

**Future of ICT-Management:  
Innovative Leadership Competencies**

(Company X)



Bachelor's Thesis

Degree Programme in International Business

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#### TIIVISTELMÄ

Opinnäytetyön tarkoitus oli osoittaa ja esitellä, millaisia tieto- ja viestintäteknologian (ICT) tulevaisuuden innovatiivisen johtamisen ominaisuuksia tiedostetaan ja arvostetaan toimeksiantajayrityksessä (Yritys X)?

Tutkimuksessa etsittiin merkittäviä johtajuus- ja innovaatiokompetensseja käyttämällä kvantitatiivisia ja kvalitatiivisia tutkimusmenetelmiä. Erilaiset johtamisen ominaisuudet ja niiden tiedostaminen ovat tärkeitä liiketoiminnassa. Nämä ominaisuudet ja tekijät kehittävät tulevaisuuden johtamisen osaamista osana onnistuneita yritysprosesseja.

Yritys X:n eri tasojen ICT-johtajille tehtiin online-kysely, jonka avulla hankittiin tietoa kohderyhmän nykyisestä johtamistietämyksestä ja näkökantoja tulevaisuuden johtamisominaisuuksista.

Tutkimuksen tulosten avulla voidaan osoittaa useita ajankohtaisia ominaisuuksia, tekijöitä sekä tulevaisuuden johtamisen pätevyyden näkökantoja, joita Yritys X voi hyödyntää tulevaisuudessa. Tulosten mukaan innovatiivisessa johtamisessa tulisi korostaa avoimuuden, sopeutumisen, ulospäin suuntautumisen sekä kaavojen rikkomisen yhteisvaikutusta. Näiden ominaisuuksien onnistunut yhteisvaikutus osana ICT-liiketoimintaa takaa tulevaisuudessa parhaimman innovatiivisen johtamisen laadun.

**Avainsanat** tieto- ja viestintäteknikka (ICT), johtaminen, innovaatio, liiketoiminta, tulevaisuus, yhteisvaikutus

**Sivut** 39 sivua, joista liitteitä 5 sivua

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ABSTRACT

The purpose of the thesis was to present and introduce what kind of ICT-management and future innovative leadership competences are highly valued and appreciated in Company X.

The author created an online-survey, which was sent to specified recipients in Company X. The focus group was selected to include different level managers and leaders from Company X. The purpose of the specified and focused research group was to emphasize the most relevant knowledge, answers and fact based data from Company X's participants.

The thesis is researching relevant leadership and innovation competences using a mixture of quantitative- and qualitative research methods. The thesis emphasize different management and leadership competences, which are important factors in business environments. These factors in ICT-management support the overall awareness of future management and leadership. They also act as an important part of the development processes in the Company X's business strategies.

The thesis recommends several relevant competences and aspects for Company X to change their awareness towards better ICT-management and leadership. The most important leadership competences discovered by the research is to emphasize the overall synergies in the ICT-environment. These leadership competence synergies include a mixture of an open-minded team player, which possess adaptive, extrovert and ground breaking capabilities to generate better innovative value for the overall ICT-environment.

**Keywords** Information and Communication Technology (ICT), leadership, management, competences, synergy

**Pages** 39 pages including appendices 5 pages

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## 1 INTRODUCTION

Structural changes have been implemented and internal functions have been developed over the past decades to follow the strategy of different industrial efficiencies and competencies. As a part of the implementation of the strategy, businesses have been focused on more efficient utilisation of external resources and supplier networks, rather than using internal resources to develop innovative leadership competencies for the future. (Kaplan & Norton, 2006)

Business purposes and strategies can many times hold back future leaders especially in the Information Communication Technologies (ICT) environment. That being said, different businesses and strategies can also bring out new, not seen innovative talents in ICT-management. Sometimes leadership competencies and especially future competencies, can only be seen when business and ICT-environments are stretched to its fullest limits.

Each decision that different managers and leaders make, will lead and guide them down a unique path with different challenges and opportunities of their own. Leaders are usually hoping to have several significant business options and possibilities in the future. This could lead to a situation where they finally have the change and the opportunity to lead with their examples of future competences.

