develops in

networks through the human interaction." (Mäkeläinen, M. Calcus Group, 30.1.2014).

Leadership guru and top selling book writer Tom Peters stated in 2013 in the Nordic Business Forum that investing in personnel is the most important thing that the company can do to be successful in the middle of the technological transformation. During his career he has been visiting in many successful and less successful companies and through these experiences he states that training the employees must be number one priority for the leaders. He also claims that the leaders are spending too much time together with like-minded colleagues. It is important to find time to land on the ground root with the employees and honestly ask their opinions. For several leaders this is too big step to do and that is how they ensure their own failure. "Treat your employees like you treat your customers." (Peters, 2013. Nordic Business Forum). The companies, who do this, have an enormous competitive advantage towards the others in the transforming times.

The new era will support only ethical leadership and several surveys indicate that ethical business is productive. Tampere University's Professor of Philosophy, Mr. Timo Klemola, states the ethics to be principle where a person is not adding another person's agony, rather trying to defuse it. The demand for ethics in business comes simply due to the reason that the modern environment, the customers and the employees require more values and ethics. "The inner world of ideals and beliefs shapes the actions." (Aburdene, P. 2005, 110). Furthermore, as the new era forms transparency more intensive than ever before, the companies with their leaders are judged through their actual existence. The companies and their leaders receive the image what they honestly deserve. The time of hypocritical brand building is over, the company has to be, what the company claims to be.

Ethical leadership is good leadership, decent, fair and productive. Ethical leader wants to be a part of doing good and building a better world where both wellbeing and profitability can be fulfilled. Ethical leaders perform the same upright actions inside and outside the company. They demand the transparency, with nothing to hide, turning away from the closed door board meetings and old boy networks.

The new era companies rule the in the future. These companies executives are young generation leaders and perform with the new methods. They are creating the future at the very moment. According to professor Galloway from New York University there will be two companies which own the future. These companies are Google and Facebook, in this

order. In September 2015 Google had market share of 34 percent of the overall worldwide total internet spending. Facebook was following with their market share of 17 percent. The last 49 percent are divided between various small and middle-size actors around the globe, including few larger companies like Apple and Microsoft.

This dominance of Google have raise a question of how do they do it? Google tempts the brightest minds of the time and it is able to keep them working for the company with a high capability and performance level year after year. Google invests in their high quality recruitment processes and puts a whole lot of effort on selecting the most suitable workers. Google has the best strategy of the survival; they create and define the future. Google is driven by their carefully selected, highly talented and committed personnel. In 2013 Google decided to conduct an internal survey with all of its 37000 stuff members to find out what is it actually leading the effective teams. Over a period of two years, the researchers analysed 180 teams and interviewed hundreds of employees. They were confident to find "the perfect mix of individual traits and skills necessary for a stellar team." (Google report re:Work). The findings were far away from the initial expectations and did not have anything to do with individual traits and skills. Instead it was discovered that the most important team dynamic building block was called psychological safety. It means that "the team members feel safe to take risks and be vulnerable in front of each other." Furthermore, the results of the Google research team reveals that it do seem to matter less who is on a team than how the team members interact, structure the work and view their contributions. The stellar team has dependability towards each other performance and they get things done on time by having clear roles, plans and goals.

One of the main requirements for Google leaders and managers is that they need to perform modern and ethical leadership manners. Larry Page, one of the founders and now CEO of Google, is determined to continue Google's growth whilst maintaining the company nimble and bureaucracy-free. On behalf of the minimum bureaucracy it can be stated that in 2015 there were 6000 managers and directors towards 37000 employees at Google. This equals average 6 employee per superior. Google re:Work survey confirms that "Teams with great managers were happier and more productive."

In their other survey, Project Oxygen, Google has listed eight features which were shared by all great managers:

1. Good coach
2. Empowering the team and does not micromanage

3. Expresses interest/concern for team members' success and personal well-being
4. Is productive and results-oriented
5. Is a good communicator
6. Helps with career development
7. Has a clear vision/strategy for the team
8. Has important technical skills that help him/her advise the team

In the list above it is noteworthy, that the important technical skills to help the team is in the bottom of the list. This is due to the fact, that a professional team trust on their own skills and it is not the main purpose of a manager anymore to tell how some component is fitted in somewhere. Furthermore it is good to notice that Google conducts its surveys with its own internal experts who know the company and dares to discuss straight about all issues coming up. These experts are supported and respected for their valuable work. Outside consults are not used. This kind of honesty and transparency is modern leadership and attract employees in all levels. Google is identified as a company which has a great psychological safety amongst the employees and that is the core reason why the company is one the most successful ones of these turbulent days.

3.3 Managing the Experts on the new Era

The work productivity should be measured with the outcomes and not by the time spent in the office. It has to be remembered that the time is no more a factor or a principle of a measurement. Today's requirements are not just the separate chain of occasions justified by time spent on the matter, yet long term processes which must be followed and agile developed as the time passes by. "Efficiency does not mean squeezing the last sweat drop from the back of a poor employee. Efficiency is a measurement to scale how more of the same amount of work could outcome, if the work is arranged more productive." (Karttunen 2014, Maaseudun Tulevaisuus, 10). It must be acknowledged that in the future, the work can be conducted anywhere at any time. The same method does not work for everyone, so the leaders should pay attention and make efforts to arrange each employees work in a way that they can perform at their best. Even if the suitable solution would differ significantly from the old policies of the company/society. The work must be followed by the outcome so the suitable metric is defined case by case and followed as agreed in that case. It is through establishment-level agreement where the intermediate stopping points are instructed together with the employee as well as the desired final outcome.

According to a survey by Royal Economic Society, in their lives people are the most miserable at work. In the survey, the scientists were using application called Mappiness to research employees' happiness in random time of the day. They got over million answers and according to these they were able to identify that people are eight percent unhappier at work than other time of their lives. Doctor George MacKerron explained that the psychological price of the occupational life is significant and the work significantly seems to be related to individuals well being negatively. Over 70 percent of the respondents were not happy with their work. Employees born in 80's and 90's were especially unhappy as they strongly experienced that they are not allowed to perform their full potential in their work. Also queuing, sitting in a classroom or in a meeting were the occasions where people were the unhappiest. (Bryson, A. & MacKerron, G. 2016).

When the leaders are aware of these facts, it is more likely that they are taken into a count in the leadership. This does not mean that the leaders must entertain their employees. Randomly arranged common well-being days are not really helping the organization to perform better. "It is a huge joke that the people are taken to play some ball game and have some kind of a funny hip-hop together for one day. It is the same that you would take an aspirin and put a plaster on a cancer." (Hintsa 2014, Optio 16.1.2014, 43). Leaders need to make sure, that the company's culture is in a good shape. As people are usually at their most miserable at work, the unhappiness cannot be erased. It should be accepted and addressed within the limits. The dissatisfaction cannot be erased, yet it can be minimized. "The order is exactly like this; first you improve well-being, then the productivity. Productivity is a outgrowth, not a goal." (Hintsa 2014, Optio 16.1.2014, 42).

"The happiness in professional life is built from simple things. Every day work it is the most important, that it is possible to apply personal strength area skills, learn new, work independently, the relationships are functional and the work is in progress so that individual has an experience of achievements. At the work community level it is important that the leadership works, the company culture is respectful, salary policy is fair, the work is meaningful and the balance between work and private life is preserved." (Marks 2014, Optio 16.10.2014, 52). In the information society, the humane capital is the most important resource of the company. The well being of the personnel is a key factor to maintain the competitiveness. The positive influence of a good working environment all together benefits an individual, the company and the society.

There is no doubt, that it is challenging for the companies and the leaders to manage the people. Even if all the circumstances would be optimal, people tend to be unhappy at work. Being miserable is not boosting the efforts to put out the best performance. "Currently the core question of professional life is that how it will be possible to boost the brains to deliver its best performance. Delivering the best performance is a matter about the ability and willingness to utilize the brain capacity proficiently. Focusing, stress tolerance and recovery are brain usage skills, which are possible to develop." (Ojanen 2014, Optio 4.9.2014, 61). The good news for the leaders is, that the brain usage skills can be developed. The challenge is that the will to develop rises from the individual. The leaders must lighten up the will, support the self-steering and individual development desires of the workers. This results as an ability to have the full potential someday in use at work and can be considered as an investment.

According to the NeuroLeadership Group's CEO David Rock, the human consideration has three levels which describe the challenge of reasoning. On the lowest level human performs the easiest tasks like removing useless emails. On the highest level are the complex dilemmas which require deep pondering and cross-scientific problem solving skills. "The problem lies in the fact, that our brains naturally desires to stay on the level one, even if the ongoing professional life and business requires more and more level three thinking." (Rock, D. 2012, Optio 22.11.2012, 63). Leading the training experts to the new era will be challenging. So that it would be possible and efficient to influence in the underachievement, the causes of it must be identified. After the causes of the underachievement are discovered and the organisation culture is fertile, it will be possible to boost the ability and willingness of the employees move towards the future.

The companies/societies must create environments where the workers can focus on their tasks and feel safe from the unforeseen events and job insecurity. In addition the workload needs to be tolerable, so that there is space for creativity and recovery. "The ultimate prerequisite of organizational success is to catch up the human capacity gap between the current performance and the full potential performance." (Kadenius et al. 2015, 23).

On the other hand there is the will to be a master of the own work. Everyone has a need to develop in the matters, which are important to one self. This means that there is a chance to boost the experts on another level of their brain and talent utilization. "Learning new, conquering new areas and solving problems are basic features of the human nature." (Kadenius et al. 2015, 27). It can be estimated than every worker wants

to challenge themselves and adjust into novelties. The real challenge lies in the fact, that the leaders should know their troops so well, that they know what motivates who and how to support the worker towards their blossoming.

The clear destination alignment is crucial. According to P.Juuti, goal commitment means how well a person assimilates the organizations vision and how much he/she is willing to put effort, time, and energy and resist adversity in order to gain the goal. "Commitment will be disturbed, if the person experiences the goal unachievable or useless." (Juuti. 1999, 51). Motivating people and engaging them into the future by shared values, is vitally important for the companies/societies.

3.3.1 Psychological Capital

As leading the experts is for the most part leading the great minds, it is obligatory to discuss a while about how the human mind works. The psychological capital is ability to make the most and give it all out from the individual features at the current circumstances. Individual psychological capital is not a state of mind, it is a personal process and into these processes the leadership should focus in the future. The leaders must support the growth of a psychologically safe organisation. The beauty of the individual psychological capital lies in the fact that it can be developed. It has been scientifically proved that developing the psychological capital increases the wellbeing and efficiency of an employee. Moreover it goes without saying that it will deliver straight back to the company's benefits.

Fred Luthans, leadership professor from Nebraska Lincoln University, has spent last 16 years researching and teaching about organizational behaviour, combining psychology and leadership. He believes that the key to organizational success is in the people, not in the technology itself. "As the same technology is reachable for everyone around the globe, the pure technical know-how will not improve any company's competitiveness." (Luthans 2013, Optio 28.2.2013, 56). This has been seen and proved several times in many field of operation. Even if all the companies are equipped with the same tools, only a top team will deliver the best results in right time. The team is formed from positive individuals and when they play seamlessly together with joy, the outcomes are long lasting. A good example out of this is Google. Six years in a row, it has been topping in Fortune's list of the 100 Best Companies to Work for. (www.weforum.org. Accessed 15.3.2016).

According to Mr. Luthans, 50 percent of the happiness of an individual is dictated by the nature, 10 percent is ruled by the environmental circumstances and 40 percent is in everyone's own hands. This 40 percent of the psychological capital forms from optimism, self-confidence, resilience and realistic optimism, Figure 7.

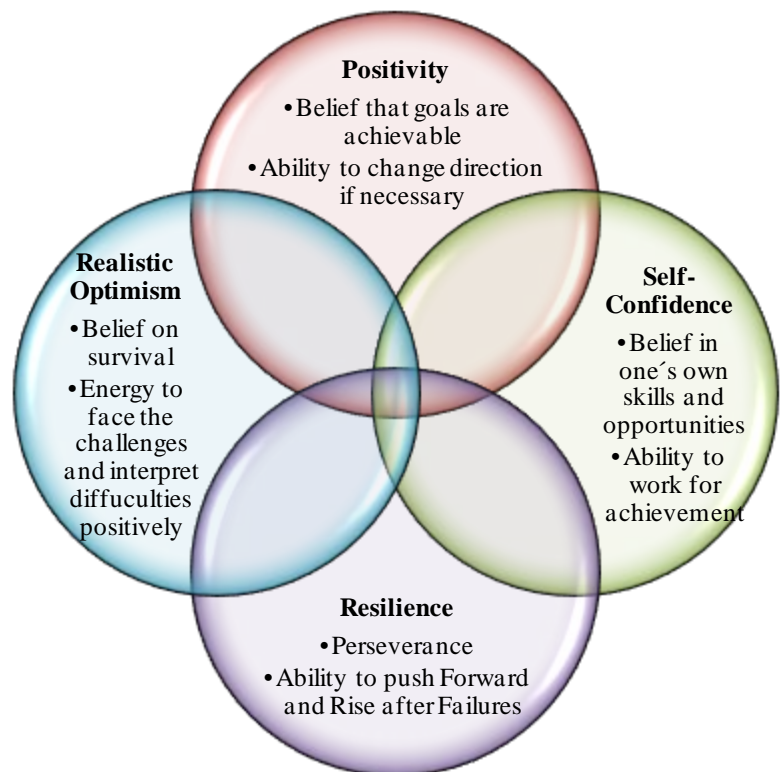


Figure 7. The Psychological Capital (Luthans 2013, Optio 28.2.2013, 56).

The leaders are able to increase and develop the positivity of the workers by setting goals, which are believed to be achievable. In addition they can maintain the positivity by communicating trustfully about the necessary direction changes. As the employees believe that the goals are achievable, it has a straight influence on the workers self-confidence; the feeling of being able to work for the achievements and trusting the own skills and opportunities. The self-confidence and positivity results as a realistic optimism. Then the individuals are able to trust the survival now and in the future. Also the worker will have energy and will to face the inevitable challenges and interpret the possible difficulties positively. This all leads into resilience which gives perseverance for both the individual and the company in question. Furthermore it creates ability to push forward and rise after the failures.

As the business traditionally is based on making profit, preserving the assets and growing the business, the actors/experts behind the great results are still too often left un-

heeded. As the times changes, companies who still conduct old manners will not have great minds working for them. "If the company considers it is important to engage committed and excited personnel, what is it very accurately what personnel are expected to commit themselves into?" (Kadenius et al. 2015, 27). The management and employees should have a clear answer to this question. Otherwise it is obvious that the employees are only engaged for their individual tasks. They come to work every day, perform the basic set and go home to spend the real quality life. With the traditional leadership methods this situation described upon is inevitable. The basic rule correlates straight in to leadership too; good operations equal good result and poor operations equals poor result.

The successful future companies and leaders are focusing on developing their employees' psychological capital. However, when there is a need to persuade the mind to work in deep, new innovating matters, there are two things that have to be remembered. Firstly, that the processing ability of the brain is limited and the capacity for rational decisions has its borders. "We behave like we had a super computer in our head for rational decisions. In reality we can hardly count four numbers together and certainly not divide the figure. Our ability to make reasonable decisions is miserable." (Rock, D. 2012, Optio 22.11.2012, 63). The second important factor is to remember that the basic structure of the mind steer people to minimize the threats and to maximise the reward. In the leadership point of view the model is challenging as the leaders should be able to minimize the feeling of the threats and maximise the feeling of rewards in order to lead the employees.

Alongside, it has to be acknowledged that a functioning reward system does not exist. In reality it is not possible to motivate workers forever only with money. People need to have commitments toward their tasks, find the deep meaning of it and maintain the inner motivation. Financial rewarding cannot buy loyalty and high performance. In example, if the company is delivering bonuses for sales people, it often happens that the reward steers the actions and not the actual matter due to what the reward was granted at first place. "Several surveys prove that bonuses influence people's willingness to take risks, search for other options, follow their intuition or take part on events, which are not straight related to a reward. The first victims of rewards are creativity and innovation." (Kadenius et al. 2015, 81). The external rewards seem to make people lazy and are not supporting self-initialisation.

3.3.2 Motivation

Motivation as an independent chapter is dealt shortly in here as it has been commonly discussed widely and it can be expected to be familiar issue for the leaders of the modern days. Nevertheless, it is such a significant matter that it must be marked down in this context too.

People are different, not only by their competencies, but also through their motivation. "Motives are defined as needs, desires, instincts or inner impulses. Motives are goal oriented, either conscious or subconscious." (Hersey&Blanchard, 1990, 18). One of the most important tasks of the leader is to motivate the employees. Motivation is difficult to handle as it is continuously changing mental state of mind which can be attached to certain situation or task. It rules how enthusiastic an employee is about a certain matter and in what direction s/he will take actions to. It is commonly known, that a well motivated person is working hard to achieve the pre-settled goals as the person with low motivation is only performing what is absolutely necessary.

It is highly beneficial for the leaders to create an environment which support the self-initiative. In organisation there are many factors which have influence on the employees' motivation. These factors the leaders should be aware of in order to ensure the good functionality of the personnel and to create motivation supporting organisation culture. Even more important for the leaders, it is to find the factors which are possibly negatively blocking the motivation. "Motivation is the firelighter of action. It steers and tunes the performance, which will be successful if the readiness of competencies bestow. Even with the same person the motivation varies in different times and different circumstances. Motivation depends on inner compulsion and it might be possible to strengthen with external incentives. For some people the main source of motivation is the inner need of performance and the external bonus is not adding value." (Strömmer, 1999, 150).

3.3.3 The Nudge Theory

"Pure information is not enough to reform the embedded manners, but a gentle tutelage can work." (Erkko&Likki 2014, Optio 16.10.2014, 40). Nudging is influencing the audience positively to steer people in particular direction but also allow them to do it in their own way. The nudge approach is about lifting others gently on the path of least resistance. At the beginning the nudge approach was developed into the need of sales to steer the customer demand. Later on it has developed and utilized also in the organisational and governmental management tool.

The Nudge theory was presented by the 2008 book *Nudge: Improving Decisions about Health, Wealth and Happiness* by Richard H. Thaler and Cass R. Sunstein. The book found its inspiration from the Nobel Prize winning work of the psychologists Daniel Kahneman and Amos Tversky.

According to Thaler and Sunstein people need nudges for decisions that are difficult and rare, for which they do not get prompt feedback, and when they have trouble translating aspects of the situation into terms that they can easily understand. (Thaler&Sunstein, 2008, 72).

The theory is based in the validated research outcome, that people often settle in the default options and have a temptation to resist everything different. People often rather follow the herd than step on their own way. Changing the existing ideologies is hard and many companies are rejecting new methods as their awareness is not ready to leave the rapidly disappearing era. Singular improvement projects will not work as the core company resists the change. The companies and the personnel must be fully reformed in order to really progress. "What happens in the organisation in daily bases is built upon ideology and structure of the company in question. If there is a desire for significantly different results, the contemplation must change. The modern organisations are born from up-to-date consideration." (Kadenius et al. 2015, 8).

This change and reformation can be conducted with better outcomes by nudging. It is mainly about choice architecture to affect the company and its employees. "Choice architects can preserve freedom of choice while also nudging people in directions that will improve their lives." (Thaler, R.H. & Sunstein, C.R. 2008, 252). Companies should give up on the ideology of having directors; instead they possess choice architects delivering the options where to choose from. A good choice architect includes the incentives in their option display and steers the company towards the wanted direction. Meanwhile the personnel have a feeling of freedom of choice and influence.

The nudging can utilize the social pressure to add the effectiveness. In UK the government sent a tax collection letter by tax zones for every citizen. In the cover letter it was told how many of the areas taxpayers were conducting their payment on time in previous year. As a result more people were completing their taxes less than in a month from the letter arrival. The nudging utilizes different source scientific data about the societies and human behavior. In UK the nudging is every day business and four years ago the government established an individual unit to concentrate on nudging. The unit is called Behavioral Insights Team (later BIT) and its purpose is to gently influence on people's choices by offering small changes in selection situations. The main goal is to make

people to behave beneficially for the society and for themselves. The potential of the method is significant both in economical way and in well-being. (www.behaviouralinsights.co.uk/publications. Accessed 16.3.2016.)

The nudging is justified through economic-behavioral science, which studies how people are conducting decisions, which factors influence on the decisions and which kind of mistakes there exist in the decision process of the human. The economic-behavioral science is dashing the illusion about free-markets rationally functioning individuals and reveals errors connected to human reasoning and behavior. According to the several researches of this branch of science, "people are surprisingly often behaving irrationally, but fairly foreseeable. The behavior is often steered by our desire to take the easy way out and through our will to be socialized" (Erkko&Likki. 2014. Optio 16.10.2014, 40). The BIT has proved scientifically that if some human behaviour output is desired to be promoted, it has to be made easy, tempting and socially appealing for the people involved. It is possible to influence on peoples choices by modifying the selection situations.

The leaders of the new era should not be pondering their strategic choices behind closed doors only with other leaders and then present the outcome for personnel to formally approve. The strategy work starts from engaging the personnel by demonstrating the strategic options, where from the most suitable solutions are harvested collectively. With the technology of today, this sort of working method is just a matter about will. A strategy created by the nudge method also simplifies the sense of sole responsibility of the leaders and increases the coherence of the organization.

Furthermore, when all the members of the same boat have their chance of statement from the beginning, the commitment is deeper. The wanted behavior has been promoted by involving personnel in creating the solution. Socially appealing group work of all the passengers in the same boat is essential. Consequently instead of fighting over the seats, the organization vessel is able to focus on the direction.

3.3.4 Agile Method

"Agility is the ability to both create and respond to change in order to profit in a turbulent business environment." - J.Highsmith

The Agile method was written as a theory in Manifesto for Agile Software Development in 2001. It caused a movement

which finally went through different branches upon the project management of software development. "The essence of this agile movement, whether in new product development, new service offerings, software applications or project management, rests on two foundational goals: delivering valuable products/services to customers and creating working environments where people look forward to coming to work each day." (Highsmith, J. 2011, 28).

The organizations and leaders need results, but they "should not come at the expense of quality." (Highsmith, J. 2011, 8). The agile method is about doing the right things and learning to do them quickly. The requirements of the modern days are pushing the leadership and organizations inevitably towards the Agile method. The service or product must be delivered promptly to the customers and if it is too late or poor quality, the customers are no more in need of it. There is no more time for carefully planned product development and tightly structured processes. The development and delivery of a service/product are often expected to happen immediately. "Agile development focuses on speed, mobility and quality. To accomplish this, individuals and teams must be highly disciplined - but with self-discipline rather than imposed discipline." (Highsmith, J. 2011, 9).

The approach of the Agile method is determined by the company in question. As agility is more an environment than a methodology, it is mainly about the attitude than the process itself. The full company culture will determine how the Agility is conducted and does it actually realize as it should. This is why the company culture must be good, so that the ideology can actualize. The approach must be also equivalent with the business objectives of the organization. If the company executes linear thinking, restricted processes, standardization and unvarying practices the Agile method is not a suitable tool. In here it is important to point out the fact, that companies operating with the earlier described old fashioned methods are not survivors of the future environment.

The future is volatile and the education organizations must be able to build innovative learning products, processes and new business models in a fly. This requires a new approach of the management and particularly from leadership. Agile management has five key business objectives to maximize the output of an organization. First is the continuous innovation to respond to the current customer and market demand. Second objective is product adaptability to deliver on the future customer requirements. The third objective is to meet the market windows on time and improve the return of an investment. Fourth business objective, people and process adaptability, is to respond rapidly to product and business

changes. Reliable results are the fifth objective and it is to support the business growth and profitability of the company. In future, the projects where swift changes are a rule, not an exception, the processes cannot be "managed by traditional, prescriptive project management technologies." (Highsmith, J. 2011, 13).

4 NEW ERA'S KEY COMPETENCES OF AN EDUCATOR

In the world economic forum report from 22 February 2016, the authors Alexander de Croo and Mark Spelman were asking. "Can we save Europe from digital mediocrity?" They also claim that the years 2016 and 2017 will determine whether Europe creates a digital roadmap to support competitiveness and growth, or is Europe going to slip into digital mediocrity. Mr. de Croo and Mr. Spelman are talking about the business in their report, but many of their views are directly applicable to the educational branch too. This is urgent question for educators too; what skills are needed in order to avoid the mediocrity and to be the trailblazers of the future? "Although they will not entirely disappear, physical borders will be less authoritative and intangible boundaries will be continually breached." (Koehn, P.H. & Rosenau, J.N. 2010, 24).

The main key competence of a new era is fearless attitude. The revolution favours the ones who "dare to embrace the accelerating technological change instead of the ones who fights a rear-guard action by overly focusing on data privacy and protecting national industries and ICT champions." (De-Croo & Spelman, 2016. www.weforum.org. Accessed 24.2.2016). In order to move towards future people need to self-secure enough to be able to step outside the comfort zone. As explained before in the chapter 3, the leadership has a big influence on how the employees are adjusting and how brave they are. If they feel secured and safe about what they are up to, the sky is not a limit for the people on the things that can be achieved. The future education expert must "master the nimble balancing act of keeping an eye on the horizon and an ear to the ground." (Koehn, P.H. & Rosenau, J.N. 2010, 23).

As the world is getting "smaller" through the ICT and connectivity, the culture collides in many cases. As it would not be hard enough with all the technology around, upon that is still a fact that people have to tolerate other people from strange cultures. Future workers need to be able to handle diverse technological and human issues on their daily work. "Workplaces around the world are changing, as businesses adapt to the onset of the Fourth Industrial Revolution." (Myers, J. 2016. World Economic Forum). The devel-

opment and growth demands both professional and personal learning. In the future, the education professional must be able to confront individuals with different backgrounds. Moreover, the education professionals need to be able to meet the various students objectively. Any bias should not appear in the professional approach.

According to World Economic Forum Future of Jobs Report the top ten skills of the future worker in 2020 are:

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgement and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

(Future of Jobs Report, WEF. Accessed 24.2.2016.
www.weforum.org).

Through all the information which was sourced by the environmental scanning and complex event processing for this theoretical framework, the author decided to utilize this classification as a guideline of the future skills. From all the data disposable this list gathered most of the overall findings effectively. Below, all the skills are discussed separately and explained why they are significant to an educator in the future. Also the WEF upon listed skills are completed by additional features which outstandingly belong to the context in question. Furthermore, the WEF list is not addressed in the same order as the list, since the grouping follows the theoretical framework of Koehn and Rosenau.

4.1 Complex Problem Solving & Critical Thinking

The evolving environment is leading workers on daily bases in front of a various challenges. Sometimes the problem on hand is just a simple problem and it is not luckily every day when the educators must handle really complex problems. Nevertheless, these things happen occasionally and then the full potential of skills is needed. As the work of an educator is creative work with people, often the complex problems of an educational environment are psychological. The educator has to be able to use the individual intellectuality combined with methods of introspection, intuition, cognitive and behaviourism processes. Furthermore, in order to find, shape and describe the problem on hand, the educator often needs to bring in their own special vocational branch expertise.

It is not commonly remembered that the methods of critical thinking are not actually coming from scientists or academics, but from military. All the military leaders from Julius Caesar, Attila and Hannibal until today, have one thing in common; they all have had superior skill of critical thinking like analysis, interpretation and inference. Strong reasoning skills are still vital and adaption achieved through critical thinking has become very important. The critical thinking as a psychological process is about evaluating the possibilities. When some event triggers a need of action, the person must be able to ponder the occasion critically. This process often starts with questions like; How is this situation similar like prior situations? How this situation is not like prior situations? According to this simple force-field analyses (Figure 8.), which many people perform naturally, the critical thinking advances to next level questions like; What happens if I take an action of making a statement in here? What happens if I do not take an action of making a statement in here? Is the problem changing over time if I do not get involved with it? Can I adjust and/or adapt to the consequence? Basically, critical thinking is a chain of analytic pondering where the individual evaluates the possibilities to survival or success.

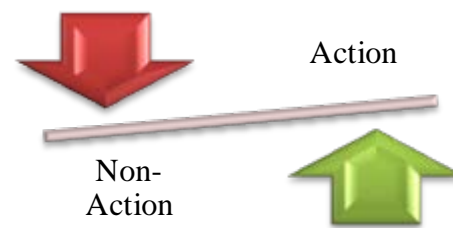


Figure 8. Method of Force Field Analysis

Complex problem as a term means a problems or issues which cannot be responded through simple logical procedure. Commonly the teachers and humanists are talented to solve complex problems as those demand cross-scientific approach in order to be solved. "For educational professionals, the common future is that tomorrow's roles will require spanning boundaries of place, field of expertise, socio-cultural context and identity" (Koehn, P.H. & Rosenau, J.N. 2010, 23). Complex problem is not a direct logical chain of events, which can be solved by pure mathematical logic. A complex problem generally demands abstract reasoning and reconciliation of various field of science. The complex problem's core dilemma can be origin from any field of science and the different solving techniques can be applied i.e. to artificial intelligence, computer science, engineering, mathematics, and medicine and/or psychology problems. The complex problem solving process is a close relative of the Agile Method which was presented before in chapter 4.3.3., and is used as a management tool. After the complex problem has occurred, iden-

tified and solved, the educator must be able to set a display of optimal solutions by critical thinking.

Sometimes it happens that there is only one solution on hand, but often in this world of complexity, there is not a simple answer to a complex problem. Figure 9 presents a chart demonstrating one way of a complex problem solving method. First there is a need to identify the complex problem on hand and create concept out of it. The problem can be origin from multi-step or -faceted factors, from non-algorithmic factors or from any uncharted factor. The term non-algorithmic in this context means a factor which cannot be defined through clear preset definition of the steps needed.

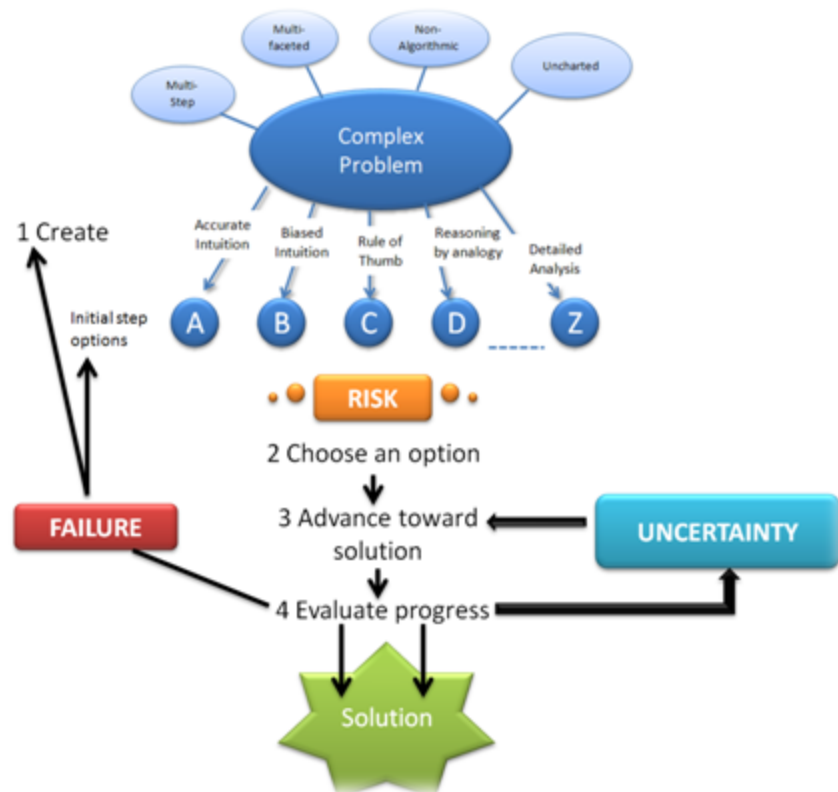


Figure 9. Complex Problem Solving Method (Sketch 2012).

Analyzing the origin and the birth factors of the problem, will output the concepts which are the initial step options from A to Z, or as many as there is. These initial options can be based on accurate or biased intuition, rule of a thumb, reasoning by analogy or by detailed analysis. "An *analogy* is a comparison between two objects, or systems of objects, which highlights respects in which they are thought to be similar. *Analogical reasoning* is any type of thinking that relies upon an analogy." (plato.stanford.edu. Accessed 16.2.2016).

When the actual initial options have been classified it is time to conduct a risk assessment. With this risk evaluation the most suitable option is chosen to be further developed and to advance towards the solution. Whilst proceeding towards the

option the progress is being evaluated. If significant uncertainty occurs, it rerolls the process through earlier steps. If the progress evaluation indicates the solution to be a failure, then the complex problem solving start again by choosing another initial option or even by recreating the options.

4.2 Creativity & Innovation

It is not useful to discuss creativity alone in this context. Creativity happens every day on every work place and it needs its best friend alongside to be truly acknowledged. In working life creativity goes often alongside with innovation. Creativity and innovation is about freedom of thoughts and innovation is an output of creativity. Creativity needs peace of mind, space and time to realize. Innovation is building something completely new and original on old surface and it needs creativity to form the new scene upon the old. It is obligatory to discard old rules and ancient habits if there is a need for renewal and innovations. Innovation is about “invention which is considered completely new” (McAdam, Rodney & McClelland. 2002).

A good creative innovation culture brings along energy and supports new kind of thinking. Feeling of trust accelerates creativity. "A good description of an innovative organisation is that the full organisation is awake and ready to recognize different development possibilities." (Mäntyneva. 2012, 58). Individual and group aspirations are in harmony. Everyone can be creative and innovate. Innovation is common day creativity and the average innovating employee is questioning and thinking actively, how things could be done better. It can be a matter about small thing or a larger organizational project. As it simplest, innovation is a sharp "Heureka!" experience in a daily work. At the end of the day the Heureka experience produces productive new product, service or operating model. Finally, it is all about reaching out for new possibilities.

International companies have understood that business depends from creative innovations. Alongside the research of consumer behaviour, the multinational companies are actively creating demand, nudging, through new innovations. It is worthwhile for every company to think about why they operate as they do and is there a chance to do it any differently or better? These companies that are utilizing the creativity of their employee's systematically have not only increased their attractiveness, but also their profit margin. Thus it has to be realized, that if the goal and vision of innovation is settled tightly, the creativity is steered and it will not lead anywhere new. "People are the ones who perform the practical innovation work, not the organisation" (Mäntyneva. 2012, 66). The

organisation that wants to utilize the power the personnel possess must think about how to motivate and boost the creativity of the personnel. The company must also think what kind of actions in the organisation might hinder the creativity and ideation. The best way of developing the functions would be, if the company is able to develop the innovation culture alongside with the result oriented culture.

4.3 Coordinating with Others & Decision Making

Managing people and coordinating with others is probably one of the biggest challenges in a professional world. Through the occupation it is very likely that everyone must deal daily with people, who they would not normally connect with. The certain kind of distance commonly exists on the workplace and "being yourself" is not often even recommended. Many of the traditional companies are still formal in this matter through the hierarchical and mechanical leadership. Working together with different kind of people requires a high level of emotional intelligence and cognitive flexibility which are discussed further in the next chapter.

However, the new era is going to have an influence in to co-operation too. Networking and coordinating with other comes transparent. This requires sincerity, good self-esteem and team work skills in an individual level. In order to be approachable, a person must be in balance about whom they are. The increasing transparency will have the same effect on an individual level than it has on the organizational level. The reputation is earned through actual existence and pretending something else will not carry further. It must be acknowledged that this is going to be inherently complex and difficult issue in many companies. Through the revealed reality, people must be more tolerate about the fact that the others are not what they thought them to be or are not behaving as expected. In addition people have to understand the fact that the others might not share the same conception about their self-impression as they do themselves. Furthermore, separating the concepts of people management and managing the things is essential.

People management skills are about influencing the others and here it is possible for educators to use the nudging methods just as the leaders can. Furthermore the educators must understand that as the world changes and the leadership changes, there is not going to be anymore straight mechanical orders about what and how to fulfil the tasks. The self-management goes alongside with the freedom and independency. Less command and control does not mean a chance for lazing around. Instead it means taking more responsibility of the own output. The experts of the new era must plan their

own work, schedule it, execute and develop it. The context of an internal entrepreneurship will have a true meaning and good self-steering and organizing skills are vital. At the end of the day, these future internal expert entrepreneurs will function productively inside the organization selling their services for the management and earning the respect of the others by active and committed working style.

Coordinating with others is often seen as a natural event and normally people get along well in their personal relationships. Perhaps this is due to the fact that in personal life people are able to choose their company. Yet when it is about professional relationships, people must be able to coordinate with various people. In the best cases, the working environment outcome real friendships and then the coordinating with others is easy. However, as this is not always the case, in the professional relationship's people should be able to recognize the difference between personal and professional relations. Functioning in teams of different kind and ability to reach out for a functional solution even with people who have different opinions than oneself are the skills of a professional.

Decision making is about ability to search a functional solution for the matter in hand. The human manners of making decisions vary as much as people. Some people like to consider closely and often they are willing to ask other people's opinion before their final decisions. Some are incapable to make a decision and might always float around unable to give a final statement. Some people are quick and efficient to make the decision. It is not possible to indicate which way is the best, as it is always matter about the situation. Some decision style suites better in some situation than another. Nevertheless, the ultimate goal of human decision making is trying to make the right decision. In this context, the thesis will not take into account the conversation about philosophy of right or wrong, yet the author wants to point out a psychological issue which often travels alongside with decision making and can cause severe disturbance in work relationships.

Phenomenon close to the decision making is the issue of individuals need for a cognitive closure. Identifying this factor in the organization can reveal germinating malfunction in personnel's cognitive flexibility. The need for the cognitive closure can hold the full company back and prevent the organization achieving the strategic goals alongside with the fear. "The psychologists describe the concept of the cognitive closure as the desire for a confident judgement on an issue, any confident judgement, as compared to confusion and ambiguity" (www.weforum.org. Accessed 7.4.2016). This means, that people seem to have an urgent need to get the things decided/done rather than to leave the matter fully

hanging in the air. In the simple matters, this method can run quite smoothly as debating decision is not taking anywhere and the risk of making a wrong decision is low. Nevertheless, if the organisation has a high need for a cognitive closure, it might lead into a situation, where it is more important to make decision and list it down, than to make the right decisions and enable the real action behind it. This kind of mentality run the organisation fast in to circumstances where there is more the sense of being productive than actual realizing productivity.

In an interview with Business Insider, a Pulitzer prize-winning journalist Charles Duhigg explained how a need for cognitive closure might play out in a meeting. You turn to the person next to you, a presumed expert on the topic, and say, "What should we do?" They give you an answer and that is the end of that. (www.weforum.org. Accessed 7.4.2016). Many of the companies are nowadays tripping on this invisible obstacle. The meetings are held, the work load is listed by various experts and then everyone feels effective. Yet no-one actually performs the real actions which need to be taken in order to make the good decisions of being fulfilled. For the time being, the meeting agenda sheet itself does not possess any features to turn into an action robot, which magically makes all the good decisions to realize.

It must be remembered that efficiency is not the same than productivity. Anyone can be efficient listing down work related issues and even prioritize them, yet nothing has still realized. The urgent need for making the cognitive closure can sabotage the nature of the decision and further to the quality of operations. Simply it is about making any decision in order to get it out of the head even if the decision would be bad. According to Wikipedia, the cognitive closure is "the human desire to eliminate ambiguity and arrive at definite conclusions, sometimes even irrationally".

4.4 Emotional Intelligence & Service Orientation

The emotional intelligence is one of the most important skills of a future educator and it is one of the most challenging abilities. It is deeply attached to every individual's basic personality. Few adjectives describing a highly emotionally intelligent person are i.e. flexible, assertive, decisive, warm, enthusiastic, sociable, stable, patient and systematic. Some descriptions of a low emotional intelligence are i.e. aggressive, egotistical, impulsive, and resistant to change, passive, slow and critical.

According to these examples it is yet still hard to make generalizations about people in common. Emotional intelligence is one of the issues what is always thought to be a soft value and it is hard to justify it for hard-core business people. It is said that it is exactly emotional intelligence which separates us from the animals. Normal human has the ability to put themselves in the skin of the other human. It is called empathy. It means the ability to identify other individual's emotion and understand what they are going through. Emotionally intelligent people are often good listeners and can read between the lines. "Skill in perspective taking or recognizing and analyzing the complexity of people's perspectives, and the effect of conflicting perspective in human relationships, advances transnational emotional competence among teachers." (Koehn, P.H. & Rosenau, J.N. 2010, 48).

Reading the situation is a significant part of emotional intelligence and service orientation. Socially talented people are able to approach others in a way which is appropriate for the situation. Emotionally intelligent people are polite and able to recognize their own and the others mood. Mastering these skills will inevitably help the education professionals to meet the students and the co-workers. When a student is noticed with respect by a person with service orientation, they consider that they are really taken into account and acknowledged. Furthermore, the good service orientation indicates a high level of motivation. It is often said that emotional intelligence is endogenous. Partly this can be true, but the emotional intelligence and service orientation can also be practiced. Mostly it is about the listening ability and elaborate further questions. It is about being honestly interested in other people.

A quote from an anonymous philosopher indicated that, if people would be as interested to develop their emotional intelligence than they are in their physics and intellectual abilities, the world would be a much better place to be. In this world of disturbance, people often tend to neglect the emotional signals. This leads to great disaster as the emotional well-being is the most important part of the humanity. This

can be proved by a simple triangle model as in following figure 10. For a one day anyone is able to live without using their physics, i.e. if a person is sick and in a hospital. It is possible to lay still in a bed for a day. Additionally, it is possible to live one day without really using the intellectual capabilities, i.e. during the time of relaxing and holidays. However, for a normal person, it is not possible to push the emotions a side for a full day. Already from a morning when a person awakes, before the first conscious thought, there is already emotion going on and these primary feelings decide if the day starts with the left or with the right foot. The emotions are strongly steering the individual action in every moment, even if they are not as easy to recognize than the physical and intellectual abilities.

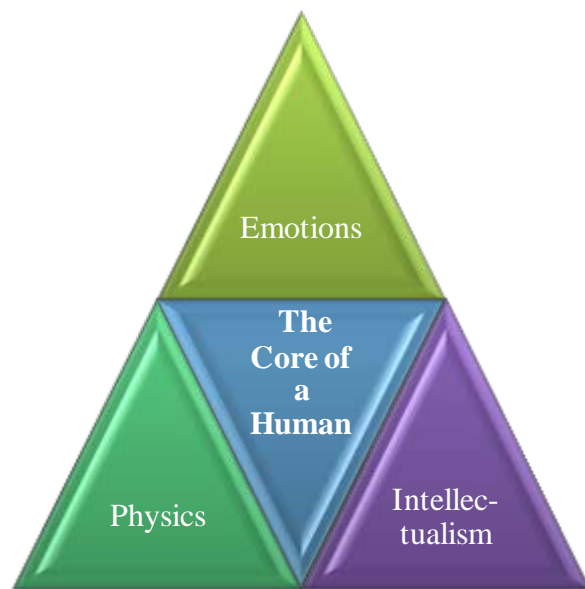


Figure 10. The 3 Rooms of Humanity

All of these three rooms of humanity can be and should be practiced in daily bases. As it demonstrates in the figure, these three rooms are supporting each other's, even though the only one which cannot be fully removed even for a day, is the emotions. As the emotional intelligence cannot be shut down by an order, it is presence all the day, even at work. An emotionally intelligent person is aware of this truth and is able to function efficiently under this circumstance. Furthermore, the emotionally intelligent person is not only aware of his/her own emotions, yet they are able daily to respect and receive other people's emotions.

In the book of Psykologian Verkot, the author Peltomaa presents Salovey's perspective that the emotional intelligence is the ability to recognize the emotions in oneself and in others, ability to understand the emotions, ability to adjust the emotions and the ability to use emotions to assist the intellectuality. At work a good emotional intelligence is seen i.e. when a colleague does not want to bother too much a co-worker who

has a bad day. This is one indicator of the ability to leave space for the co-worker's emotions. "The events of life awake emotions in daily bases, negative and positive. When the feeling arises, it is very hard to wipe it off" (Peltomaa, H. 2008, 335). In Finland, it often experiences that feelings should not be taken to the work, especially not the negative ones. However, when emotions are inseparable part of the humanity, it is impossible to stay all day at work without feelings. The future competent employee is naturally balanced with the existing emotions and feel comfortable even in situations with negative emotions. The emotionally intelligent workers are aware of this part of their humanity and furthermore, they allow space for their own and other people emotions.

4.5 Negotiation and Non-Verbal Communication

The negotiation situations are problematic as they happen on real-time and the people are in a straight interaction. This creates a live-broadcast situation, where the person must be competent enough to deliver well without a chance to practise in beforehand. In face-to-face communication all the competencies comes critically important. "Teachers increasingly need to communicate across cultures, borders and socio-economic boundaries in the preparation and execution of lesson plans/learning strategies and in interacting with parents and other educational stakeholders who are different from themselves." (Koehn, P.H. & Rosenau, J.N. 2010, 50). Negotiation is commonly understood as a method to settle people differences in viewpoint. It is a process which search for a compromise or agreement in a diplomatic way. The purpose is to avoid argument and dispute.

Like all the processes, negotiation can be conducted structurally and different methods to manage negotiations are possible to learn. As it is inevitable that sometimes conflicts and disagreements arise, this skill is useful for everyone. Preparation is very important and the person taking part in to a negotiation should never run in it without thinking what is this about. The purpose is to find a win-win solution so that afterwards all parties involved are comfortable with the agreement. Understanding and managing the structured negotiation process will assist education professionals to handle the challenging situations where these skills are needed.

In the negotiation event the negotiators must be aware about the non-verbal communication. People are sending messages all the time when interacting. Training the negotiation skills assist people to analyze what kind of a manoeuvres' they are often performing without realizing it. One of the most common is to play the poker-face. Nevertheless should never underestimate the counterpart, as they might think this also as a

trained act. The best way to be successful in negotiation is to be as natural as possible and this realizes only through real confidence.

As the educators are experts of their own branch, they might not always possess strong negotiation skills. This is not lack of intelligence; it is just simply the fact that it has not been one part of their own studies and specialities. An average vocational educator is a specialist of their own special branch. The changing and more challenging environment is however adding the pressure of multi-talent, so that the educators are forced to enlarge their scopes from traditional limits.

4.6 Cognitive Flexibility & Judgement

"The highest form of a human intelligence is to observe yourself without judgement" - J. Krishnamurti

It is not only observing your-self, but also observing other people and issues that are important to make decisions in the future. Judgement does not mean conviction in this context. It is a matter about ability to consider carefully, evaluate and assess complex matters through critical thinking. As the world is full of information, there is a lot of sources of the knowledge. It is very valuable for the education experts to utilize their judgement and robust knowledge in order to separate the wheat from the chaff. All the knowledge of mankind is currently available in the internet and it is not all true or scientific fact. Without common sense and critical thinking, the limitless information can become overwhelming and misleading. Cognitive flexibility and judgement ability become more valuable than ever before.

Cognitive flexibility is ability to combine all individual knowledge ever assimilated by learning, experience and practise and stir it all to a different multiple concept simultaneously. Flexibility in individual cognitive functions assists a person to evolve as a strategically talented unit, who utilizes the intelligence capabilities efficiently. It is the brain ability to switch from an issue to another and understand what is going on. If a person has high cognitive flexibility, they are more likely to succeed in different kind of varying circumstances as they can swiftly move from subject to another. This can also be called mental flexibility. One of the most common factor what disturb individual cognitive flexibility is the stress. Any stressful situation, caused by any reason, can shut down individual cognitive flexibility quickly. Everyone has experienced a stressful situation which has been locking the thoughts for a while. The cognitive flexibility is highly attached to individual emotional life and emotional ability.

People with solid cognitive flexibility do not become easily distressed and are able to avoid emotional locking.

In everyday life, currently and in the future, the educator needs cognitive flexibility to maintain the basic ability to function. I.e. managing the technology and having a decent level of technological skills, lowers the step of taking new systems in use and increases flexibility. "When the basic rules of the current development are understood, it is easier to realize the ongoing situation of technology and foresight the becoming events (Leppälä. 2014, 79). Additionally, the deep perception of the changes intensifies individual stress endurance and helps to maintain functional cognitive flexibility. "It is one thing to support the notion, that for an individual to sustain ongoing lifelong learning that s/he must be willing, able and supportive of change in life." (Ruohotie, P. 2007, 347). All of this requires cognitive flexibility. The future educator must be able and willing to learn more and span their borders of expertise. The networking and technology challenge the cognitive skills of the human every day. Flexibility is in a crucial role, because it will be the factor which will ensure the resilience of a person.

Due to all of this, the ability of judgement is important part of the chain of competencies. Functioning by the better judgement is not easy and it requires the cooperation of all of the competencies. Also as before discussed in the leadership section psychology part, it must be kept in mind that the human ability to make absolute rational decisions is limited. In order to judge and observe matter objectively, a person must handle the delicate art of balancing between the bias and absolute information. For searching and utilizing the information from various sources, the educator must be able to judge the truthfulness of the knowledge on hand. Also it is important that the educator will not colour the information with their own conceptions and this demands objective judgement. The overall analytic competence is provided from the cognitive flexibility and judgement ability in order "to keep up with the changes in world affairs, knowledge acquisition and integration." (Koehn, P.H. & Rosenau, J.N. 2010, 45).

5 PROSPECTS OF EDUCATION AND TRAINING

The transforming times are challenging for education and training. The workforce competencies should be constantly updated and this creates great pressure for the educational institutes. The updating does not come for free and it is matter about the time and money. Mr.Borg states in the World Economic Forum report that the problem for fiscal policy is that there is also an upwards pressure on government expenditures. The most obvious way for policy-makers to meet technological disruptions is to increase investments in education and re-education. The digital age is being characterized by a race between technology and education, as Nobel laureate Robert Solow has noted. (Borg, A. www.weforum.org. Accessed 1.2.2016.) The development of the vocational education professional's competence should be seen as an investment for the future. If the extensive savings are now allocated towards the education and training branch, the negative influence will follow in the future. The professionals, who should be constantly inspiring the new workforces, are burning out and falling behind with their capabilities.

The on-going challenge is, that the current government search for savings and a significant amount of asset is deducted from educational purposes. The educational organisations barely afford to execute the basic training and therefore it commonly happens that the training personnel development is not conducted actively or equally. In addition, the strict savings have influence on the general spirit. The educational professionals are getting frustrated and tired, as the work should always be performed with tight resources. This forces the creativity at its limits and exhaustion decreases well-being.

The Finnish National Board of Education has listed following procedures to be conducted in the field of vocational education and training in order to develop the overall competitiveness and productivity of the nation.

- Strengthening work-based learning
- Raising completion rates and post-qualification employment
- Promoting innovation, regional development and entrepreneurship
- Ensuring competence as part of quality strategies
- Responding and anticipating to changes in the world of work and the labour market more rapidly and flexibly
- Developing forms of adult training that promote well-being at work
- Enhancing partnerships between adult training, students and workplaces

- Upgrading and updating competencies during careers (OPH, Strategic Goals 2020, 8. Accessed 23.2.2016).

Furthermore, the Finnish National Board of Education (OPH) has defined in their strategic goals that Finland will become the leading developer of learning culture in the world. Learning and teaching will emphasise collaborative approaches, involvement and interaction, combined with building knowledge and competence. Everyone will be guaranteed equal opportunities to process and produce information and to make efficient use of information and communications technology in support of learning. Electronic learning materials and diverse learning environments will form a key part of learning and teaching. Determined solutions will guide development of digital infrastructures and digital skills at all levels of education. (OPH, Strategic Goals 2020, 8. Accessed 23.2.2016.) In order to implement all this, it requires investments on education and functionality of the competent and energetic training professionals.

In the modern world the internationalizing is vital for every nation, organization and society. In Finland there is just not enough population to cover the current system expenses, so there is urgent need for new incomes. Education export is a good strategic solution for education organization to increase the incomes. The Finnish education has still a good reputation around the world, so the product/service is in order and the demand exist. "Education export is about actions which aims to sell and gain profit outside the borders of Finland from the Finnish degrees, consulting, development services, training materials and learning environment solutions" (www.ammattilinenkoulutusvienti.fi. Accessed 24.2.2016).

The Ministry of Education and Culture (OKM) is supporting the internationalization efforts of the education organisations and several reports and clarifications are made about the matter. One of the latest reports, Action Plan for Vocational education and training (VET) export, was completed at the end of 2015 and was published at the beginning in 2016. The report indicates on page seven that the current education export display is not extensive enough and do not fit the customer demand. Furthermore, the report presents the domestic language requirements in curriculums as an export hindering issues. Currently, the degrees are designed in a way that it is possible to conduct the curriculums partly or completely. The permit to arrange VET is admitted each institute separately by the Ministry of Education and Culture. Furthermore, each institute must apply for each program's permit separately and sharply clarify in the application the place where the training is executed and in which language. Each permit is granted for each application and the indicated factors named in the appli-

cation are not to be changed without executing the application modification process. Therefore the VET institutes are not able to conduct the degree programmes i.e. in English easily even if there would exist professionals with needed language skills. Currently, the VET law is under reformation, so in the nearby future these kind of bureaucratic obstacles might be history.

Additionally the OKM action plan is reporting challenging issues like financing, earnings principles and the new business model as problematic matter. The report state that "the education export will be a significant export sector for the nation, if the export obstacles are systematically demolished". However, what makes the 21 page report really interesting is the fact that it is not discussing issues like export through web-learning, virtual learning or micro-learning at all. It appears that the education export is seen as a service which is physically exported from place A to a place B. Perhaps this is the main dilemma of the phenomenon. In Finnish education export efforts it is forgotten that in the future the education is delivered in one big world village, the world-wide web.

6 RESEARCH CONTEXT AND METHODS

This chapter describes in detail the bases of the research. Additionally it explains the approach and the individual methods and tools used. The various selected methods are based on the focus of this study and were chosen after careful consideration. In here the relevant background information of the theoretical framework is applied to the traditional research. In a new and innovative way, this research section links the organizations current capabilities to the newly discovered future possibilities. Furthermore, it presents the data where the results rely on. The research utilize traditional statistical instruments and modern business administration tools for delivering a clear outcome.

The purpose of the research is to collect current and relevant data about the capability of the organisation by examining the X Institute Bio-Economy and Entrepreneurship unit. The research reveals is the X Institute Bio-Economy and Entrepreneurship unit possessing competencies which are needed in order to be a future trailblazer team. Additionally, the research investigates is the company's present environment a fertile ground for the needed modern days transformation. Furthermore the research appoints the possible main barriers of the transformation.

The everyday practical profit of this research is that it can be used as a base in developing a new era's responsive education institute. In this research, the phenomenon of the global

development is reflected precisely on X Institute. The leaders are supported by accurate information on the latest trends concerning every educational organization of the current time. The research delivers internal information about the company. The information collected in this survey can be developed into profitable and fundamental knowledge by the tools of traditional HR management i.e. competence management and organizational psychology and by the techniques of hard core business management i.e. business intelligence, statistics and analytics. Consequently, the company will be able to utilize the results for its benefit in the transforming world.

6.1 Approach, Design and Methods

Fundamentally, this research was founded already in 2007 when the author started to work at X Institute. Since then the researcher has been intensively observing and analyzing the functions of the company. The systematic observation methods in use were interviews and narratives of discretionary samplings. Mostly the observations have been about human interactions and behaviour in the organization and about their influence on the overall company functions. These observations were made from participating internal point-of-view with unstructured techniques.

Including in nine-year observation study, the author conducted several internal narrative researches in the X Institute since 2007. The purpose of the narratives was to deepen the conception about the organizations condition. The research strategy was empirical case studies based on the voluntary narratives of individual employees. The purpose of the research was to hear people's experiences about X Institute and how they experience the company and its culture in the work society. The narratives were exploring the company's way of action seen as a phenomenon from employees point of view. "Narrative methods can be considered as a real world measures that are appropriate when real life problems are investigated" (www.altasti.com/narrative-research. Accessed 18.3.2016). The data of the earlier qualitative research is classified fully confidential and the statistical units will not be revealed in this context. Nevertheless, the author holds the original first hand information and the results are reliable, valid and they present views extensively from different units of X Institute. The results of the observations have been analyzed continuously in peer-to-peer workgroups at X and they have been further refined through the author's Master of Business Administration studies as the knowledge base and know-how of the author has been increasing. The overall results of the earlier observations, retrospectives and narratives are now taken advantage as a foundation in this research. Fur-

thermore, the theoretical framework is practically applied into the research as the data tracked in the theories complex event processing is utilized as a base of the research design.

The research design combines each of the ten WEF listed individual skills under the five major concepts of total educator competence based in the theory of Koehn and Rosenau. The headings of key competencies are analytic, emotional, creative, communicative and functional competence. This conceptual schema is based on the handbook of Peter H. Koehn and James N. Rosenau. Koehn and Rosenau are presenting the framework and classification in their book of Transnational Competence - Empowering Professional Curricula for Horizon-Rising Challenges. Koehn is a professor of political science at the University of Montana and the Director of the University's global public health program. Rosenau was also a political scientist and an international affairs scholar. He also served as a president of the International Studies Association from 1984 to 1985 in USA. These five key competence are creating the overall competence of a future educator and they include each significant individual skill mentioned in the WEF list.

"The diverse and multidimensional talents that comprise competence are individually based. They encompass street smarts and advanced learning, experiential wisdom and intellectual curiosity, judgemental and reflective capacities, native intelligence and technical mastery." (Koehn, P.H. & Rosenau, J.N. 2010, 2). When the World Economic Forum skill list and the handbook theory of Koehn & Rosenau are combined it creates a functional form of up-to-date key competence matrix. The grouping clarifies the future skills ideology and key competence structure in the table 1 below. Here the future competencies and skills are demonstrated in conjunction. The preliminary research design included e-mail consulting with the friendly Mr. Koehn and the validity of the table has been checked with the theory writing professor himself. The research is designed so, that it is possible to settle the survey discoveries into this key competence matrix.

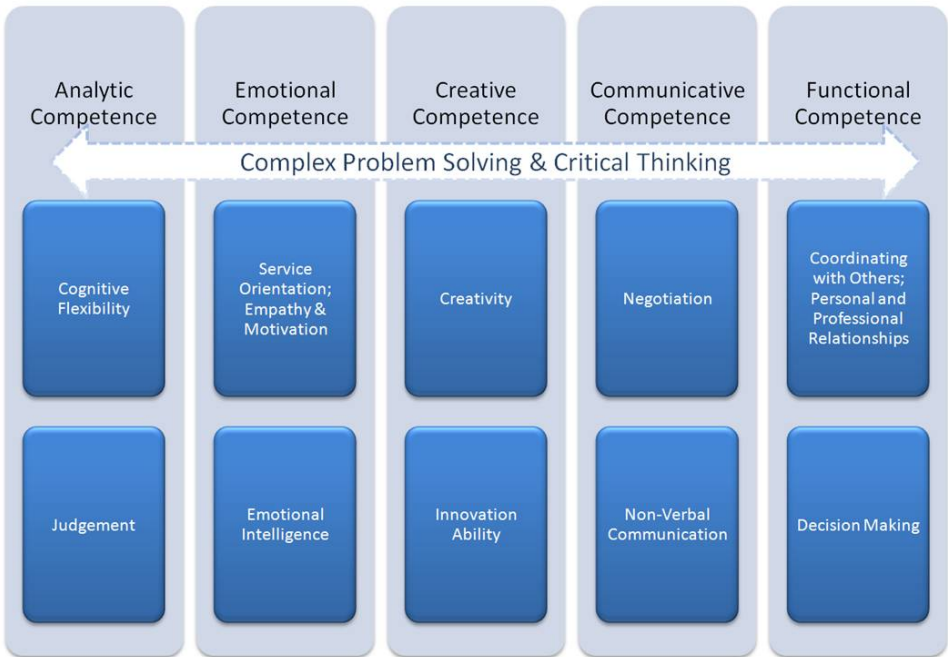


Table 1. The Competence Family - Future Skills and Competencies

The study is supervised by the Education Director of X Institute. The study is possibly part of a bigger development project of X. The designed project can be divided into three phases: (1) core competence research and ambience analyses of Bio Economy and Entrepreneurship unit, (2) accurate competence development plan for the Bio Economy and Entrepreneurship unit, (3) subsequent appraisal measuring the impact of competence development actions (Figure 11). This research part has its focus on the first level and it serves as a pilot project conducted among the X Institute personnel. In all this thesis work creates a base where it is possible later on to conduct a similar research on the other units of X Institute. So that the full organization will be prepared for the transformation, before other unit analyses, the leadership approach survey must be conducted. If the leadership approach evaluation proves the management supports the responsive organization creation and the company has ability for transformation, then the Future Skill Set analyses can be conducted in other X units. Without honest commitment from the leaders, the transformation cannot progress.

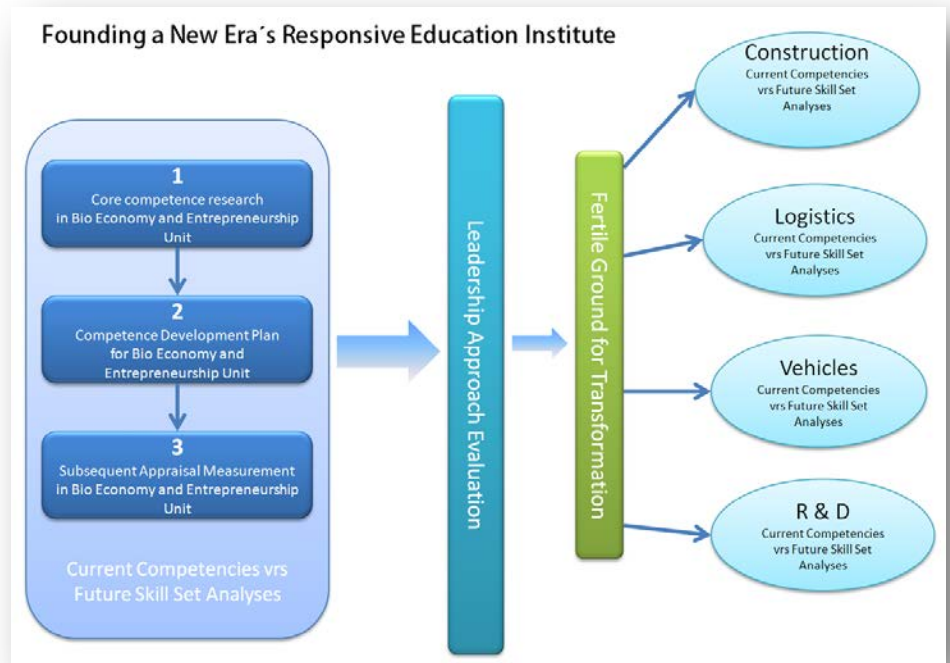


Figure 11. Future Skill Set Analyses Process Plan

The research figures out if the personnel have motivation, ambition, ability and commitment to the change. The research charts issues about the attitude, experience and ability to self-development. These are the earlier mentioned areas, where the companies often fail in transformation. Rarely, the actual technological tool issues and ability to use technology are the reason why the digitization is not succeeding. It is the classical error to consider all the transformation to be fully about technology. The hypothesis of the research is that the personnel mainly possess the needed abilities, yet the modern day common confusion hinders the full utilization of the possessed talents.

The first phase research remains on a practical level in order to produce outcomes which are measurable and applicable tools for the company. The research aims to reveal the real factors that need to be addressed in order to reach positive transformation in the organization. The imprecise overall guidelines are not efficient tools enough. What can be measured can be lead. The research delivers a simple cause-and-effect diagram which assists X Institute to assimilate the most efficient methods to success in the future and manage the change. The research apply cross scientific techniques and it combines various relevant fields of discipline and explains them in the extent of business administration. The approach of the research is rationalistic and the results realistically reveal the current situation and possessed capabilities of the company. Nevertheless, the approach of the research is chal-

lenging, as it observes various abstract issues from a wide scale of different disciplines.

The majority of researches which include competence assessments utilize the qualitative method, as it is trusted to deliver more reliable data. However, as mentioned in the previous chapter, the author has already combined different qualitative methods for several years and in this research the author decided to utilize a quantitative approach to statistically verify the earlier discoveries. The quantitative research delivers reliable and measurable results about company's intangible assets like environment, attitude, competencies and skills. Concerning this subject no previous statistical analyses exist at X Institute. As there is not ready statistics to use, the first official data is collected in this survey. The sampling come from the Bio Economy and Entrepreneurship unit and this sample is expected to deliver creditable foundation to the overall results. The sampling research is also chosen because it will give results in a less time and it is possible to chart the current situation quicker. Furthermore, the quantitative method is selected due to the factor, that the author aims to develop a tool which assist to identify and specify the invisible factors in simple numeric form and graphics.

The survey realizes in the Likert's scale and it is designed with positivity rising steps so that number 1 indicates completely disagree, 2 partially disagree, 4 partially agree and 5 completely agree. The commonly used option, 3 not disagree or agree, is intentionally ruled out as answers without adding value is not desired. The survey allows the respondent to pass the assertion if it is not applicable. The strategy is an empirical research and it will be conducted with a straw poll. This method is chosen also for the reason that this kind of a research applies to several other methods of analysis and it can be further processed in various ways if desired. The possibility of a reuse has been tried to ensure by operationalizing the questionnaire concepts.

Additionally, the survey construction is designed in a way, that alongside measuring the actual competence issues in analytic, emotional, creative, communicative and functional discipline, the survey finds out the unit's ability to complex problem solving, critical thinking and the need for a cognitive closure. Each competence section include a few variables measuring these factors. The questionnaire is designed so, that each scale number (1,2,4,5) represent 25 percent of the totality of 100 percent. This technique enables definition of the overall rate for i.e. the cognitive flexibility. Furthermore, as the Likert's scale enables the survey to be encoded with increasing positivity, the cognitive flexibility rate can be classified and presented in a descriptive chart.

In the last section of the research is a ten assertions considering the working environment. In this section, the cognitive flexibility, complex problem solving, critical thinking and need for a cognitive closure are not measured, as they are not applicable in an organizational level. Nevertheless, the ten assertions are measuring additionally the level of the company's psychological safety, which is more functional rate in the company level to examine.

6.2 Research Questions

In the actual survey sheet of this research, the practical question model has been carefully investigated and selected from various reliable surveys conducted before from similar issues. The author has performed a very diligent overall scanning about diverse researches from social science, organizational behaviour and psychology, analytics, creativity, business intelligence, management and leadership in order to create appropriate survey sheet assertions. Furthermore, the author has carefully applied the theory of Koehn and Rosenau into the survey poll statements and this transnational competence theory is the main red line behind majority of the survey assertions. Additionally, all the research concepts have been systematically defined in the theoretical framework and implemented in their field of discipline. Transferring the theory into the assertions / variables is done in the questionnaire check matrix (Appendix 1). In here the theoretic terms are modified into common language and indicators. The operationalizing is done by cross-checking each assertion and theoretic item with each other.

The research problem is to find out the present state of the company capabilities and possessed competencies. Purpose is to specify the workers of the selected sample what is their present capability state. Furthermore, the research questions aim to collect answers to sub dilemmas that are connected to beliefs, opinions and attitudes. The research measures the employees analytic, emotional, creative, communicative and functional competence.

The main questions which the research aims to answer are:

1. Is the environment of the organization fertile and supporting the start-up of a responsive organisation?
2. Have the personnel enough capacity to assimilate the future skills?
3. Is there any main barriers hindering the metamorphosis to be a responsive organization?

The main research questions are selected through previous knowledge from the narrative and observation studies. The survey will scientifically answer for the questions which have been occupying the minds in the organization for years. Furthermore, the answers will precisely name the issues which the company must be aware of before it can honestly start changing.

As this research is the first official statistics collected about this issue at X Institute, the survey includes an extensive battery of assertions. The purpose is to ensure a satisfactory level of data for this research and yet to one's in future. The author decided not to collect any background information about the respondents, as it is not considered relevant. When evaluating the necessary overall future competence, the team, gender, age or previous education information, do not create added value for the research. Furthermore, the author deliberately wanted to avoid the situation, where the results would have been explained through i.e. by the respondents age. The author considers classifications of this kind discriminating the neutral observation of the competence. A talent is a talent, despite any background factor.

The analytic competence and complex problem solving skills are explored through following fields of transnational competence:

- Content Building
- Integrating new knowledge
- Keeping up with world affairs and changes
- Continuous knowledge acquisition & integration
- Solid knowledge base
- Awareness how national economy develops / How global economies develop
- Awareness about global evolution and systems / basic structure
- Facility in general social-science
- Lifelong learning processes and reasoning
- Being in command of multiple local and global information sources
- Utilization of networked learning opportunities
- Complex problem solving

The emotional competence is explored through following fields of transnational competence:

- Tolerance of ambiguity
- Need for a cognitive closure
- Relaxation of rigidity in perspectives and ideas
- Resistance to stereotyping
- Comparative perspective taking
- Respect for others

- Self-efficacy
- Empathy
- Motivation
- Diversity tolerance
- Practical service orientation
- Insecurity Tolerance

The creative competence is explored through following fields of transnational competence:

- Effectively employ comparisons to elicit perspective clashes
- Connecting different fields of concentration (e.s., art and social science)
- Alternative approaches
- Every day innovation
- Recognizing different kinds of intelligence
- Risk acceptance
- Alternative suggestions into contributions
- Facilitate dynamic interactions and adaption's
- Elicit professional and social insights of others
- Ability to turn resistance into dialogue

The communicative competence is explored through following fields of transnational competence:

- Communicate across the cultures
- Diversity in communication patterns
- Conscious communication skills
- Active foreign language learning strategies
- Different vision of the world
- Effective verbal and non verbal communication
- Understanding others, different from themselves
- Active socio-economic boundary crossing
- Linguistic diversity as an asset / value
- Respect and language-valuing activities
- Sensitivity about potential areas of miscommunication
- Cognizant use of silence
- Equal role in the dialogue
- Respect of other views
- Acknowledgement of the importance of communication

The functional competence and critical thinking are explored through following fields of transnational competence:

- Positive relationships
- Interpersonal skills
- Teaching outcomes
- Professional interaction
- Collaboration in transboundary groups

- Political acumen
- Measuring achievements
- Essential outcome evaluation
- Ability to manipulate systems to achieve goals
- Valid justice
- Curriculum development
- Need for a cognitive closure

Furthermore the survey questions include a brief section charting out few important work environmental issues about:

- Psychological danger/safety level
- Diversity tolerance
- Respect for others
- Motivation / Faith to Future
- Engagement
- Constructive communication
- Failure tolerance

In addition the respondents are able to give an open statement after each section. Some of the assertions are so called control questions, which are included in the questionnaire to control that the respondents are reading and understanding the questions. The responses of these control questions are not valid for the research. Some of the assertions are asking the same thing in a different way in different phase. The purpose of these control questions is to make sure, that the respondent answers honestly and logically. The complete questionnaire correspondence control matrix with all the assertions included, can be seen in the appendix 1.

6.3 Data Collection

Data collection sheet is self-produced material based on the applied know-how earlier explained in the research methods chapter. The survey poll assertions are checked together with Business Director of the Bio Economy and Entrepreneurship unit and Education Director of the X Institute. The survey itself is conducted through an online web survey tool by SurveyMonkey.com. The survey is send to 38 recipients through a web link, which guarantee the anonymity of the respondents. With this web link method, the researcher is not able to see respondents name or other personal details. Furthermore, this approach was selected on purpose, because the researcher wishes to analyse pure results by focusing barely on statistical units.

The data analysis is statistical and descriptive to present the essential results. This means that the collected data is described statistically in a remark matrix, the data will be illustrated graphically and the necessary key ratios are conducted.

The responses are exported from the survey tool into excel, where the final analysis are conducted. The results are presented in such a detail that the study can be replicated, thus ensuring the reliability and validity. The purpose of the research is not to explore the possible dependencies between the factors or try to explain certain result with others influence, instead it has its focus on mapping out the overall level of competence possessed by the X Institute personnel. Due to this, any correlations are not tested in this context. However, the collected data enables various deeper analysis possibilities and if further analysis is later on required, they can be conducted in the following phase of the overall process.

The survey includes 115 assertions which are divided into six sections according to the theory behind. The data collection sheet itself is quite heavy, as the aim of the research is to extensively enlighten the phenomenon and establish the core information about this matter for X Institute. Additionally, the data collected would need to be workable in further phases. In the testing mode, the author learned that fulfilling the questionnaire would take around 15 to 20 minutes. This was considered as a risk, as the length might exhaust the respondents and so have an influence on the respond rate. Furthermore, the data collection sheet is translated into Finnish in order to ensure larger amount of responds. The translation took some time, as the author did not want to lose the meaning of the assertions in the translation and the expression needed to stay exactly the same to ensure the validity.

The research was introduced to the Bio-Economy and Entrepreneurship unit in a personnel recreation day at Kaisankoti, Espoo on 22 April. All of the unit was in place and the presentation opened the research for the respondents in beforehand. This was believed to have positive influence on the final respond rate. The ambience of the recreation day was slightly flat as X Institute had some weeks before announced the start of an employee cooperation negotiations. The negotiations were to be conducted before the end of May 2016 and it proposed 48 man-year deduction amongst the personnel.

Furthermore, the circumstances of the Bio Economy and Entrepreneurship unit changed significantly again on 27 April as the business director suddenly resigned. Hence, these events of remarkable disturbance were expected to have crucial influence on the research and specially to the final response rate. Finally, after the final tests, check-ups and risk evaluations, the actual survey was send in its extent to recipients in second May 2016. In the recreation day, the unit estimated themselves that a time period of a week is enough for answering. According to this, the survey's closing day was settled to ninth May.

7 RESEARCH RESULTS AND ANALYSIS

The research was answered by 21 people, setting the response rate at 55.3 percent. The dropout rate is 44.7 percent which is quite significant. Nevertheless, "this is the reality which often realizes in web and letter surveys, especially in extensive ones" (<http://kvanti.wikispaces.com>. Accessed 12.5.2016). Even if the response rate is not fully comprehensive, it delivers enough important information for the research and the research questions can be answered. The trends can be recognized from the data and the results reflect genuinely the current time and its challenges.

"In descriptive statistics, the research results are presented in a compact table, graphics and in statistical key ratios." (Holopainen, M. & Pulkkinen, P. 2013, 46). In order to clarify the regularities of this survey, the data has been analysed by descriptive statistics. The data analyses started by collecting an information matrix out of the received answers. From this information matrix / data sheet it is possible to sort out the key ratios like arithmetic (weighted) average and dispersion. "The purpose of the key ratio is to condense the found data on one descriptive figure and measure the observed figures average value and fluctuation." (Niemi, H. & Tourunen, K. 1996, 53). The matrix of Responses and Frequency Distribution (Appendix 2), present the results frequency in numbers and in the percentage divided by each competence itself. In the following chapter, the results are explained in words and a few foremost graphs are demonstrated.

7.1 Analytic Competence

The analytic competence was mapped with 20 different assertions which were measuring the competence of this discipline (appendix 2).

According to the results of the self-evaluation, it can be stated that the personnel believe in their analytic competence and they are excited about the new information which they can utilize in their own work. All of the respondents announce that they actively update their professional know-how and they are mostly able to sort the essential information from about the unnecessary. The personnel integrate new knowledge by continuous knowledge acquisition and integration. Furthermore, the majority, sixty percent of the respondents actively follow the global events and 81 percent of them also include global event pondering in their teaching outcomes. The national event pondering was implemented by 85 percent of the respondents. Slightly over 90 percent of the respondents answered that they source and assimilate new information in daily bases. Only two respondents par-

tially disagreed out of this. The majority of the respondents think that they are capable to systematically create a meaningful study event, thus more dispersion appeared in this variable as four of the respondents partially or completely disagreed. According to this it can be stated that the content building competence could be stronger in the unit.

Whilst asking about the solid knowledge base in the first assertion of the analytic competence, all of the respondents consider their professional know-how is up-to-date. Additionally most of the respondents experience that their basic social science skills are on a good level though there is three person who partially disagree and do not experience themselves fully competent with the social science facility. The assertions of lifelong learning and utilization of networked learning opportunities are revealing more dispersion in the answers as seen in table 2 below. Fifteen of the respondents completely agree that they built up their intellectual capital in different informal learning networks like Facebook, Linkedin or other social media platform. However, there are six respondents who partially or completely disagree with this. That is almost one third of the respondents who are not utilizing the informal learning networks to increase their own intellectual capital.

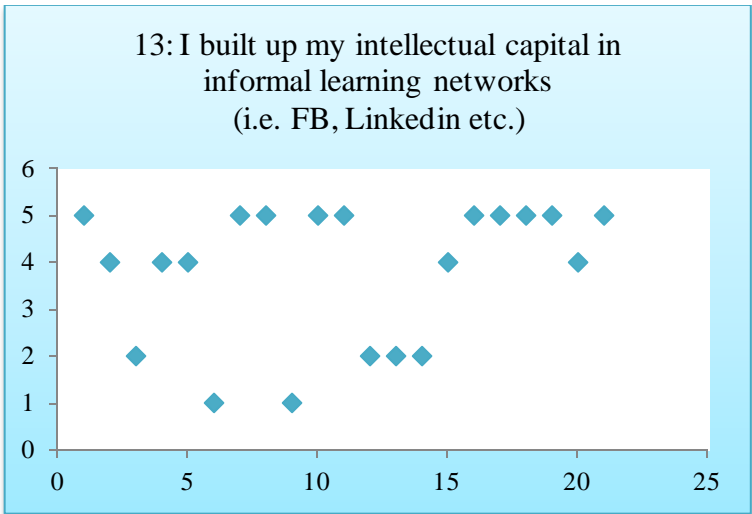


Table 2. Analytic Competence - Assertion 13 Dispersion Chart.

The assertion 14 required the respondent to evaluate if s/he builds the intellectual capital in formal learning events. This meant the formal education which is usually arranged by the employer or the education officers and this was clarified for the respondents in the assertion settling. What makes these answers interesting, is the fact, that there are three respondents who evaluate that they partly or completely disagree. So these three individuals do not take part in the formal learning events. Yet the survey will not reveal if it is due to

the fact that they are not willing to learn and build up their own intellectual capital or is it by the fact that the participation into a formal learning event is not made possible. Whatever the truth, the notable finding of this is that most of the people in the unit are willing to build their intellectual capital through various networks, yet there is a group which is not that active for some reason.

Positive excitement, willingness to learn and active participation are the indicators of individual's cognitive flexibility. According to the results, it seems that majority of the respondents possess decent ability for this. As mentioned before, alongside the analytic competence, some of the variables measure the respondent's cognitive flexibility (assertions 3,6,7,10,11,13,15-17,19) and judgement ability (assertions 2,4,8,9). Through this instrument it is possible to define the overall rate for the cognitive flexibility of the unit concerning analytic competence. This realizes by counting the weighted average for each number of the scale. As the Likert's scale enables the survey to be encoded with increasing positivity, the cognitive flexibility rate can be classified and presented in a simple chart as in the following figure 12. The figure demonstrates that the majority, 84.7 percent of the respondents indicate that they possess a high rate of cognitive flexibility. Nevertheless, it needs to be noted that altogether 15.3 percent of the respondents are on the low side of the cognitive flexibility.

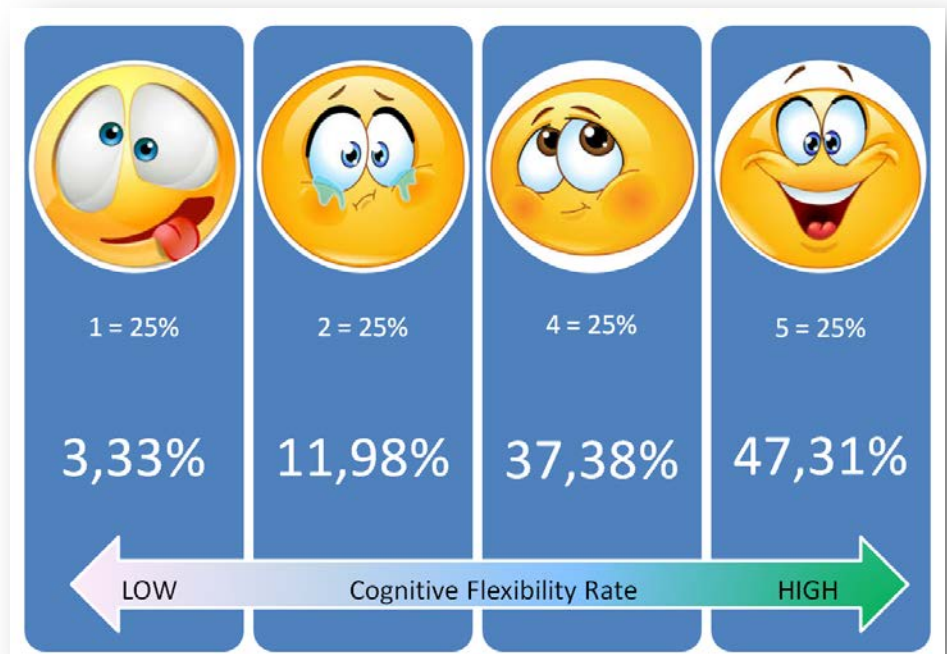


Figure 12. Analytic Competence - Cognitive flexibility rate.

In this analytic competence section, the complex problem solving and critical thinking skills were measured with the

assertions 3-5, 11, 17 and 20. The results of these variables indicate that the majority of the unit is capable of evaluating the information critically (90.7%) and knowingly master at least one complex problem solving method (85.0%).

7.2 Emotional Competence

The emotional competence features were mapped with 17 different assertions which were measuring the competence of this discipline (appendix 2). According to the results, the respondents of the unit possess a good level of the ambiguity tolerance although the majority (81%) prefer if an issue can be explained univocally and explicitly. The assertions measuring the relaxation of rigidity in perspectives and ideas were dividing the answers significantly. Somewhat over 60 percent of the respondents are flexible in front of diversity and ambiguity, yet 40 percent experience these factors bothering. The assertion two divided the respondents group almost to half and half; nine person (43 percent) considers other people's stiff ideologies bothering and twelve (57 percent) experience that stiff ideologies do not bother them. The sections of emotional competence assertions 1-3 are interesting as they also measure the individuals need for a cognitive closure. Additionally, what is even more interesting, is that the group divided almost in half. This indicates that there are existing exceedingly a need for a cognitive closure amongst the unit personnel.

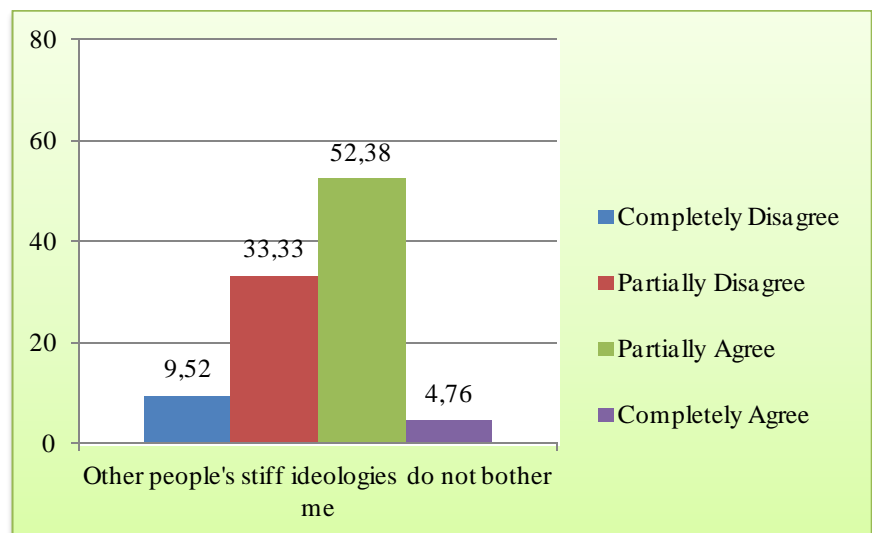


Table 3. Emotional Competence - Assertion 2 Bar Chart

The majority, 90 percent, of the personnel consider themselves as an open minded person. Yet, still 33 percent rather do perform generalizations as the majority of 67 percent usually avoid stereotyping. Mostly the respondents are able to take comparative perspective and are respecting the others. Only one respondent announce that s/he is not respecting oth-

ers as they are and never imagine him/herself in somebody else's boots. Nevertheless, all of the respondents, 100 percent, completely agreed that a success of a colleague or a student is genuinely delightful from them. Additionally, a majority of the respondents take into account the co-workers daily emotional phases, yet seven people disagreed. These answers clearly indicate that the unit has a quite good level of the empathy, yet there are also some people who might not have a stable emotional approach and might not tolerate diversity well.

The respondents are also experiencing self-efficacy in different kind of an occasion and can mostly tolerate insecurity like working work groups of a different kind. 62 percent of the respondents like to work with people whose opinions differ from their own. Seven people partially or completely disagreed that working with people with different opinions is likeable. Majority of 14 people feel internally motivated in their work, whilst seven people partially or completely disagree experiencing their own tasks motivating. The unit personnel has a praiseworthy level of practical service orientation in the work community since 95 percent of the respondent are able to take care of small tasks which are not necessarily straight connected with their own job description.

Alongside with the emotional competence assertions the survey was charting the need for the cognitive closure in assertions 1-3,5 and 14. The results are separately demonstrated in here as the cognitive flexibility has a tight involvement with individual emotions. When the results of these assertions are interpreted, a quite significant amount of the respondents, 34.3 percent, feel the need to make cognitive closures. The majority, 44.8 percentage can partially avoid making cognitive closures and live with the ambiguity. The 21 percent of the respondents consider that they are able to perform at work without making explicitly cognitive closures and tolerate the ambiguity of the modern days well (Figure 13).

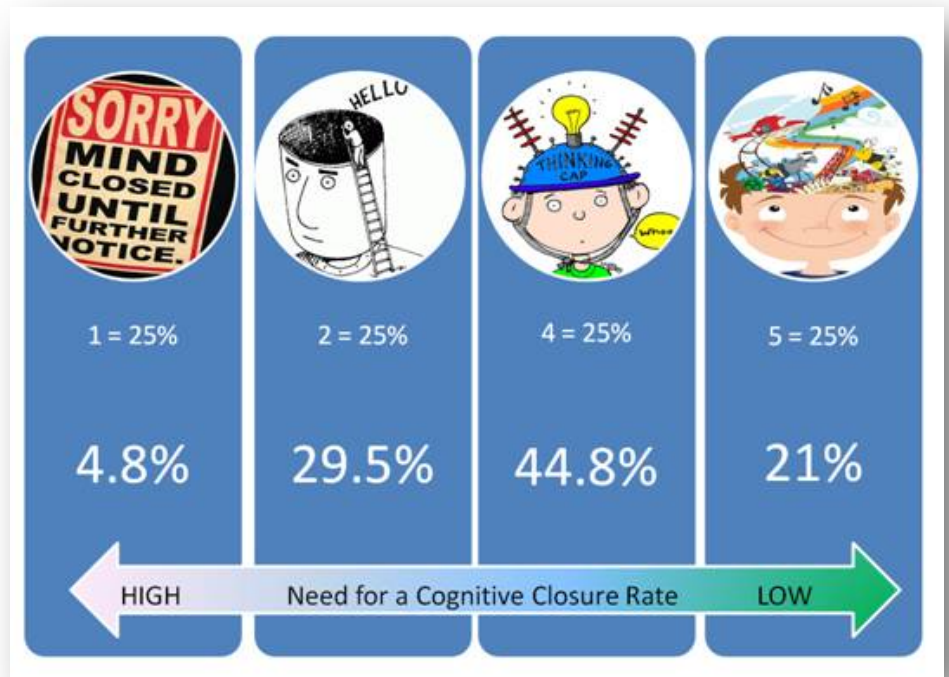


Figure 13. Emotional Competence - Cognitive Closure Need.

Furthermore, according to the results the respondent experience that they do not have enough time in their work for creativity, recovery and novelty adaption. 76.2 percentage of the respondents consider the situation like this and only 23.8 person partially agree that they have enough time for these activities. No one of the respondents completely agreed that they have enough time for actions like this.

7.3 Creative Competence

The third section of the research charted the sample's creative competence. Clearly, the majority effectively employ comparisons (95 percent) and see different points of view as richness (100 percent). The dispersion in these variables is very minimal and the answers are parallel. Many of the respondents also connect different fields of concentration and are interested in other science and professional fields than their own. According to the statement of 90 percent of the respondents, they partially or completely like to challenge people to see other aspects and more than a half perform alternative approaches in their daily actions. Additionally, the respondents unanimously see the aspect collision as a natural event (100 percent).

One fifth of the respondents perform every day innovation by inventing alternative procedures to involve people, consciously avoiding routines and trying different ICT-solutions with pleasure. On the other hand, half of the respondents

completely or partially disagree performing these activities. The majority of the people (71 percent) also indicates that they admire how others can see things differently than themselves and six people partially disagree about this. According to the answers, the respondents are mainly able to recognize different kind of intelligence and are interested in other views. As what is previously known about creativity, perhaps these activities support the creative environment of the unit.

The assertion number 13 mapped out the respondent's acceptance for the risk and in here the answers are scattered. It can be stated that the people of the unit have a very various level of the risk acceptance and some are more trying to avoid the risks than others which can be seen in the following (Table 4). As it is already known, the risk acceptance is significantly connected with individual's creativity and the creative people seem to tolerate the risks better than less creative people. The weighted average of the risk acceptance assertion is 3.0, so the answers divide regularly.

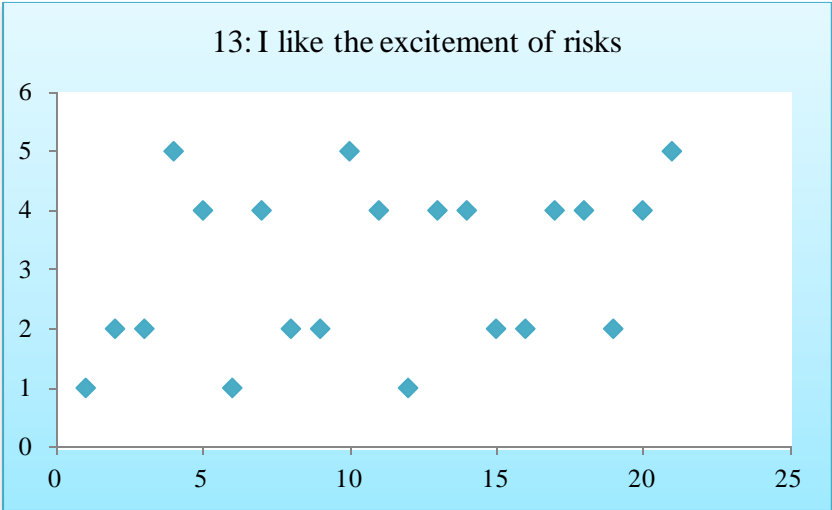


Table 4. Creative Competence - Assertion 13 Dispersion Chart

From all the respondents, 16 person are actively trying to transfer resistance into discussions and only one person never tries. 90 percent of the respondents like to facilitate dynamic interaction and challenge people to see other aspects and adaption's. The overall innovation abilities of the unit seem to be quite decent, yet the creative ability appears to split in half and half of the respondents. Perhaps half of the unit has some creative features and the other half rather perform activities less creative.

7.4 Communicative Competence

The research section four investigated the unit's communicative competence. From all the 21 statistical units of the sample, 18 partially or completely agree that they communicate fluently in one other language additional to Finnish and are able to communicate across the culture. Only one person completely does not agree and is not able to communicate with any other language except Finnish. Furthermore, 20 people believe that multilingualism opens new aspects in their worldview. Again, there is one respondent who completely disagrees with this and believes that multilingualism will not open new aspects. A little bit less than half of the respondents (47.2 percentage) announce that they have a habit of reading foreign text and 52.4 percentage do not practise reading foreign literature or magazines. Nevertheless, 85.8 percent of the respondents would like to learn a new language and nobody completely disagrees with this, even if the majority do not perform active foreign language learning strategies.

The majority express respect and language valuing activities as the weighted average of these assertions (14-15) is 3.88. Yet there is one or two people who do not express respect to language issues and do not consider the matter important for them. Furthermore, the results demonstrate that 5 people experience that it bothers them to communicate with a person who speaks Finnish poorly. Nevertheless, the majority of 76 percent are not bothered by a person with a poor Finnish skills. Additionally, three people think that the diversity of the student languages is not richness.

In a research view it is interesting that the assertion seven caused significant dispersion in the answers. In the expert organization only minority of 38.1 percent search information in daily bases from some foreign web pages. 23.8 percentage completely disagree and are not actively crossing the linguistic boundaries. The trend can be seen in the following chart (Table 5).

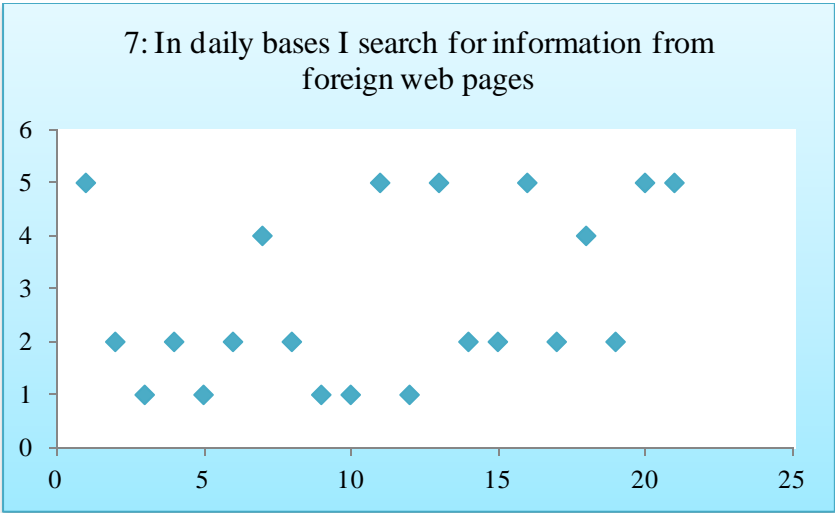


Table 5. Communicative Competence - Assertion 7 Dispersion Chart

Most of the respondents are conscious about their communication skills and diverse communication patterns. 95 percent are aware of their own communicative strengths and 75 percent vary their communication style by the language they use. 66.7 percent of the respondents are capable of an agile change of the language in interactions, yet 19 percent are definitely not able to make an agile change. The meaning of the non-verbal communication is realized by 95 percent of the respondents and the effectiveness of verbal and non-verbal communication skills is understood. The respondents strongly express awareness about the potential areas of miscommunication as 90.1 percent of them indicate that despite the language, they always try to express themselves clearly. Additionally, the majority of 76.2 percent always in presentation planning firstly consider the method of how they will pass on their message, rather than polish the context details.

Due to the results, it can be stated that the unit possess talents who can run negotiation in a professional way and are aware of the cognizant use of silence. 71 percent of the respondents do not experience the silence in the negotiation unbearable and 66.8 percent of the respondents are aware that the purpose of the negotiation is not only to get your own issues accepted. The need for a cognitive closure was measured in this chapter only with assertion number 19. According to the answers, it appears that only one person is strongly demanding the closure in negotiations. With the weighted average below average value three, it can be said that the negotiation abilities of the unit are quite decent with most of the people.

7.5 Functional Competence

The last chapter of the competence series was measuring the personnel's functional competence. The main factors of this section are how people coordinate with others and execute decisions. Additionally, this section also charted the people's ability for complex problem solving and the need for a cognitive closure.

Clearly, the majority of the respondents experience that they receive support from colleagues and this support assist them to manage the various professional challenges of daily work life (95.2 percent). The same number of the respondents see themselves as a goal-directed person. 18 person also indicated that they have a good working team, yet three people partially disagreed with this and they are not completely satisfied with the team they are currently working with. Additionally, four individuals do not believe that all of the people in their work have something to deliver in their tasks. Nine people partially agree and believe that every person have something to give in their tasks. Nevertheless eight people completely agree and are fully believing that all people have something to give in their tasks. However, all of the respondents believe that they get along well with the students. The answers are very uniform in this context as can be seen in the table six in below.

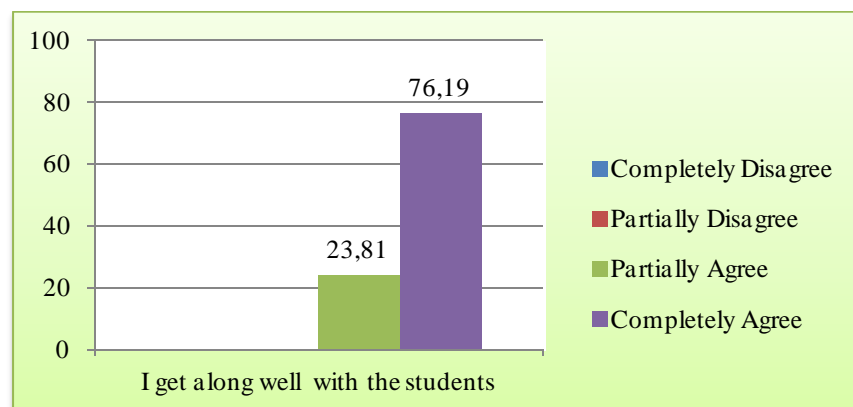


Table 6. Functional Competence - Assertion 5 Bar Chart.

The people of the unit experience positive relationships in their work and they have good interpersonal skills to manage in their work. According to the respondent's self-evaluation, the professional interaction realizes well. All of the respondents say that they do every day their best to positively encourage the students and their co-workers. Mostly they are flexible and 70 percent of the respondents are not bothered if their day at work becomes a scattered entity. However, 10 percent completely disagree and 20 percent partially disagree with this, so it can be stated that one third of the respondents are slightly bothered if the working day scatters.

Mainly, the personnel can execute collaboration in trans-boundary groups and they are able to function in teams and groups of a different kind (95 percent). In the collaboration situations, all respondents aim at fair action towards all the stakeholders (100 percent) and consider themselves proficient in teamwork situations (95 percent). The personnel is able to make political acumen and 16 of them are not afraid of expressing their thoughts in any situations. All of the respondent partially or completely agree, that they have ability to manipulate the systems in order to achieve goals and they are able to modify the working ways so that the goals are achieved (100 percent).

When measuring the achievements and evaluating the essential outcomes, most of the respondents (95 percent) consider that they are capable of concentrate the student's know-how and are not taking the personal features in to account. 19 respondents estimate that they have valid justice and they are able to evaluate different student output professionally. Only two respondents partially disagree with this, yet the survey will not reveal if this is due to the respondent's brief experience in teaching or the respondent's lack of know-how in this matter. Additionally, the majority of the respondents are able to design a practical curriculum (85 percent) and 90 percent of the respondents are able to distinctly justify the students what the issues in curriculum require from them.

Additionally, the section of the functional competence measured the need for a cognitive closure, complex problem solving skills and critical thinking abilities of the respondent in the assertions 8 and 18-25. The assertions 19, 23 and 24 measured the complex problem solving skills. The results reveal that most of the people, around 80 percent, are interested considering other options and evaluate the matter the again, even after they have made their decision. Additionally people are generally pondering many possible choices (76 percent) and asking other opinions, whilst solving the complex problems and when making their final decisions. Knowing this, it makes it even more interesting that as many as 66.5 percent of the respondents still solve often the complex problem based on their intuition. 33 percent of the respondents partially or completely disagreed with this and they do not often base their decision making on the intuition (Table 7).

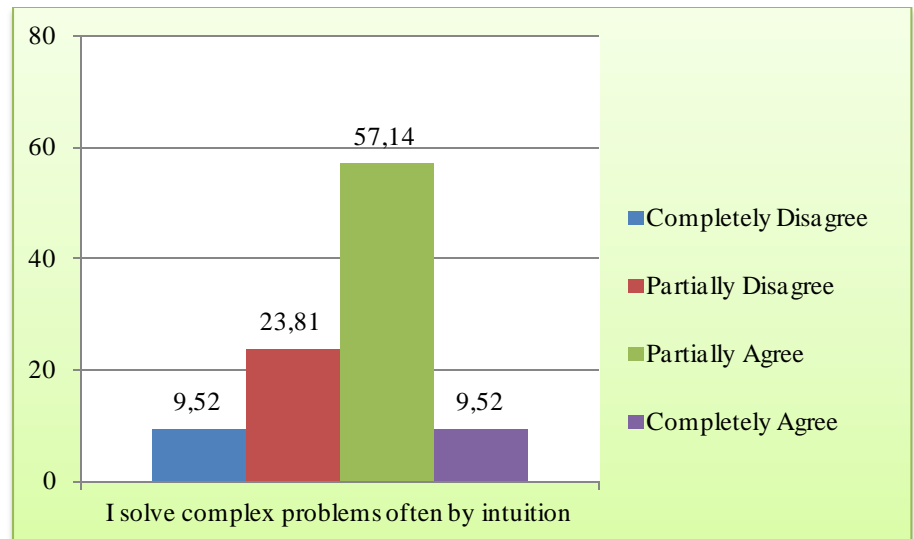


Table 7. Functional Competence - Assertion 24 Bar Chart

Furthermore, the results support the view, that there is some people in the unit who feels quite a strong need for the cognitive closure. It appears that repeatedly this group presents around one third of the full sample. According to the results, there is a moderate rate of cognitive closure need in the Bio-Economy and Entrepreneurship unit.

7.6 Working Environment

The last section of the survey was about the overall working environment in the X Institute (Table 8). The respondents were presented ten assertions measuring eight various factors, which commonly have a significant impact on the company culture and for the well-being of the organization. Additionally, the variables were measuring the level of the company's psychological safety and the results of this will be introduced at the end of this chapter. According to the results it can be stated without a doubt that the current day instability has had a significant influence on the X Institute working environment. It appears that the unit is divided into people who are adaptable for the change and into people who are embattled. Eleven people out of 21 are on an opinion that diversity is accepted in the X Institute and 10 people disagree partially or completely with this. This indicates that the organizations tolerance of diversity is not seen totally uniform.

The assertions 1,2 and 8 measured the company level respect for the others. These results indicate that most of the people (14 person) experience that the company values the individual expertise. Nobody completely disagrees with this, yet there is seven people who partially disagree. The constructive communication was measured in assertions three and four. In this context 13 respondents evaluated that in the work relations different views are discussed constructively and less

supported proposals are also taken into to the conversations. The same amount of people (13 person) also experience that mistakes and failures are accepted in X Institute, representing 62 percent of the respondents.

The assertions six and seven are straight forward questions to measure the respondent's experience in factors which inevitable have a major influence on individual's motivation and engagement towards the company. The results clearly indicate that the respondents do not feel the organization culture supporting their professional growth or mental well-being. Altogether 17 respondents (81 percent) experience that the culture is not fertile for their mental well-being and this result express a huge psychological danger level. What is even more significant result, is the fact that there is not even one respondent who would say that the organisation is completely supporting his/her professional growth and well-being. However, the research explains not if the factor is high due to the current times or has it always been like this at X Institute. Yet the tenth assertion of this section asked: "I believe that X institute operations are going to get better in the next year" and only six people partially or fully agreed as 15 people disagreed. This strengthens the impression that the employees lag of faith towards the company as they do not see the nearby future improving the situation.

Additionally eight respondents announce that they do not completely understand what the X Institute visions require from them. Yet, for 13 people the requirements of the vision are partially or completely clear. The last assertion, number ten, measured the employee's faith towards the nearby future. The figures reveal that only three person believe that the organization operations are going to be better next year, other three partially agree and in all 15 people partially or completely do not believe that the operations will improve next year to come.

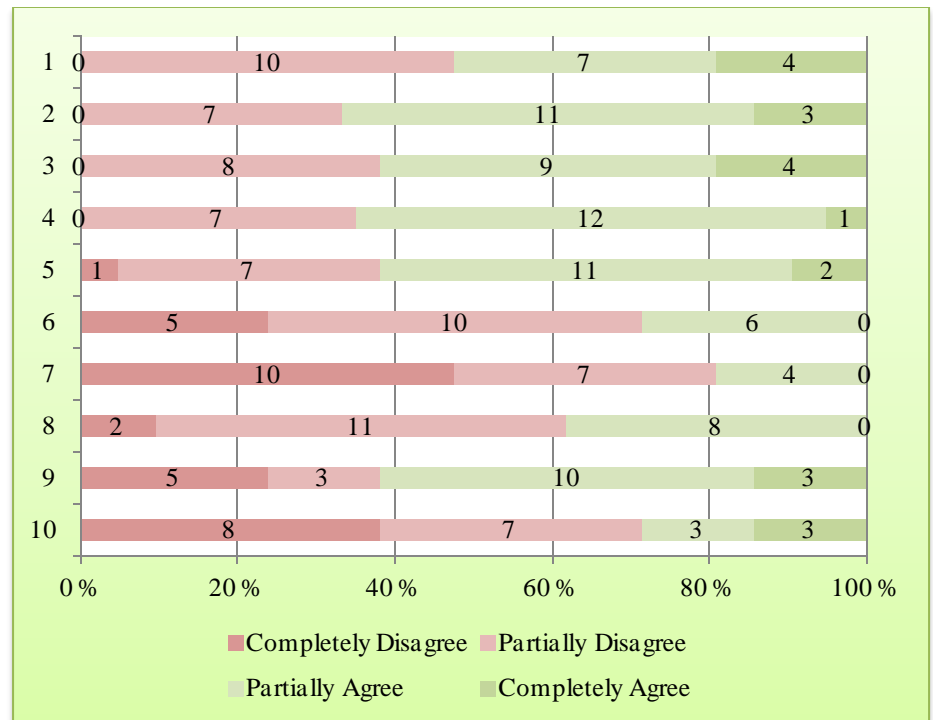


Table 8. Work Environment - Rectangular Value Array

The organization's psychological safety level was measured in this chapter and the results clearly indicate that the company has difficulties supporting the mental well-being. As 81 percent of the respondents indicate that the environment is not fertile for their own well-being and only 19 percent partially agree, whereas nobody completely agrees the environment's fertility, it can be strongly claimed that the psychological safety level of the company is not acceptable.

7.7 Reliability and Validity

This Master's Thesis is based on both retrospective qualitative and current quantitative studies and it outsources the empirical data with extensive and various methods. These used procedures and instruments increase the validity and reliability of the work and the overall results. Nevertheless, the turbulent times created additional challenge for the study's reliability and validity.

In the questionnaire, the validity was guaranteed with successful research questions. In this survey, the questionnaire instrument was being carefully considered and extensively checked with a purpose fitting check matrix. The questions aimed to be exact in order to deliver answers to the research dilemmas. Furthermore, as many of the research questions addressed with abstract issues like experiences and attitudes, the validity of the survey was insured by selecting concepts which are commonly understood congruently. The questionnaire variables were conducted in the methods of operational-

izing and the assertions served the validity of this research in an acceptable level.

The reliability of this research was ensure by check point questions, which were measuring the same statistical unit more than one time. The questionnaire included assertions similar to each other, which were systematically verifying that the respondents are coherent with their answers. Additionally, the questionnaire included control questions which purpose were to confirm that the respondent is reading and understanding the variable. The outcomes of the control questions are not relevant to the research itself. Due to this procedure, the random variation of the answers can be ruled out at this moment of time.

As mentioned earlier, the circumstances for the research conduction were not completely optimal. The company's recent changes caused significant insecurity in the unit and this inevitably correlates on the results. Moreover, the fairly low respond rate elevates the margin of error. However, "increasing the sample size to larger, will not necessarily add the accuracy of the results" (Holopainen, M. & Pulkkinen, P. 2013, 38). The questionnaire could still be further developed, as one of the respondents commented on the question quality to be unformed. Furthermore, the author discovered some assertions during the analysis, which were not completely unbiased or bidirectional and therefore these results are not included in the report.

Nevertheless, if the research would be conducted again during similar turbulent times, it would deliver repetitive results. Therefore, the time for the research conduction was in fact very interesting. The survey revealed reliable results which are important for the company to know at this very moment when struggling with the challenges' of transformation. The reliability of the research is actually quite high as the results are not random and they rationally explain the present-day phase. At this point of view the results are dependable and stable, thus ensuring the reliability of the research.

8 NEW ERA'S FEATURES AND KEY COMPETENCES IN X INSTITUTE

In this chapter the theoretical framework and the research results are combined in the internal and external discussions about the issue.

As the previous chapters demonstrate, the research questions were answered well through the survey and the hypothesis was confirmed. The result show that X Institute wrestle with the same problems as most of the companies of today. In many aspects, X has plenty of positive factors to assist in the transformation, if those are only properly understood and exploit. X Institute is a traditional company, which have a will to be the future's trailblazer. In order to achieve this goal, the attitude matters the most. It is delightful to notice that the right kind of an attitude exist in X Institute personnel. Altogether the majority of the people are willing to learn new and have an open mind toward others and the future. However, the environment in X Institute is not currently very fertile as the ground is exceedingly remodelled at the moment. This creates enormous insecurity among the personnel who are worried about the continuance of their work. The insecurity leads to stress and fear. Additionally, the fear itself causes escape or freeze -reaction which can be very harmful for the company as the best players escape and the rest of them freeze. The transformation process might seize or steer the in unwanted direction.

Yet the ground breaking reformations are obligatory when establishing foundations for the new organization. In order to create new, the old structures need to be reorganized or even exterminated and this is what X Institute is now working with. At the moment it is vital to get a clear message through with every one working in the company. It is not enough to inform people about changes, they need to be included in such a way, that they fully understand their own purpose and meaning in the current chain of events.

The leaders who run the reorganization must pay great attention how they manage the overall change. All the actions and operations should be as transparent and as well communicated as possible. Now it seems that the organization has not performed efficiently enough, as the personnel also experience insecurity, vagueness and lack of devotion and motivation. Creating an atmosphere of the urge is not the only way to manage the change. These challenges the X Institute leaders must address soon to ensure the fluent transformation. The negative, change preventing factors grow faster than the positive change enabling factors. Due to this, even the small-

est circle of negative events should be called off as fast as possible.

The results indicate that currently the psychological safety level of X Institute is on a razor edge. In these times, any company does not afford to let the scale turn seriously to negative. If the company fails to support the personnel's mental well-being during the reorganization, it will fail the full transformation. The leaders will not be able to engage people in the change as the inner motivation of each individual working for the company is not ignited. As a leadership guru professor Peter Drucker from University of Frankfurt has stated that the culture eats strategy for lunch. In the other words this means that even the greatest strategy is doomed to fail, if the organization culture will not support it.

The alarm in X Institute is clearly on. The increasing rate of the psychological danger level should not be neglected in any case. The majority of the respondents do not experience that the organization culture supports their professional growth or mental well-being and these are one the key findings of this study. Merely these two assertions by themselves authenticate the full study. The psychological capital of individuals is not currently supported or developed, rather it is falling apart and this is a huge risk for the transformation process of X. Whereas the personnel is not able to utilize their full potential and psychological capital it means that they are not able to make their most and give it all out from the individual features at the current circumstances. Finally this factor can by itself devastate the full renewal process of the company.

It appears that the personnel mainly possess the needed abilities, yet the modern day common confusion hinders the full utilization of the possessed talents. Although the samples represent only the minority of the company the results deliver a normative base about the totality. The responses reveal the unit's overall attitudes, experiences, motivation and capabilities. Most of the personnel possess various relevant skills in order to manage in their work. Anyway, it must be remembered that commonly in the evaluations of themselves people tend to overestimate their own capabilities and this can create statistical illusion. Yet the demands of the challenging times can be clearly seen from the answers.

According to the results of the research, it seems that the main reason for the low level of psychological safety and motivation issues are not the employee's lag of faith in their own competence or the fear of their own incapability. The respondents clearly indicated in their answers that they possess realistic optimism by having belief in their own survival skills and most of the respondents also said that they have energy to

face the various challenges. Furthermore, the personnel have self-confidence and they believe in their own skills and opportunities in the work life. They are able to work for achievements. Yet it seems in the light of the results that people in the X Institute are losing their positivism as many of them do not believe that the company goals are achievable or that the company is able to change the direction in the nearby future. The decrease of positivism inevitably increases the negativity and vice versa. The lag of positivism will have influence on the employee's resilience and they will not be as perseverance as they could be if they were willing to utilize their full potential for the company. This will lead into the situations where people are not always willing to push forward and rise after challenges or failures.

The factors which mostly cause the decrease of psychological capital and motivation are fear and stress. In the work environment, these are without exception connected to leadership and work arrangement issues. When these factors not work well in the organization, the fear prevents the workers from utilizing their full potential and so on the company cannot reach better efficiency or productivity. In constantly changing work environment, people are tired to defence their positions or justify themselves so they rather escape or freeze. These are normal human reactions to fear. This escaping and freezing often appear in work as absence due to sickness. Perhaps one sign of escape and freezing appeared in this research as a non response rate.

Whilst keeping an eye on the horizon, it looks good for the X Institute according to the capability and competence of the personnel. The personnel possess a good self-security in the measured competence fields, in the professional know-how and they have suitable levels of cognitive flexibility. In practice this is very beneficial for the education company as most of their personnel are able to continuously combine new knowledge with a good level of judgement. A good rate of the cognitive flexibility is a positive signal for the company as it improves the resilience of the personnel during the challenging times when positivism is occasionally lost.

Furthermore, the sense of a psychological safety and the cognitive flexibility assist people to be more open for novelties and increase the capability to assimilate and adjust modern ways of working. Most of the people in the Bio-Economy and Entrepreneurship unit (repeatedly 15 to 20 people), are in the positive state with their attitude, capability and competence. The positive state performers demonstrate can-do attitude, agreement ability and motivation. Only one to seven people of the unit, repeatedly floated towards the negativity, where they demonstrate a poor attitude, disagreement, and

lack of motivation. Perhaps this result indicates that there are people who are losing their motivation, flexibility and are more influenced by the psychological danger atmosphere of the company. The research, however, delivers no background analysis why some people experiences are more negative than others.

As the majority of the personnel are in the positive state it promises good for the company. The people are capable and talented in decision making, coordinating with others and they are emotionally intelligence. They have open mind and they rather do not conduct generalizations. These are very important skills for an educator now and in the future as working together with different kind of people is becoming more regular. Networking does not mean having a cooperation with people who have the same mind set, yet the ability to network with various people needed for the task even if they would express a different world view. This requires enormous amount of emotional intelligence, ability to take the right kind of perspective towards the matter which can advance the human relationships and transnational actions.

Fortunately, the unit has people who are honestly interested in other people and various fields of science. In several survey's these are commonly agreed to be features which boost the creativity and innovations. Even if there is a part of personnel who have ability to create and innovate, yet the lag of time is often experienced. Moreover it is a little bit worrying that half of the personnel not perform actions which could boost their creativity and widen their world view.

The practical skills of communication are well handled in the unit as most of the people are able to communicate in another language than Finnish and they understand the meaning of the non-verbal communication. Furthermore, people are agreeable to combine different methods of communication in their work. Many of them indicated interest in the web lesson performance and have reacted positively to the matter. Furthermore most of the personnel is able to see over the socio-economic boundaries and do not experience inconvenience with different linguistic people. This is important in the education institute which has students from many different nations and most of them are not native Finnish.

The competence areas of coordinating with others and decision making were measuring the functional competence in the unit. The majority of the respondents experience that they receive support from their co-workers and this support assist them. It is absolutely vital that the educators are able to have peer-to-peer support in the unit. This strengthens the spirits and shows trust towards each other. The good mood and

trustworthy atmosphere assist people to reject the negative factors of the working environment. Additionally it is empowering when the students express trust and good relations towards the educators. The student trust is always achieved by good ways of working and it can be lost easily if the educator is not able to take the student personal features in to account and utilize those positively in the daily work.

The results reveal that some people are more active in social networks than others and are more familiar to use different informal learning networks to increase their own intellectual capital. It appears that there is a small group of people who do not actively follow the development and are not so much into digitizing. Employees with mentality like this might hinder the overall progress of the unit as the novelty assimilation is one of the key signs of positivism and cognitive flexibility. If there is people who are not actively renewing their competence, they might be the spreading the negativity in the unit as their own motivation is lost and the overall attitude is poor.

These kind of individuals demonstrate low rate of cognitive flexibility which will have influence on all of the person's competencies as s/he will not be able to evolve as a strategically talented unit. According to the research findings 15 percent of the respondents are struggling with their cognitive flexibility in X Institute. This is a quite significant amount and the challenge should be addressed promptly. Practically this means that the company has this amount of people who are not able to utilize their intelligence capabilities efficiently in any field of competencies measured in here. As it was explained before the main reason for low cognitive performance is stress and it can paralyze a normally efficient person temporarily or permanently.

When a person is lagging the ability of cognitive flexibility due to any reason, it has an enormous influence in the educator's work and life. The restricted cognitive flexibility will prevent the person creating, innovate or make decisions. Furthermore it all consume the energy level and so on a person might not be able to be as service oriented and emotionally intelligence as normally. This is due to the reason that a psychological capital decreases when the cognitive flexibility rate diminishes and a person experiences difficulties for surviving in the daily basic functions, not to even talk about work related matters.

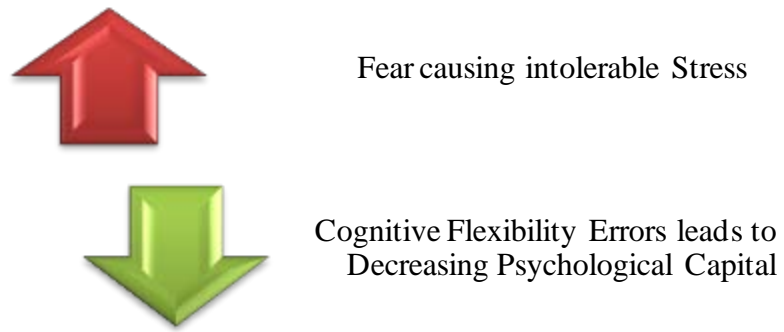


Figure 14. Simple Cause and Effect Diagram.

In a vernacular term, this means that the company will not be able to benefit from the good features of the worker as the person is not mentally available. Furthermore, if the situation remains stressful for a long period of a time, it will most inevitably lead to a depression of the person. Depression is a common reason which creates a great number of expenses for the companies in a form of the sick leaves and disability to work. In the transformation, the companies should avoid the urge mentality and rather prevent the fear factor existence in the organisation. The real cause of the error should always be realized before treating one separated symptom.

One of the main barriers is that some people have a clear need for the cognitive closure. In the organizations, this often leads into situations where decisions are made, yet they might not be the right one's as they are produced in urgent need. The overall rush to the digitizing might boost the need for the cognitive closure as people are trying to just get the job done no matter if it is not done properly. The people are naturally trying to maintain their cognitive flexibility by performing the tasks on the list. When the cognitive flexibility approaches to its functional limit, people tend to give up to the quality of the performance and transfer half-thought issues to the done-list. The stakeholders are not going to intake endless amount of poor quality caused by the cognitive closures of the wrong kind and low efficiency.

The greatest challenge of the transformation considers the leaders of the company. They must realize that the digitizing ability of the company comes from the people, not from the technology. Inserting the sense of the urge and adding the speed will not assist the transformation, on the contrary, it might collapse everything. The leaders must leave the mechanistic methods behind and really concentrate on human management, on the fear reduction and to the trust increase. Now it appears that the transformation is not conducted well enough as the psychological danger level of the company increases. The ongoing codetermination procedures are only adding the challenge as they raise the level of fear amongst

the personnel. In the corporate culture sense it does not matter if a person is resigned or staying, the amount of the fear created remains the same amongst the culture. The people who stay will always have the deterrent of the same faith in their head. This kind of a culture will not allow the company be successful.

The psychological safety level is highly attached to the leadership and management of the company as we learned from the Google's case. A good coach, who can empower the team and does not micromanage, will lead the company to a successful future. The future leader must be able to see the world through different eyes than before. A modern leader express interest and concern for their employee's success and personal well-being and is a good communicator. According to the results of this research, values like this does not realize in X Institute. The employees consider that the organization is not supporting their well-being or professional growth and signals of the kind leaders of the company should address immediately. The leaders cannot be afraid of the confrontation between the personnel and they should embrace the development as a new learning event and step out of their comfort zone. Furthermore, they should bear in mind that the honest failure is an option as the best practices do not exist.

Additional challenge for the company leaders is to reconsider the strategy of the organization. In the light of the current events, it is quite narrow tactics to make an appearance as a developer of the Finnish work. The internationality is not in the strategy of the company at any level which is worrying if the global events are followed even in the smallest scale. The fourth industrial revolution will make every society and company transparent and global. A company which refuses to realize this will remain with the vanishing old legacy ways. The transnational skills and methods are needed in the domestic environment as much as abroad. A company who does not internalize the opportunities of digitization is not actually digitizing. Moving all the company documents to the cloud is not what digitization is about. Digitization is about moving the company to the world village of the web and it is global.

9 FOCUSING ON THE FUNDAMENTALS

The challenges of the new era are difficult to manage and this complexity has been the impetus of this study. The aim of this thesis was to open up new perspectives for the company management and demonstrate explicitly how the issues concern and realize in the X Institute at the moment. Furthermore, there is genuine goodwill to provide new ways of thinking and present new models to be utilized in the company as the old models are no longer functional. By understanding the transformation phenomenon, the current situation will remain demanding, yet controllable.

In this rapidly changing world it is sometimes hard to maintain a peace of mind and to be a goal oriented. This goes both for the leaders and the employees. It is especially demanding in the work life which is fulfilled with continuous codetermination procedures and discussions about the savings. The resources are rearranged constantly as the operating field changes continuously. This thesis work guides and encourages the education managers and leaders to focus on certain sectors in their company, which are normally less perceived. The cold figures and economic calculations are easy to handle, as those are facts and known details. Solving issues like that demand mainly mathematical skills and not even very advanced ones. The daily basic economic calculations of an average company do not require complex algorithms or logarithms.

In here the focus is steered in the internal challenges of a company and to the immediate threats of often abstract issues. Taking in to account the human related matters requires a lot of humanity, courage and professionalism from the leaders. The kind of professionalism which dares to involve larger issues than the technical reformation of the company structure and cost-efficiency follow-up. A company, who bases all of its function simply on performance and productivity, create an environment of anxiety. In many companies, the price label of fear is huge and the cost of insecurity and stress can be concretely seen under the line of profit and loss account. It is expected that through this study the leaders would at least admit that concentrating on these abstract human related issues, is worth pure money.

The research of this study clearly indicated that the level of the psychological danger raises in the X Institute. Due to this, it is absolutely vital for the company leaders and managers to concentrate supporting their team's mental well-being in the times of transformation. It is strongly suggested that the current situation of each unit will be charted and then the structured Development and Support Plans are designed. Before

this, the leaders and managers must deeply understand the requirements of the current times and they need to be involved by heart in the process. The leaders could have an internal training session where the current situations with the overall phenomenon are properly revealed and transparently discussed.

As the company culture reflects the leadership of the organization, it is necessary to ensure that the X Institute board is committed to support the well-being of the personnel. In order to ensure the leaders and manager's devotion to the process, a leadership and management approach evaluation need to be conducted before the other unit researches (Figure 11). After the leadership approach has been charted it is possible to create a suitable and accurate action plans for the further operations.

The new era demands new professional skills and staying in the competition requires the full utilization of them. As it was demonstrated in the previous chapters the basic professional skills are quite well managed by the Bio-Economy and Entrepreneurship unit's personnel. Nevertheless there is still a need for some basic training in the computing, pedagogical, analytical and functional issues to strengthen the overall capability. These technical issues can be concretely addressed in the competence development plan of the personnel and by executing prompt training sessions. Furthermore the training sessions and personnel development must include abstract issues from fear and stress management, mindfulness, showmanship, change management, emotional intelligence and creativity. When people are able to understand the phenomenon around them, it is easier to address those. Additionally, the full company need to realize that training the emotional skills is as important as training the physics and intellectualism. This way it is possible to avoid many of the small and larger harms caused by the people's inconsideration. Either way, if the need for further training comes from technical competence or mental capability, the next generation professional skills must all have their origin in the brave attitude which is supported by the full company environment and culture.

Micro learning is the future of workplace training. Micro learning is short educational video which purpose is to deliver new knowledge in a compact package which is easy to assimilate. The purpose of the micro learning is to avoid overdoing the recipients. Micro learning video should never be longer than four minutes and should face only one learning objective per production. The micro learning productions can be interactive and realize online. Furthermore, micro learning can be used in formal or informal learning contexts to tackle

the educational professionals everyday challenges. In X Institute the personnel micro learning events could be produced by the employees in order to practice the online learning content creation in reality. This would also familiarize people with each other in a pleasant and practical way. Inside the company the micro learning sessions could be even humorist to boost the community spirit. Additionally, the micro learning is ideal for mobile learning so the training professionals would be able to practice the mobile learning and analyze the context creation at the same. For small performance gaps, the micro learning is ideal, yet it is not suitable for larger entities. Upon all of this, micro learning is a cost efficient way to deliver every day practical issues for the personnel. Later on the educators could be able to produce quality micro learning sessions for their students in several different languages.

However, the more important thing of the new era's responsive education institute fundamentals are the mental capability of the organization and its personnel. The urgent need is to recognize the wide scale of the great challenges of the education branch and accept those as an issue which can be managed. This entity cannot be delivered through micro learning. There is an urgent need to assimilate new procedures in leadership and management at X Institute as the current methods are not delivering reasonable results. The new procedures of leadership utilize ethical methods of supporting the personnel of the company in the transforming times. The new practices enable transparent processes which are lead in an agile way by nudging the experts. If, the board of the company is willing to consider and execute the new methods in the company it will have a positive impact on the company's transformation process and well-being of the people.

The next generation educational institution is lead in an agile way. The Agile Scrum method has its roots in the Lean management, yet it has developed more agile as the name reveals. The Scrum framework and Agile method suites better for quick projects where results are desired swiftly and sharply. The main rule is that it works well in the service sector where a physical product is not manufactured. The Lean management is more to solid environments where actual products are made i.e. at the factory. The Lean method is not outdated, it is not just the right tool for delivering education. In the rapidly changing environment Agile Scrum method is the only way forward for education providers even if it is origin from the software development. The Agile Scrum method can be modified in the needs of education.

The Agile manifesto says "We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

- individual and interactions over processes and tools
- working software over comprehensive documentation
- customer collaboration over contract negotiation
- responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more." (agile42 course in 28th of May 2016).

If the the word 'software' is replaced with a word education or training, the manifesto can be understood in another context. The main purpose of the Agile Scrum method is to make the teams focus on the results not the effort. The principle bases on continuous learning that focuses on maximizing the value delivered to the customers. This is the main requirement for all the companies of the future. They have to be agile, talented and able to deliver real value for the customer. Nothing else matters as the customer will not pay for anything else.

"The Scrum framework and agile method relies on three peer-level management roles, whose mutually exclusive responsibilities lead to positively-reinforcing behaviours that stabilize the processes"(agile42 course in 28th of May 2016). These three roles are the product owner, scrum master and development team. The Agile Scrum method naturally includes the nudging as the product owner and scrum master are influencing by coaching to the team performance. Yet the team decides completely independently which tasks they perform and they are included in the planning from the beginning. Therefore the performing team is always aware what is coming up, the future work load and they have true influence on the full process. This is reducing the appearance of the wrong kind of a cognitive closure events and ensuring the quality of functions. The Agile Scrum method is honestly transparent and it will reveal the errors of the process. It will not automatically repair those errors just by being the right method for the process, yet it will make them so painfully visible that it is impossible to hide them. With the Agile method, the company is forced in every level to work ethically and transparently.

Furthermore, the new era's responsive education institute is international. It is highly recommended that X Institute should include internationalization in their strategy. This is simply through the fact that the Finnish market alone is not a durable strategic choice. The domestic market is simply not big enough to bring the incomes needed. Sweden and USA

are way ahead of Finland in the web delivered education and both nations are gathering huge revenues continuously. The modern education export does not require a subsidiary in another country as the future education is online. Currently there are free trustworthy platforms to boost the training export. To mention one there is a service of Google, Export Trampoline, which helps to get visibility by search engine optimizing, networking and up-to-date analytics. Furthermore, Youtube is a good choice for the possible micro learning delivery. The new era's education institute is placed in the world village of the web.

The overall results of this study demonstrate principles, which can be used as base data in further and deeper explorations. In the future, the research itself would be good to chop into smaller chapters by each competence, as then it would be possible to deliver even more accurate information and do deeper analysis of the separate issues. Additionally, it would be interesting to examine more of the correlations and dependencies of the variables. As it was decided that any background information will not be collected in this research it does not deliver specific answers why some people experiences are significantly more negative than others. It would be interesting to know if there is relation i.e. with the year in service. Are the more recent employees more happier about their work than the older employees?

10 CONCLUSIONS

The research succeeded well even if there has been a lot of challenge on the way. Despite the insecure time, the study was able to serve its purpose; shed light over the ongoing transformation phenomenon while it delivered valid results about the company phase and remained reliable. The study exposed the possessed general core competence and delivered an overall ambience analysis from the current company environment. Additionally the study succeeded in pointing out the risky issues which might appear as the main barriers to the company, if they are not addressed properly and swiftly.

"For companies who were not born digital the digitization often requires a large-scale transformation" (Krach 2016). The traditional X Institute might have a struggle in the years to come if it is not flexible and agile enough to renew the company swiftly. It appears that the strategic choices are made based on security and with short term visions. As mentioned several times before, the eyes should be watching towards the horizon. In this context, it means forecasting the events and trends in the next ten to twenty years. X Institute is already late from the modern development and the current strategy will not assist closing the gap. Five year strategic plans are

too short sighted even if they would be adjustable on the way. If, the leaders of the company continuously change the direction and correct their strategic statements it is not delivering security or clear goals. Furthermore as the strategy is to remain in the domestic market, X Institute has decided to stay as a micro stage company and then the ambitious objectives about growth are inconsistent. Ashby's law implicated in X Institute would say that the existence of the institute is threatened as its complexity is no longer sufficient to deal with the environmental changes. If the company remain complex and it is not able to let go the hazardous old information, the dreams of the glorious future can be forgotten.

The overall atmosphere, actions and ways of working in the company reveals that the people are not really aware of the fourth industrial revolution upon them. It is clear that the phenomenon itself and its causes are not understood well enough at any level of the company. The current strategic choices and operational plans aim to keep the isosceles triangle on its head. It is hard to say if this is done on purpose or is it just through unawareness about the situation. Whatever the truth, the battle against the Flip is useless, the world is changing and no company or state can prevent it. It is just so sad to realize that very rare Finnish companies are going to be among the survivals and the full nation might be placed in the backseat if the old fashioned leaders will continue as they do now.

According to the political science consult, Marco Steinberg, Finland is heading completely in the wrong direction. He names four factors which are the legacy from the previous generations and are now preventing Finland from moving to the future. "We live in a world of patrimony and we have not yet questioned it all. Before we will reach into the stage of having constructive and active conversation about this legacy land, it will be really hard for us to create something new. - - It is really hard to build a real democracy, if everybody sits silently in the class and perform only what the boss or teacher or priest tell them to do." (Steinberg 2015, HS 10.4.2015). This situation realizes now at the state level and at many Finnish companies. It will eventually prevent the full society from being survivals of the transformation as the leaders without exception built the nation and organizations on the third industrial era's logic. It is sorrowful that Finland's young generations are not politically active and the older, great generation of the 40's and 50's are steering the state with a traditional perspective, which is not functional in the new era. It is not surprising that those who have a change are leaving. They realize the situation and they are miserable as they cannot speed up the progress.

This thesis work will only support the vitality and productivity of X Institute if it is recognized by the board. However the lessons the author has learned in the company during several years, makes it hard to believe that the old methods would be replaced anytime soon. Hopefully the thesis will finally succeed in its purpose and open up new conceptions for the leaders and managers so that they will start to question the current ways and ideologies. The faster the awareness raises, the better the possibilities of survival are for the X Institute.

Selected Reading Tips for the Leaders and Managers:

- ∞ Aitamurto, T., Heikka, T., Kilpinen, P., Posio, M. 2011. Uusi kultakausi - kuinka sosiaalinen media mullistaa kaiken. Juva. Bookwell Oy.
- ∞ Kadenius, T., Markkanen, J. & Törmälä, V. 2015. Uusi ajattelu - Uusi johtaminen. Saarijärven Offset Oy. Suomen Liikekirjat.
- ∞ Merchant, N. 2013. 11 Rules for Creating Value in the Social Era. Boston. Harvard Business Review Press.
- ∞ Ahokallio-Leppälä, H. 2016. Osaaminen keskiössä. Acta Universitatis Tamperensis 2127.
- ∞ Hyppönen, H. 2014. Pelon hinta. EU. Kustannusosakeyhtiö Tammi.

The optimistic part of the story is that the people in the company have mostly been initiative maintaining their individual competencies up-to-date. This delivers great hope that the people will be able to carry the fourth industrial revolution through mostly unharmed. Many of them might be working in a different place with different tasks after the Flip, yet the overall self-security and professionalism are their capital which will not be lost. They are able to span their cognitive flexibility and survive from weak leadership and low management. Furthermore, they are able to take advantage of the complex events, information overflow and data hassle and still maintain their emotional intelligence and sensitivity.

10.1 Evaluation of the Thesis Project

The author has experienced the thesis project really demanding. The subject itself is absolutely interesting, yet the transforming time have been adding some extra tension to the process. The circumstances where this work was originally started, have been several times changed during the process. This has caused some uncertainty in some parts of the process, yet it can be addressed as a normal feature of the modern days.

As the world changes fast the complex event processing in the business environment must be agile. If the studies and reports are delivered in more than one month, some of the data might already be outdated. However, the author found it really interesting to create and develop new models and solutions for up-to-date needs. The information processed in the thesis project opened new views for the author and added her awareness about several issues. This knowledge is great capital and will assist the author to be competitive in the future work life demands.

Additionally the author learned new features about herself, as the challenging situation forced her to utilize great creativity and an entrepreneurial attitude to gain valid results in the transforming time. One of the greatest challenges was to resist the information over flow and keep the focus clear. Occasionally, the curious author found herself sinking in the sea of knowledge as she was greedy to know everything about everything. The overwhelming amount of information developed the author's demarcation skills, as she finally admitted that everything is impossible to include in this context. Furthermore, it is important to remember that every writing only reflects its current environment.

Nevertheless, all of this must be taken as a great learning curve. This study was created in this context and was applied for the first time in practice in here. The further development possibilities of this study are good and it can be sophisticated and modified further. The study is also applicable outside the education branch. The main purpose of the study realized well and it delivers a wide perspective of the modern day phenomenon. This goes for the author herself and to all other curious people who wish to develop themselves and their organizations.

SOURCES

Aaltonen, T., Heiskanen, E., & Innanen, P. 2003. Arvot yksilön ja työyhteisön kehittäjänä. Porvoo. WS Bookwell Oy.

Aburdene, P. 2005. Megatrends 2010; The Rise of Conscious Capitalism. Seven New Trends That Will Transform How You Work, Live and Invest. Charlottesville. Hampton Roads Publishing Company.

Aitamurto, T., Heikka, T., Kilpinen, P., Posio, M. 2011. Uusi kultakausi - kuinka sosiaalinen media mullistaa kaiken. Juva. Bookwell Oy.

Bartlett, C. & Davidsson, A. 2003. Improve your global competence. Helsinki. Multiprint Oy.

Borg, A. 2016. How will the Fourth Industrial Revolution affect economic policy? 28.1.2016. World Economic Forum's Global Financial System. www.weforum.org. Accessed 1.2.2016.

Bryson, A. & MacKerron, G. 2016. Are you happy while you work? Royal Economic Society. Oxford. The Economic Journal.

Cushner, K. & Trifonovitch, G. 1992. Understanding Misunderstanding: Barriers to Dealing with Diversity in Multicultural Education: A Global Approach. New York. American Forum for Global Education.

Cortés, C.E. & Wilkinson, C.L. 2009. Contemporary Leadership and Intercultural Competence: Exploring the cross-cultural dynamics within Organizations. SAGE Publications, Inc. Chapman University, USA.

DeGraff, J. Digital Natives vs. Digital Immigrants. Huffington Post, 16.6.2014. http://www.huffingtonpost.com/jeff-degraff/digital-natives-vs-digital-immigrants_b_5499606.html

DeCroo, A. & Spelman, M. 2016. Can we save Europe from digital mediocrity? World Economic Forum. Accessed 22.2.2016.
<https://www.weforum.org/agenda/2016/02/europe-s-digital-future-will-be-decided-in-the-next-two-years>

Erkko, A. & Likki, T. 2014. Vaikuttava tuuppaus. Optio, KL199B, 16.10.2014.

- Hersey, P. & Blanchard, K.H. 1990. Tilannejohtaminen, tuloksiin ihmisten avulla. Gummerus Kirjapaino Oy. Jyväskylä.
- Holopainen, M. & Pulkkinen, P. 2013. Tilastolliset menetelmät. Helsinki. Sanoma Pro Oy.
- Highsmith, J. 2011. Agile Project Management, Creating Innovative Products - Second Edition. Boston. Pearson Education, Inc.
- Hintsa, A. 2014. Onnellinen mies. Optio KL10B, 16.1.2014.
- Hyppönen, H. Tulevaisuus ei kiinnosta: Suomi keskittyy siihen, mitä menetämme heti. Helsingin Sanomat, 15.3.2016. <http://www.hs.fi/kulttuuri/a1457926433125?ref=hs-kulttuuri-2>
- Juuti, P. 1999. Organisaatiokäyttäytyminen. Keuruu. Otava.
- Kadenius, T., Markkanen, J. & Törmälä, V. 2015. Uusi ajattelu - Uusi johtaminen. Saarijärven Offset Oy. Suomen Liikekirjat.
- Karttunen, J. 2014. Tehokas ja tuottava työ. Maaseudun Tulevaisuus, 15.12.2014.
- Kesti, M. Accessed 14.3.2016. Miten rakentaa johtoa palveleva henkilöstöjohtamisen mittaristo? Lapin yliopisto.
- Koehn, P.H. & Rosenau, J.N. 2010. Transnational Competence. London. Paradigm Publishers.
- Korkman, S. 2013. Maailma 2013 Report. Kauppalehti.
- Kim, C.W. & Mauborgne, R. 2005. Blue Ocean Strategy. Boston. Harvard Business Review Press.
- Leppälä, K. 2014. Innovaattorin opas. Tallinna. Gaudeamus Helsinki University Press.
- Leppänen, J., Lähdemäki, J., Mokka, R., Neuvonen, A., Orjasniemi, M., Ritola, M. 2013. Piilotettu osaaminen. Helsinki. Demos.
- Loima, J. 2008. Facing the Future. 2008. Helsinki University Press, Palmenia.
- Luthans, F. 2013. Oma pääoma. Optio, KL42B, 28.2.2013.

- Marks, N. 2014. Onnellisuus on vakava asia. Optio, KL199B, 16.10.2014.
- Mattila, P. 2014. Varo miestä, joka kantaa vain yhtä kirjaa. Optio, KL179B, 18.9.2014.
- McAdam, R. & McClelland, J. 2002. European Journal of innovation management, volume 5, nb 2. Emerald MCB UP Limited.
- Merchant, N. 2013. 11 Rules for Creating Value in the Social Era. Boston. Harvard Business Review Press.
- Milbergs, E. & Vonortas, N. 2016. Innovation Metrics: Measurement to insight. Washington DC. George Washington University.
- Mäkeläinen, M. 2014. Nuoret Johtajat. Calcus Group. 30.1.2014.
- Mäntyneva, M. 2012. Kasvua innovaatioista. Helsinki. Kauppakamari/Helsingin Kamari Oy.
- Niemi, H. & Tourunen, K. 1996. Tilastoista tiedoiksi. Gummerus Kirjapaino Oy. Jyväskylä.
- Ojanen, V. 2014. Tosijohtaja vaikuttaa kokemuksiin. Optio, KL169B, 4.9.2014.
- Peltomaa, H. 2008. Psykologian verkot. Hämeenlinna. Karisto Oy.
- Ruohotie, P. 2007. Professional Growth. Keuruu. Otavan Kirjapaino.
- Rock, D. 2012. Hallitse aivoja, hallitse elämää. Optio, KL228B, 22.11.2012.
- Socialize Your Business. 2014. Roland Berger Strategy Consultants. Accessed 17.2.2016.
https://www.rolandberger.com/media/pdf/Roland_Berger_TAB_Socialize_your_business_20140718.pdf
- Saaranen, P. 2003. Kvantitatiivisista menetelmistä. Opintomoniste. Haaga Instituutti. Helsinki.
- Saari, S. & Varis, T. 2007. Ammatillinen kasvu. Keuruu. Otavan kirjapaino Oy.
- Salminen, P. & Salminen, R. 2002. Esimiehen arkipsykologiaa. Porvoo. WS Bookwell Oy.

Sorkin, A.R. 2016. The Transformation of Tomorrow. Davos. World Economic Forum.

Steinberg, M. Tässä on konsultti, joka hylkäisi keski-ikäiset päättäjämiehet. Helsingin Sanomat, 10.4.2015. <http://www.hs.fi/talous/a1428631565010>

Strömmer, R. 1999. Henkilöstöjohtaminen. Oy Edita Ab. Helsinki.

Sydänmaalakka, P. 2012. Älykäs organisaatio. Vantaa. Hansaprint Oy.

Thaler, Richard H. & Sunstein, Cass R. 2008. Nudge: Improving Decisions About Health, Wealth and Happiness. New Haven & London. Yale University Press.

Medium-Term Strategy Report 2014-2021, (37 C/4). 2014. Paris. United Nations Educational, Scientific and cultural organization; UNESCO.

Sketch, Marvin. Why take organic chemistry? Part 3. Risk, Failure and Uncertainty - An essay on the habits and attitudes beneficial to solving complex problems. 2012. http://boundlessticket.blogspot.fi/2012_07_01_archive.html. Accessed 7.3.2016.

<https://osha.europa.eu/en/surveys-and-statistics-osha/european-opinion-polls-safety-and-health-work/european-opinion-poll-occupational-safety-and-health-2013>. Accessed 25.2.2016

<https://koppa.jyu.fi/avoimet/hum/menetelmapolkuja/en/methodmap/data-analysis/quantitative-analysis>. Accessed 21.3.2016.

<https://www.techopedia.com/definition/28094/digital-native>. Digital Native. Accessed 19.2.2016.

<http://www.slideshare.net/euosha/paneuropean-opinion-poll-on-occupational-safety-and-health-2013>. Accessed 2.3.2016.

<http://www.taloussanomat.fi/suomi-ja-tyotulevaisuus/2013/11/04/eniten-sairauspoissaoloja-selkavaivoista-flunssasta-ja-masennuksesta/201315318/325>. Accessed 14.3.2016.

<http://atlasti.com/narrative-research/>. Accessed 18.3.2016.

<http://ek.fi/materiaalipankki/julkaisut-ja-selvitykset/>. Accessed 14.3.2016.

http://boundlessticket.blogspot.fi/2012_07_01_archive.html. Moore, J. 2012. Accessed 16.3.2016.

<https://rework.withgoogle.com/blog/five-keys-to-a-successful-google-team/>. Accessed 5.4.2016.

<http://elearningindustry.com/micro-learning-future-of-training-workplace>. Accessed 21.3.2016.

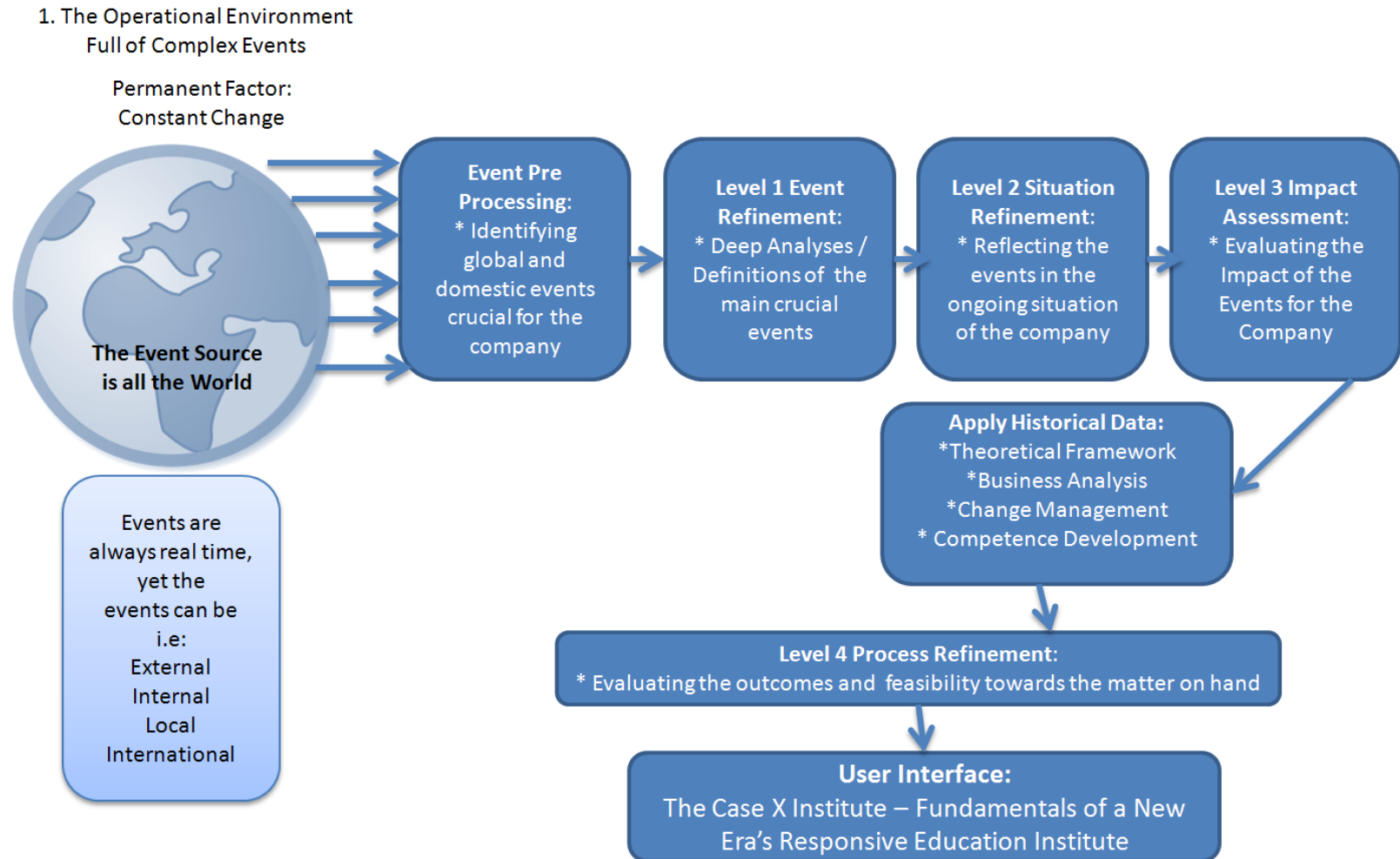
<http://www.fsd.uta.fi/menettelmaopetus/mittaaminen/luotettavuus.html>. Accessed 11.5.2016.

<http://isi.cbs.nl/glossary/blokfi75.htm>. Accessed 11.5.2016.

<http://kvanti.wikispaces.com>. Accessed 12.5.2016.

www.ammattilinenkoulutusvienti.fi. Accessed 24.2.2016

The Complex Event Processing Method Applied to the Theoretical Framework of this Thesis



Emotional Competence

These 17 assertions measure these 14 factors

- 1 I experience ambiguity issues agonising
- 2 Other people's stiff ideologies do not bother me
- 3 I find it best if an issue can be explained univocally and explicitly
- 4 I am an open minded person
- 5 I rather not make generalisations
- 6 I often imagine myself in somebody else's boots
- 7 I respect people as they are, despite religion, ethnics or sex
- 8 Success of a colleague or student is genuinely delightful for me
- 9 With my daily actions I try to make the workplace a better place for everyone
- 10 In my work I have time for creativity, recovery and newelty adaption
- 11 I feel that my work is meaningful
- 12 I am motivated in my work
- 13 I avoid reading bad news as the human wickedness bother me
- 14 I like to work with people whose opinions differ from my own
- 15 If I notice that a colleague is on a bad mood, I try not to bother him/her more than I really have to
- 16 If I notice that the copy paper has ended, I take care of it
- 17 In my opinion learning new is not important

SCALE

- 1 = Completely Disagree
 2 = Partially Disagree
 4 = Partially Agree
 5 = Completely Agree

| | Tolerance of ambiguity=nonmeritity Relaxation of rigidity in perspectives and ideas Resistance to stereotyping Comparative perspective taking Respect for others Self-efficacy Service orientation: Empathy Service orientation: Motivation Diversity tolerance Practical service orientation Insecurity Tolerance Emotional intelligence Complex problem solving and Critical Thinking Need for a Cognitive closure | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|----|----|----|-------------------------------|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1 | x | x | x | x | | | | | | | x | | x | x |
| 2 | x | x | x | x | x | | | | x | | | x | | x |
| 3 | x | x | x | x | x | | | | | | x | | x | x |
| 4 | | x | x | x | | | | | x | | x | x | | |
| 5 | | x | x | x | | | | | x | | x | | | x |
| 6 | | | x | x | x | | x | | x | | | x | | |
| 7 | | x | x | x | x | | x | | x | | | x | | |
| 8 | | | | | x | | x | | | | | x | | |
| 9 | | | | | x | x | x | | | x | | x | | |
| 10 | | | | | | x | | | | x | | x | | |
| 11 | | | | | | x | | x | | | | | | |
| 12 | | | | | | x | | x | | | | | | |
| 13 | | | | | | | x | | | | x | x | | |
| 14 | x | x | x | x | x | x | | | x | x | x | x | x | |
| 15 | | | | | x | | x | | x | x | x | x | | |
| 16 | | | | | | x | | x | | x | | | | |
| 17 | | | | | | | | | | | | | | |
| < Control question > | | | | | | | | | | | | | | |
| Emotional Competence measuring factors | | | | | | | | | | | | | Throught the research factors | |

Creative Competence

These 18 assertions measure these 15 factors

- 1 I like to make comparisons
- 2 I see different point of views as a richness
- 3 I like to compare other fields of science with my own branch
- 4 I think aspect collision is natural
- 5 I am interested in other science and professional fields than my own
- 6 I often change the work route just for fun
- 7 I try to avoid routines consciously
- 8 I like to try different ICT solutions to communicate about professional matters
- 9 Almost every day I invent new solutions to respond into professional challenges
- 10 I admire the way how others can see things differently than me
- 11 I am interested in other peoples aspects
- 12 I actively try to transfer resistance into discussion
- 13 I like the excitement of risks
- 14 I often invent alternative procedures to involve people
- 15 I am willing to participate even in challenging situations
- 16 In my opinion the trip is more important than the arrival
- 17 I like to challenge people to see other aspects
- 18 On my freetime I like have a hobby with something creative

SCALE

- 1 = Completely Disagree
 2 = Partially Disagree
 4 = Partially Agree
 5 = Completely Agree

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| Effectively employ comparisons to elicit perspective clashes | X | X | | | | | | | | | | | | | |
| Connecting different fields of concentration (i.e. art and social science) | X | X | X | | X | | X | X | X | X | | X | X | | X |
| Alternative approaches | X | X | X | | X | | X | | | | | | X | X | |
| Every day innovation availability | X | | X | | X | X | X | X | X | X | | X | X | | |
| Recognizing different kinds of intelligence | X | X | X | | X | | X | | | | | | X | X | |
| Risk acceptance | X | | X | X | | X | | | | | | X | X | | |
| Alternative suggestions into contributions | | X | X | X | | X | X | X | | | | X | X | | |
| Facilitate dynamic interactions and adaptations | | | X | X | | X | | | | | | X | X | | |
| Elicit professional insight of others | | | X | X | | | | | | | | X | X | X | |
| Ability to turn resistance into dialogue | | | | | | | | | | | | | | | |
| Creativity | | | | | | | | | | | | | | | |
| Overall Innovation Ability | | | | | | | | | | | | | | | |
| Complex problem solving and Critical Thinking | | | | | | | | | | | | | | | |
| Need for a Cognitive closure | | | | | | | | | | | | | | | |

Creative Competence measuring factors

Throught the
research
factors

Communicative Competence

These 24 assertions measure these 19 factors

- 1 I communicate fluently in other language additional to Finnish
- 2 I believe that multilingualism opens new aspects in one's worldview
- 3 Always when planning a presentation, I first think how I will pass on my message rather than the detailed context of the message
- 4 I have a habit of reading foreign literature/magazines
- 5 My communication style vary by the language in use
- 6 I am aware of my own communicative strengths
- 7 In daily bases I search for information from foreign web pages
- 8 It bothers me to communicate with a person who speaks Finnish poorly
- 9 In interactions I can change language agile
- 10 I realize the meaning of non-verbal communication
- 11 In my opinion language is a significant part of a culture
- 12 I would like to learn a new language
- 13 The diversity of the student languages is a richness
- 14 I always want to know how some foreign name is pronounced in its own language
- 15 I often ask my foreign acquaintances to teach me something in their own language
- 16 I think it is more important to understand what a person means than to hear what s/he says
- 17 In my opinion silence in negotiation is unbearable
- 18 Despite the language, I always try to express myself clearly
- 19 The purpose of a negotiation is to get my own issues accepted
- 20 I am able to teach with some other language than Finnish
- 21 I often talk more than listen
- 22 I believe that a weak ability to communicate can destroy the spreading of a good thought
- 23 I experience the network negotiations challenging as I am not able to observe well enough the counterparty's non-verbality
- 24 I rather talk to people face-to-face

SCALE

- 1 = Completely Disagree
2 = Partially Disagree
4 = Partially Agree
5 = Completely Agree

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|------------------------------|----|
| Communicate across the cultures | | | | | | | | | | | | | | | | | | | |
| Diversity in communication patterns | | | | | | | | | | | | | | | | | | | |
| Conscious communication skills | | | | | | | | | | | | | | | | | | | |
| Active foreign language learning strategies | | | | | | | | | | | | | | | | | | | |
| Different vision of the world | | | | | | | | | | | | | | | | | | | |
| Effective verbal and non verbal communication | | | | | | | | | | | | | | | | | | | |
| Understanding others, different from themselves | | | | | | | | | | | | | | | | | | | |
| Active socio-economic boundary crossing | | | | | | | | | | | | | | | | | | | |
| Linguistic diversity as an asset / value | | | | | | | | | | | | | | | | | | | |
| Respect and language-valuing activities | | | | | | | | | | | | | | | | | | | |
| Sensitivity about potential areas of miscommunication | | | | | | | | | | | | | | | | | | | |
| Cognizant use of silence | | | | | | | | | | | | | | | | | | | |
| Equal role in the dialogue | | | | | | | | | | | | | | | | | | | |
| Respect of other views | | | | | | | | | | | | | | | | | | | |
| Acknowledgement of the importance of communication | | | | | | | | | | | | | | | | | | | |
| Negotiation skills | | | | | | | | | | | | | | | | | | | |
| Non-verbal communication | | | | | | | | | | | | | | | | | | | |
| Complex problem solv & Critical Thinking | | | | | | | | | | | | | | | | | | | |
| Cognitive closure | | | | | | | | | | | | | | | | | | | |
| 1 | x | | x | x | | x | x | x | x | x | | | | | x | x | | | |
| 2 | | | | | x | | x | | | | | | | | | | | | |
| 3 | | x | x | | | x | | | | | x | | | | | | x | | |
| 4 | x | | x | x | | | | x | x | x | | | | | | | | | |
| 5 | x | x | x | | | x | x | x | | x | x | | | x | x | | | x | |
| 6 | | | x | | | x | | | | | | | | | | x | | | |
| 7 | | | x | x | x | | x | x | x | | | | | | | | | x | |
| 8 | x | | x | | x | | x | x | x | x | x | | | x | x | | | | |
| 9 | x | | x | | | x | x | x | x | x | | | x | | x | x | | | |
| 10 | | | x | | | x | | | | | | | | | | | x | | |
| 11 | | | | | | | | | | x | | | | | | | | | |
| 12 | | | x | x | | | | | | x | | | | | | x | | | |
| 13 | | | | | | | x | | | x | | | | | | | | | |
| 14 | | | | | | | x | | | x | | | | | | | | | |
| 15 | | | | | | | x | | | x | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | x | | |
| 18 | | | x | | | | x | | | x | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | |
| < Control Question > | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | x | | | | | x | |
| 18 | | | x | | | | x | | | | x | | | | | | | | |
| 19 | | | | | | | | | | | | | | x | | x | | | x |
| 20 | x | | x | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | x | | | | x | | |
| 22 | | | | | | | | | | | | | | | | | | | |
| < Control Question > | | | | | | | | | | | | | | | | | | | |
| 23 | | x | x | | | | | | | | x | | | | | | | | |
| 24 | | x | x | | | | | | | | x | | | | | | | | |
| Communicative Competence measuring factors | | | | | | | | | | | | | | | | | | Through the research factors | |

Functional Competence

These 26 assertions measure these 15 factors

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|----|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| 1 | Support from colleagues assist to manage the professional challenges | x | | | x | | | | | | | | x | | | |
| 2 | I am goal-directed in my work | | x | x | | | | x | x | | | | | x | | |
| 3 | I have a good working team | x | | | x | | | | | | | | | | | |
| 4 | I believe that all the people in my work place have something to give in their tasks | x | | | x | | | | | | x | | | | | |
| 5 | I get along well with the students | x | x | | x | x | | | | | | | x | | | |
| 6 | I have good connetions to other actors in the education branch | x | x | | x | x | | | | | | | x | | | |
| 7 | I act proficiently in different kind of teams and work groups | | x | | x | | | | | | | | x | | | |
| 8 | I am not bothered if my day at work becomes a scattered entity | | | | | | | | | | | | | | | |
| 9 | I am not afraid to express my thoughts in any situation | | | | x | | x | | | | | | | x | | |
| 10 | I can evaluate different students output professionally | | | | x | | | x | x | | x | | | x | | |
| 11 | When I evaluate the student output I concentrate on know-how, not on personal features | | | | x | | | x | x | | x | | | x | | |
| 12 | I am able to modify the ways of working so that the learning goals are achieved | | | x | x | | x | | | x | | | | | | |
| 13 | In my work I act fair towards all the stakeholders | | | | x | x | | | | | x | | | x | | |
| 14 | Every day I do my best to boost positively the students and the co-workers | x | x | | x | x | | | | | | | x | | | |
| 15 | In my opinion good education belongs to everyone despite of the background | | | | | | | | | | | | | | | |
| 16 | I can design a practical curriculum | | | | | | | | | | x | x | | | | |
| 17 | I can distinctly justify for students what the issues in curriculum requires from them | | | | | | x | | | | | x | | | | |
| 18 | In social conflicts I can easily see which party is right and which party is wrong | | | | | | | | | | | | | x | | x |
| 19 | Even if I have decided something, I am interested in considering other options | | | | x | | | | | | x | | | x | x | x |
| 20 | I like effective ways of working as the most important thing is to get work done | | | | | | | | | | | | | x | | x |
| 21 | I can delay my decision until the last possible moment | | | | | | | | | | | | | x | | x |
| 22 | I usually make important decisions quickly and confidently | | | | | | | | | | | | | x | | x |
| 23 | Whilst solving a problem I ponder many possible choices and ask other peoples' opinion | | | | | | | | | | | | | x | x | x |
| 24 | I solve complex problems often by intuition | | | | | | | | | | | | | x | x | x |
| 25 | I get annoyed if one person disagrees from the rest of the group | | | | x | | | | | | | | | | | x |
| 26 | I can see myself performing as a lecturer in a webinar | | | | x | | | | | | | | | | | |

SCALE

- 1 = Completely Disagree
- 2 = Partially Disagree
- 4 = Partially Agree
- 5 = Completely Agree

| Work Environment | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|----------------------------|
| These 10 assertions measure these 8 factors | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 1 Diversity is accepted | x | x | | | | | | x | Diversity Tolerance |
| 2 Individual expertise is evaluated | | x | x | x | | | | x | Respect for Others |
| 3 In work relations different views are discussed constructively | x | | | | x | x | | x | Motivation |
| 4 Less supported proposals are often left out from discussions | x | | | | x | x | x | | Engagement |
| 5 Mistakes and failures are accepted i | x | | | | | x | | x | Constructive Communication |
| 6 The organisation culture supports my professional growth | | | x | x | | | | x | Failure Tolerance |
| 7 The organisation culture is fertile to my mental wellbeing | | x | x | x | | | | x | Psychological Danger Level |
| 8 different understanding and worldvisions are seen valuable | x | x | | | x | | | x | Psychological Safety Level |
| 9 In understand what vision requires from me | | | x | x | | | | x | |
| 10 I believe that operations are going get better in the next year | | | x | x | | | | x | |

SCALE

- 1 = Completely Disagree
- 2 = Partially Disagree
- 4 = Partially Agree
- 5 = Completely Agree

Research - Responses and Frequency Distributions in Nb & in Percentage

Sampling Unit 38

Response Nb 21

Response Rate 55,26 %

| Variables / Assertions | | Frequency Distribution in Nb. | | | | A's | Frequency Distribution in % | | | | Weighted Average |
|-----------------------------|---|-------------------------------|--------------------|-----------------|------------------|-----|-----------------------------|--------------------|-----------------|------------------|------------------|
| | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | |
| Analytic Competence | | 1 | 2 | 4 | 5 | | 1 | 2 | 4 | 5 | |
| 1 | I believe I have strong professional knowhow | 0 | 1 | 6 | 14 | 21 | 0,00 | 4,76 | 28,57 | 66,67 | 4,57 |
| 2 | My professional knowhow is up-to-date | 0 | 0 | 13 | 8 | 21 | 0,00 | 0,00 | 61,90 | 38,10 | 4,38 |
| 3 | I actively update my professional knowhow | 0 | 0 | 8 | 13 | 21 | 0,00 | 0,00 | 38,10 | 61,90 | 4,62 |
| 4 | I am capable to sort essential information from unnecessary | 0 | 2 | 7 | 12 | 21 | 0,00 | 9,52 | 33,33 | 57,14 | 4,38 |
| 5 | I can systematically create a meaningful study event | 2 | 2 | 9 | 8 | 21 | 9,52 | 9,52 | 42,86 | 38,10 | 3,90 |
| 6 | I get excited about new information which I can utilize in my work | 0 | 0 | 5 | 15 | 20 | 0,00 | 0,00 | 25,00 | 75,00 | 4,75 |
| 7 | I actively follow the global events | 0 | 3 | 5 | 12 | 20 | 0,00 | 15,00 | 25,00 | 60,00 | 4,30 |
| 8 | I include global event pondering in my teaching outcome | 0 | 4 | 8 | 9 | 21 | 0,00 | 19,05 | 38,10 | 42,86 | 4,05 |
| 9 | I include national event pondering in my teaching outcome | 0 | 3 | 10 | 8 | 21 | 0,00 | 14,29 | 47,62 | 38,10 | 4,10 |
| 10 | In daily bases, I source actively new information | 0 | 2 | 11 | 8 | 21 | 0,00 | 9,52 | 52,38 | 38,10 | 4,19 |
| 11 | In daily bases, I assimilate actively new information | 0 | 2 | 11 | 8 | 21 | 0,00 | 9,52 | 52,38 | 38,10 | 4,19 |
| 12 | I have good basic skills in social sciences | 0 | 3 | 12 | 5 | 20 | 0,00 | 15,00 | 60,00 | 25,00 | 3,95 |
| 13 | I build up my intellectual capital in informal learning networks (i.e. FB, LinkedIn, other SoMe or interaction) | 2 | 4 | 5 | 10 | 21 | 9,52 | 19,05 | 23,81 | 47,62 | 3,81 |
| 14 | I built up my intellectual capital in formal learning events | 1 | 2 | 4 | 14 | 21 | 4,76 | 9,52 | 19,05 | 66,67 | 4,33 |
| 15 | I try to benefit all possible chances to increase my competence | 1 | 2 | 9 | 9 | 21 | 4,76 | 9,52 | 42,86 | 42,86 | 4,10 |
| 16 | I am willing to learn new ICT solutions | 2 | 0 | 7 | 12 | 21 | 9,52 | 0,00 | 33,33 | 57,14 | 4,29 |
| 17 | I quite easily invent practical solutions to complex problems | 0 | 3 | 11 | 7 | 21 | 0,00 | 14,29 | 52,38 | 33,33 | 4,05 |
| 18 | I feel that my competence is valid for current day requirements | 0 | 2 | 12 | 7 | 21 | 0,00 | 9,52 | 57,14 | 33,33 | 4,14 |
| 19 | I have capability and time for my own professional development | 2 | 9 | 6 | 4 | 21 | 9,52 | 42,86 | 28,57 | 19,05 | 3,05 |
| 20 | I master atleast one complex problem solving method | 1 | 2 | 9 | 8 | 20 | 5,00 | 10,00 | 45,00 | 40,00 | 4,25 |
| Emotional Competence | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | A's | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | Weighted Average |
| | | 1 | 2 | 4 | 5 | | 1 | 2 | 4 | 5 | |
| 1 | I experience ambiguity issues agonising | 10 | 3 | 7 | 1 | 21 | 47,62 | 14,29 | 33,33 | 4,76 | 2,33 |
| 2 | Other people's stiff ideologies do not bother me | 2 | 7 | 11 | 1 | 21 | 9,52 | 33,33 | 52,38 | 4,76 | 3,10 |
| 3 | I find it best if an issue can be explained univocally and explicitly | 0 | 4 | 10 | 7 | 21 | 0,00 | 19,05 | 47,62 | 33,33 | 3,95 |
| 4 | I am an open minded person | 0 | 2 | 8 | 11 | 21 | 0,00 | 9,52 | 38,10 | 52,38 | 4,33 |
| 5 | I rather not make generalisations | 1 | 6 | 13 | 1 | 21 | 4,76 | 28,57 | 61,90 | 4,76 | 3,33 |
| 6 | I often imagine myself in somebody else's boots | 1 | 3 | 11 | 6 | 21 | 4,76 | 14,29 | 52,38 | 28,57 | 3,86 |
| 7 | I respect people as they are, despite religion, ethnics or sex | 1 | 0 | 3 | 17 | 21 | 4,76 | 0,00 | 14,29 | 80,95 | 4,67 |
| 8 | Success of a colleague or student is genuinely delightful for me | 0 | 0 | 0 | 21 | 21 | 0,00 | 0,00 | 0,00 | 21,00 | 5,00 |
| 9 | With my daily actions I try to make the workplace a better place for everyone | 0 | 0 | 9 | 12 | 21 | 0,00 | 0,00 | 42,86 | 57,14 | 4,57 |
| 10 | In my work I have time for creativity, recovery and newelty adaption | 7 | 9 | 5 | 0 | 21 | 33,33 | 42,86 | 23,81 | 0,00 | 2,14 |
| 11 | I feel that my work is meaningful | 1 | 3 | 7 | 10 | 21 | 4,76 | 14,29 | 33,33 | 47,62 | 4,05 |
| 12 | I am motivated in my work | 0 | 7 | 6 | 8 | 21 | 0,00 | 33,33 | 28,57 | 38,10 | 3,71 |
| 13 | I avoid reading bad news as the human wickedness bother me | 5 | 6 | 10 | 0 | 21 | 23,81 | 28,57 | 47,62 | 0,00 | 2,71 |
| 14 | I like to work with people whose opinions differ from my own | 1 | 7 | 10 | 3 | 21 | 4,75 | 33,33 | 47,62 | 14,29 | 3,33 |
| 15 | If I notice that a colleague is on a bad mood, I try not to bother him/her more than I really have to | 1 | 6 | 6 | 8 | 21 | 4,76 | 28,57 | 28,57 | 38,10 | 3,67 |
| 16 | If I notice that the copy paper has ended, I take care of it | 0 | 1 | 2 | 17 | 20 | 0,00 | 5,00 | 10,00 | 85,00 | 4,75 |
| 17 | In my opinion learning new is not important | 19 | 2 | 0 | 0 | 21 | 90,48 | 9,52 | 0,00 | 0,00 | 1,10 |

Creative Competence

- 1 I like to make comparisons
- 2 I see different point of views as a richness
- 3 I like to compare other fields of science with my own branch
- 4 I think aspect collision is natural
- 5 I am interested in other science and professional fields than my own
- 6 I often change the work route just for fun
- 7 I try to avoid routines consciously
- 8 I like to try different ICT solutions to communicate about professional matters
- 9 Almost every day I invent new solutions to respond into professional challenges
- 10 I admire the way how others can see things differently than me
- 11 I am interested in other peoples aspects
- 12 I actively try to transfer resistance into discussion
- 13 I like the excitement of risks
- 14 I often invent alternative procedures to involve people
- 15 I am willing to participate even in challenging situations
- 16 In my opinion the trip is more important than the arrival
- 17 I like to challenge people to see other aspects
- 18 On my freetime I like have a hobby with something creative (i.e.Music, Photographing, Painting...?)

| Frequency Distribution in Nb. | | | | A's | Frequency Distribution in % | | | | Weighted Average |
|-------------------------------|--------------------|-----------------|------------------|-----|-----------------------------|--------------------|-----------------|------------------|------------------|
| Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | |
| 1 | 2 | 4 | 5 | | 1 | 2 | 4 | 5 | |
| 0 | 1 | 9 | 11 | 21 | 0,00 | 4,76 | 42,86 | 52,38 | 4,43 |
| 0 | 0 | 6 | 15 | 21 | 0,00 | 0,00 | 28,57 | 71,43 | 4,71 |
| 1 | 4 | 8 | 8 | 21 | 4,76 | 19,05 | 38,10 | 38,10 | 3,86 |
| 0 | 0 | 6 | 15 | 21 | 0,00 | 0,00 | 28,57 | 71,43 | 4,71 |
| 0 | 1 | 5 | 15 | 21 | 0,00 | 4,76 | 23,81 | 71,43 | 4,62 |
| 7 | 6 | 4 | 4 | 21 | 33,33 | 28,57 | 19,05 | 19,05 | 2,62 |
| 3 | 9 | 5 | 4 | 21 | 14,29 | 42,86 | 23,81 | 19,05 | 2,90 |
| 1 | 8 | 8 | 4 | 21 | 4,76 | 38,10 | 38,10 | 19,05 | 3,29 |
| 4 | 9 | 6 | 2 | 21 | 19,05 | 42,86 | 28,57 | 9,52 | 2,67 |
| 0 | 6 | 10 | 5 | 21 | 0,00 | 28,57 | 47,62 | 23,81 | 3,67 |
| 0 | 2 | 8 | 11 | 21 | 0,00 | 9,52 | 38,10 | 52,38 | 4,33 |
| 1 | 4 | 8 | 8 | 21 | 4,76 | 19,05 | 38,10 | 38,10 | 3,86 |
| 3 | 7 | 9 | 2 | 21 | 14,29 | 33,33 | 42,86 | 9,52 | 3,00 |
| 0 | 3 | 14 | 4 | 21 | 0,00 | 14,29 | 66,67 | 19,05 | 3,90 |
| 0 | 2 | 9 | 10 | 21 | 0,00 | 9,52 | 42,86 | 47,62 | 4,29 |
| 0 | 5 | 8 | 8 | 21 | 0,00 | 23,81 | 38,10 | 38,10 | 3,90 |
| 0 | 2 | 13 | 6 | 21 | 0,00 | 9,52 | 61,90 | 28,57 | 4,10 |
| 5 | 8 | 2 | 6 | 21 | 23,81 | 38,10 | 9,52 | 28,57 | 2,81 |

Communicative Competence

- 1 I communicate fluently in other language additional to Finnish
- 2 I believe that multilingualism opens new aspects in one's worldview
- 3 Always when planning a presentation, I first think how I will pass on my message rather than the detailed context of the message
- 4 I have a habbit of reading foreign literature/magazines
- 5 My communication style vary by the language in use
- 6 I am aware of my own communicative strenghts
- 7 In daily bases I search for information from foreign web pages
- 8 It bothers me to communicate with a person who speaks Finnish poorly
- 9 In interactions I can change language agile
- 10 I realize the meaning of non-verbal communication
- 11 In my opinion language is a significant part of a culture
- 12 I would like to learn a new language
- 13 The diversity of the student languages is a richness
- 14 I always want to know how some foreign name is pronounced in its own language
- 15 I often ask my foreign acquaintances to teach me something in their own language
- 16 I think it is more important to understand what a person means than to hear what s/he says
- 17 In my opinion silence in negotiation is unbearable
- 18 Despite the language, I always try to express myself clearly
- 19 The purpose of a negotiation is to get my own issues accepted
- 20 I am able to teach with some other language than Finnish
- 21 I often talk more than listen
- 22 I believe that a weak ability to communicate can destroy the spreading of a good thought
- 23 I experience the network negotiations challenging as I am not able to observe well enough the counterparty's non-verbality
- 24 I rather talk to people face-to-face

| Frequency Distribution in Nb. | | | | A's | Frequency Distribution in % | | | | Weighted Average |
|-------------------------------|--------------------|-----------------|------------------|-----|-----------------------------|--------------------|-----------------|------------------|------------------|
| Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | |
| 1 | 2 | 4 | 5 | | 1 | 2 | 4 | 5 | |
| 1 | 2 | 7 | 11 | 21 | 4,76 | 9,52 | 33,33 | 52,38 | 4,19 |
| 1 | 0 | 3 | 17 | 21 | 4,76 | 0,00 | 14,29 | 80,95 | 4,67 |
| 1 | 4 | 12 | 4 | 21 | 4,76 | 19,05 | 57,14 | 19,05 | 3,67 |
| 6 | 5 | 4 | 6 | 21 | 28,57 | 23,81 | 19,05 | 28,57 | 2,95 |
| 3 | 2 | 9 | 6 | 20 | 15,00 | 10,00 | 45,00 | 30,00 | 3,65 |
| 0 | 1 | 11 | 9 | 21 | 0,00 | 4,76 | 52,38 | 42,86 | 4,33 |
| 5 | 8 | 2 | 6 | 21 | 23,81 | 38,10 | 9,52 | 28,57 | 2,81 |
| 8 | 8 | 3 | 2 | 21 | 38,10 | 38,10 | 14,29 | 9,52 | 2,19 |
| 4 | 3 | 5 | 9 | 21 | 19,05 | 14,29 | 23,81 | 42,86 | 3,57 |
| 0 | 1 | 8 | 12 | 21 | 0,00 | 4,76 | 38,10 | 57,14 | 4,48 |
| 0 | 1 | 5 | 15 | 21 | 0,00 | 4,76 | 23,81 | 71,43 | 4,62 |
| 0 | 3 | 4 | 14 | 21 | 0,00 | 14,29 | 19,05 | 66,67 | 4,38 |
| 1 | 2 | 6 | 12 | 21 | 4,76 | 9,52 | 28,57 | 57,14 | 4,24 |
| 2 | 4 | 6 | 9 | 21 | 9,52 | 19,05 | 28,57 | 42,86 | 3,76 |
| 1 | 3 | 8 | 9 | 21 | 4,76 | 14,29 | 38,10 | 42,86 | 4,00 |
| 0 | 2 | 6 | 12 | 20 | 0,00 | 10,00 | 30,00 | 60,00 | 4,40 |
| 7 | 8 | 6 | 0 | 21 | 33,33 | 38,10 | 28,57 | 0,00 | 2,24 |
| 0 | 2 | 9 | 10 | 21 | 0,00 | 9,52 | 42,86 | 47,62 | 4,29 |
| 3 | 11 | 6 | 1 | 21 | 14,29 | 52,38 | 28,57 | 4,76 | 2,57 |
| 3 | 7 | 4 | 7 | 21 | 14,29 | 33,33 | 19,05 | 33,33 | 3,24 |
| 4 | 10 | 7 | 0 | 21 | 19,05 | 47,62 | 33,33 | 0,00 | 2,48 |
| 1 | 2 | 5 | 13 | 21 | 4,76 | 9,52 | 23,81 | 61,90 | 4,29 |
| 2 | 4 | 13 | 2 | 21 | 9,52 | 19,05 | 61,90 | 9,52 | 3,43 |
| 0 | 2 | 6 | 13 | 21 | 0,00 | 9,52 | 28,57 | 61,90 | 4,43 |

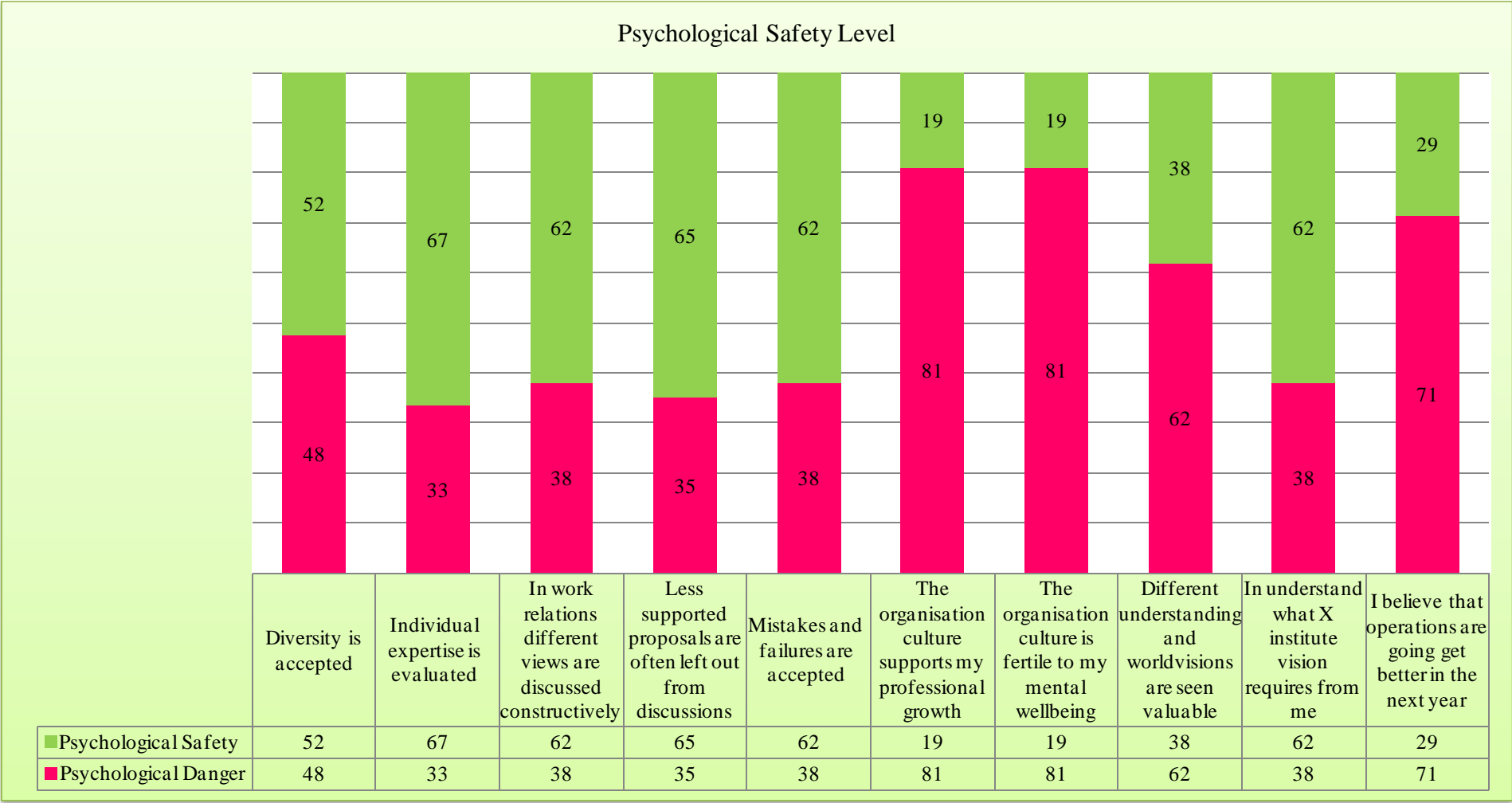
Functional Competence

| | | Frequency Distribution in Nb. | | | | A's | Frequency Distribution in % | | | | Weighted Average |
|----|--|-------------------------------|--------------------|-----------------|------------------|-----|-----------------------------|--------------------|-----------------|------------------|------------------|
| | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | |
| | | 1 | 2 | 4 | 5 | | 1 | 2 | 4 | 5 | |
| 1 | Support from colleagues assist to manage the professional challenges | 0 | 1 | 4 | 16 | 21 | 0,00 | 4,71 | 19,05 | 76,19 | 4,67 |
| 2 | I am goal-directed in my work | 0 | 1 | 3 | 17 | 21 | 0,00 | 4,76 | 14,29 | 80,95 | 4,71 |
| 3 | I have a good working team | 0 | 3 | 10 | 8 | 21 | 0,00 | 14,29 | 47,62 | 38,10 | 4,10 |
| 4 | I believe that all the people in my work place have something to give in their tasks | 1 | 3 | 9 | 8 | 21 | 4,76 | 14,29 | 42,86 | 38,10 | 3,95 |
| 5 | I get along well with the students | 0 | 0 | 5 | 16 | 21 | 0,00 | 0,00 | 23,81 | 76,19 | 4,76 |
| 6 | I have good connetions to other actors in the education branch | 0 | 4 | 9 | 8 | 21 | 0,00 | 19,05 | 42,86 | 38,10 | 4,00 |
| 7 | I act proficiently in different kind of teams and work groups | 0 | 1 | 10 | 10 | 21 | 0,00 | 4,76 | 47,62 | 47,62 | 4,38 |
| 8 | I am not bothered if my day at work becomes a scattered entity | 2 | 4 | 6 | 8 | 20 | 10,00 | 20,00 | 30,00 | 40,00 | 3,70 |
| 9 | I am not afraid to express my thoughts in any situation | 1 | 4 | 10 | 6 | 21 | 4,76 | 19,05 | 47,62 | 28,57 | 3,76 |
| 10 | I can evaluate different students output professionally | 0 | 2 | 8 | 11 | 21 | 0,00 | 9,52 | 38,10 | 52,38 | 4,33 |
| 11 | When I evaluate the student output I concentrate on know-how, not on personal features | 0 | 1 | 8 | 12 | 21 | 0,00 | 4,76 | 38,10 | 57,14 | 4,48 |
| 12 | I am able to modify the ways of working so that the learning goals are achieved | 0 | 0 | 10 | 10 | 20 | 0,00 | 0,00 | 50,00 | 50,00 | 4,50 |
| 13 | In my work I act fair towards all the stakeholders | 0 | 0 | 6 | 14 | 20 | 0,00 | 0,00 | 30,00 | 70,00 | 4,70 |
| 14 | Every day I do my best to boost positively the students and the co-workers | 0 | 0 | 9 | 12 | 21 | 0,00 | 0,00 | 42,86 | 57,14 | 4,57 |
| 15 | In my opinion good education belongs to everyone despite of the background | 0 | 0 | 2 | 19 | 21 | 0,00 | 0,00 | 9,52 | 90,48 | 4,90 |
| 16 | I can design a practical curriculum | 2 | 1 | 6 | 12 | 21 | 9,52 | 4,76 | 28,57 | 57,14 | 4,19 |
| 17 | I can distinctly justify for students what the issues in curriculum requires from them | 1 | 1 | 5 | 14 | 21 | 4,76 | 4,76 | 23,81 | 66,67 | 4,43 |
| 18 | In social conflicts I can easily see which party is right and which party is wrong | 0 | 6 | 10 | 4 | 20 | 0,00 | 30,00 | 50,00 | 20,00 | 3,60 |
| 19 | Even if I have decided something, I am interested in considering other options | 0 | 4 | 12 | 5 | 21 | 0,00 | 19,05 | 57,14 | 23,81 | 3,86 |
| 20 | I like effective ways of working as the most important thing is to get work done | 0 | 1 | 9 | 11 | 21 | 0,00 | 4,76 | 42,86 | 52,38 | 4,43 |
| 21 | I can delay my decision until the last possible moment | 2 | 7 | 7 | 5 | 21 | 9,52 | 33,33 | 33,33 | 23,81 | 3,29 |
| 22 | I usually make important decisions quickly and confidently | 0 | 6 | 10 | 5 | 21 | 0,00 | 28,57 | 47,62 | 23,81 | 3,67 |
| 23 | Whilst solving a problem I ponder many possible choices and ask other peoples' opinion | 0 | 5 | 8 | 8 | 21 | 0,00 | 23,81 | 38,10 | 38,10 | 3,90 |
| 24 | I solve complex problems often by intuition | 2 | 5 | 12 | 2 | 21 | 9,52 | 23,81 | 57,14 | 9,52 | 3,33 |
| 25 | I get annoyed if one person disagrees from the rest of the group | 5 | 11 | 4 | 1 | 21 | 23,81 | 52,38 | 19,05 | 4,76 | 2,28 |
| 26 | I can see myself performing as a lecturer in a webinar | 3 | 2 | 11 | 5 | 21 | 14,29 | 9,52 | 52,38 | 23,81 | 3,62 |

Working Environment

| | | Frequency Distribution in Nb. | | | | A's | Frequency Distribution in % | | | | Weighted Average |
|----|---|-------------------------------|--------------------|-----------------|------------------|-----|-----------------------------|--------------------|-----------------|------------------|------------------|
| | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | | Completely Disagree | Partially Disagree | Partially Agree | Completely Agree | |
| | | 1 | 2 | 4 | 5 | | 1 | 2 | 4 | 5 | |
| 1 | Diversity is accepted in | 0 | 10 | 7 | 4 | 21 | 0,00 | 47,62 | 33,33 | 19,05 | 3,24 |
| 2 | Individual expertise is evaluated in | 0 | 7 | 11 | 3 | 21 | 0,00 | 33,33 | 52,38 | 14,29 | 3,48 |
| 3 | In work relations different views are discussed constructively | 0 | 8 | 9 | 4 | 21 | 0,00 | 38,10 | 42,86 | 19,05 | 3,43 |
| 4 | Less supported proposals are often left out from discussions | 0 | 7 | 12 | 1 | 20 | 0,00 | 35,00 | 60,00 | 5,00 | 3,35 |
| 5 | Mistakes and failures are accepted in | 1 | 7 | 11 | 2 | 21 | 4,75 | 33,33 | 52,38 | 9,52 | 3,29 |
| 6 | The organisation culture supports my professional growth | 5 | 10 | 6 | 0 | 21 | 47,62 | 33,33 | 19,05 | 0,00 | 2,33 |
| 7 | The organisation culture is fertile to my mental wellbeing | 10 | 7 | 4 | 0 | 21 | 47,62 | 33,33 | 19,05 | 0,00 | 1,9 |
| 8 | I understand different understanding and worldvisions are seen valuable | 2 | 11 | 8 | 0 | 21 | 9,52 | 52,38 | 38,10 | 0,00 | 2,67 |
| 9 | In understand what the vision requires from me | 5 | 3 | 10 | 3 | 21 | 23,81 | 14,29 | 47,62 | 14,29 | 3,14 |
| 10 | I believe that the operations are going get better in the next year | 8 | 7 | 3 | 3 | 21 | 38,10 | 33,33 | 14,29 | 14,29 | 2,33 |

Research - The organization psychological safety level



Article - Google's sharing its HR secrets. Can you make them work in your organizations? Published 10.3.2016, www.weforum.org.

For six years in a row, Google has topped Fortune's list of the "100 Best Companies to Work For." It has also been recognized over 100 times in the past five years as an exceptional employer both in the U.S. and other countries. What makes Google's work environment so outstanding?

Laszlo Bock, senior vice president of people operations for Google, has authored a book titled, Work Rules! Insights from Inside Google That Will Transform How You Live and Lead. Speaking at a 2015 Wharton People Analytics Conference, he called the book "really an effort to open-source what we learned at Google ... to make work better in other places." Bock leads Google's people function globally, which includes "all areas related to the attraction, development and retention of 'Googlers,'" to quote his bio. He observed candidly that for too many people in the workforce today, "work just sucks.... It's just not pleasant; it's a means to an end." He pointed out that "nobody works 40-hour weeks anymore," and that if one were to actually calculate it, people spend more time working than they do anything else, including hobbies, being with loved ones and even sleeping. "If we're going to invest all that time, it should mean something; it should motivate you. You should love it."

In his talk, Bock described some of the innovations he and his team have made at Google to make work more effective and enjoyable. The special sauce, he said, is introducing more analytics into the realm of HR. HR Needs More Than Just HR People. According to Bock, one significant difference about Google's HR division — or People Operations, as the company calls it — is that a "three-thirds" hiring model is used to staff it. Bock explained that one-third consists of people from traditional HR backgrounds, another third is recruited from strategy consulting and the final third is composed of academics in fields ranging from organizational psychology to physics.

Bock observed that "each brings something different to the party." The traditional HR people, he said, understand Google, have great intuition and can deal well with problematic situations. The consultants understand business in general, and can take a complex problem, structure it and break it down for analysis. And the academics "actually force us to prove that all this stuff we're [claiming] actually works."

For 30 years, "HR as a profession has been saying we need a seat at the table, only to be told that [we] need to understand the business first," said Bock. But they need to demonstrate more than just "an understanding of an income statement.... If I say performance management should work a certain way, or that we should stop doing a certain kind of recruitment, that takes more than just understanding the business. That takes analytics."

Brock described how he and his colleagues changed some basic hiring processes at Google based on experimentation and analysis. One change was to the average number of interviews it took to hire someone. When he first became head of people operations in 2006, building up the staff was a priority. Yet it was taking somewhere between six and nine months to get hired. The absurdly long hiring cycle became notorious: Brock recalled that “everyone had a story about their bad interview experience with Google,” and people would eagerly share it with him whether he was out to dinner in a restaurant, looking at houses with a realtor or anywhere else.

“So we did a lot of math, we did a lot of experiments,” said Brock. In *Work Rules!* he credits then-staffing analyst Todd Carlisle with discovering that four interviews were sufficient to predict with 86% confidence whether or not the company should hire someone. The company then instituted this “Rule of Four,” and Google’s time to hire, according to Brock, “went from something like six months to 45 days.” (During Brock’s tenure, Google’s number of employees has grown from, he writes, from “6,000 employees to almost 60,000, with 70-plus offices across more than 40 countries.”) And who was Google hiring? Another problem perceived by Brock was that “we were really biased toward people with fancy degrees.... If you attend Harvard versus being number one at SUNY Binghamton, who does better?” He quoted findings that showed that the very best students from any school outperformed the average students — and even the 60-70th percentile students — at major Ivy League universities. Brock commented, “So there’s actually evidence to suggest [that] as a recruiter, you’re better off casting a wider net, which is what we do.”

Grades, too, have been overrated, said Brock. “We did a bunch of analysis and found that grades are a little predictive for your first couple of years, but for the rest of your career, they don’t matter at all.... What matters is the education you got and your ability to learn.... We know those things are predictive.” Brock also shifted Google’s focus away from SAT scores. He said it had been a mistake for the company to be asking all candidates, some as old as 50, for their SAT scores (and college transcript), often passing on those that didn’t score high enough.

Brock has also brought his analytical approach to evaluating existing employees, managers and teams. He described a study of the top quartile of good managers, reviewing their behavior to see what they did differently from less-effective managers. But the only way to truly measure the effect of a manager’s performance on his or her team, said Brock, would be to make people switch teams. Although normally that would be “cruel,” said Brock, Google provided a natural laboratory for the experiment, because Googlers, as a company policy, routinely switch jobs. So Brock was able to assess whether bad performers working for bad managers improved when they went to work for good ones, and vice versa. He compiled evidence that showed that “the actions that a manager takes actually have measurable, real consequences in terms of performance.... It was a beautiful, beautiful finding,” said Brock.

Other HR functions that are handled differently at Google include the well-known (and generally dreaded) annual performance evaluation. Google has a structure whereby employee development feedback is separated from performance feedback. Bock noted that this was instituted because when people receive feedback that they believe threatens their bonus or salary grade, they become defensive and stop listening. “We’ve all worked with people who are kind of struggling, and you go to them and say: ‘Hey, things aren’t going so well....’ [Then,] they devote all kinds of energy toward arguing, ‘My performance is fine — you, manager, just don’t get it.’” Then, said Bock, they spend two weeks documenting their performance themselves. And many managers’ typical response will be: “Oh, just take the bonus.” At Google, on the other hand, said Bock, “we want our managers to be open to developing people.... We do that by removing the performance stigma.”

Managers, too, are evaluated. At Google there are twice-yearly surveys in which employees give upward feedback. The organization has some unique transparency around the reporting of this, although Bock points out that it has limitations. He explained that if an executive has more than 100 direct reports, the survey is made openly available. But executives who have fewer reports get to choose whether or not to make the results public — a rule based on the idea that a manager’s low rating might have been caused by “a good purpose.” “If you have a manager whose ratings look really low ... she [might be] trying to make the team better. She’s being really tough, and firing people, and moving people around, [and that’s why] the team’s going to be unhappy.” Google doesn’t want everyone in the organization to assume this person is a terrible manager, said Bock, when she might be one of the best.

Bock noted that getting Google to allow him and his team to establish a robust human resources program has often been an uphill battle, even though he said he has “fought for performance management from day one.” He commented that Google is an engineering company, and as such there are some special challenges. “My brother’s an engineer, my dad’s an engineer, so I can say this,” he began. “[Engineers] are really good at one set of problems, and they’re really smart, and so they extrapolate that they’re good at all kinds of problems, and know better.”

In addition, he said, Google has a culture in which the employees — who are, of course, engineers — run the company. So Bock’s early attempts to introduce programs like talent management and succession planning were not well received. “Eric Schmidt [Google’s then-CEO] told me, ‘That’s all a waste of time; that’s a terrible idea,’ and I thought, ‘This is not going well.’” He said that the mechanism to finally achieve change was to start with small pilot experiments. “We did a small experiment on only 6,500 of our employees recently where we had around eight different systems running in parallel to figure out what worked the best.”

Bock stated that a company doesn’t have to be as big or profitable as Google to run some experiments from its HR department. He advised HR practitioners to “hire somebody with a quant background and a semester

or two of MBA-level statistics. That's all you need ... someone to be able to tell random variation from actual, cause-driven variation." He suggested HR professionals think of a problem that both matters to the business and is interesting to them, and examine performance differences between different categories of people. Then they could set up test situations. "Take two more groups — it doesn't matter if they're five-person groups or 500-person groups ... and say, 'We're going to treat them differently, and let's see what happens.'"

Bock observed: "All of our clients, all the people we work with and partner with, they all think they're really good at 'people stuff.' Because our [human] intuition is to think, 'I'm a keen judge of character; I of course, make fair decisions; I'm completely unbiased.' And we all make unfair decisions. We're all biased. So, whenever you can qualify what you're saying with these experiments is a way to get there and improve your credibility."