### 1.1 Purpose of this Thesis

Common appreciated management status in companies and overall leadership knowledge do not raise special questions in the companies themselves. Future leadership competences and innovative factors always require a systematic development of business environments. This also requires a particular management and leadership culture from the company itself.

The purpose of the thesis is to research and identify, which competencies can be identified to help Company X manage and better identify their future leaders in ICT-management. By doing this, the main objectives of this thesis is also to recognize these management and leadership attributes, which are important to create a competitive advantage in the overall business.

## 1.2 Company X

Extreme changes, measures and actions tend to bring the best out of ICT-leaders and managers. ICT-managers and leaders tend to enjoy these common exhausting times and learn from different situations many different and valuable competences for the future. Maybe the saying “some are a born leader” has some truth in the sentence. Different international and national businesses seem to be enjoying these extremist persons, which also can be called “Innovative future leaders of ICT-management”.

Company X is an international company, which has over 10000 employees over the world. Company X delivers daily needed products and materials to us for using in our daily routines. Company X is focused on domestic and international markets. Products and materials are being manufactured mainly for export usage. Company brand is valued highly all over the world.

The company’s organizational structure is hierarchical, which causes some challenges especially from the management and leadership side. When a company is quite big, also the amount of managers and leaders have increased rapidly throughout their history. The current situation is quite stable in ICT-functions, but changes are being made at a rapid pace. This can be also a good thing, because that shows a company’s decision making skills are up to date. Too many companies have delayed changes and decision making in their company. This has led to big problems in the history of technology and manufacturing involved companies.

An ICT-department including their leaders and manager, are highly valued people in the company. Technology and other ICT-functions support the production side, which causes a situation where Company X’s production facilities are highly dependent on their working ICT-environments.

ICT-management and leaders have a lot responsibilities and different cross-cultural involvements. This supports the importance of the overall ICT-environment development and raises a question for the future: “How can Company X better define and develop effectively their next generation leaders in the ICT-management?”

## 1.3 Research question

Good leadership at the present time and in the future will require more importantly certain “mind-setting” attitude. This especially includes reality thinking and unique behaviour, which can be characterised and related to different humanity aspects in business environments (Chapman, 2017).

The main research question is: “How can an organization better define and develop effectively their next generation leaders in ICT-management?”

## 1.4 Research method

The author uses different research orientations in this thesis. The research includes a mixture of quantitative- and qualitative research methods. Also, the thesis includes small features from literature reviews and field based research.

The main research method was a survey, which was conducted and created online. The online-survey was send to specified recipients inside the Company X. The focus group was selected carefully to include different level ICT-managers. By using this method, the author was able to emphasize the most relevant, fact-based data, knowledge and answers directly from the Company X's ICT-management.

Secondary research methods was used to gather relative and accurate information from the different sources including; (e)-books, articles, journals and websites.

Third research method rely on the authors own experiences. This research method provided an overall successful recapitulation for the thesis.

## 1.5 Thesis limitations

The author recognized that by involving managers and leaders from a quite big international company, could create some limitations. Especially time and availabilities are always a big issue with the ICT-management. Busy people don't necessary have the requested time for completing the author's thesis survey. Luckily, Company X leaders and managers gave some of their time to the author. Research was conducted with especially good answer rate of over 80-percent (%).

## 2 THESIS THEORY

Modern companies are working with developing their personnel's leadership skills, as part of a planned and long-term corporate strategies. Part of the work with strategies is the development of overall learning, developing and changes. As well as opportunities in accordance with the various internal and external training programs. Leaders and managers are encouraged to consider their own initiative knowledge development and their activities of the diverse career opportunities toward overall business purposes. ("NORDIG9 Evaluation & Learning/Leading development and change in knowledge-intensive organisations", 2017)



Knowledge is one part of the importance of a human capital, which can be measured in many different ways. Personal performance, goals and business productivity are the most important factors. Companies also use the return on investment (ROI)-measures on their managers. All of these factors requires a special goal-oriented knowledge, change and future leadership environment. These factors and features represents the most important competences, how companies will enhance their overall learning and positive atmosphere toward better management (Nickolas, 2017).

## 2.1 Leadership

The traditional and original way of thinking is creating universal concept of a leader. Usually leaders are being called the “directing chief” or a “head of person” at the top of a management hierarchy. Now days this is a very incomplete appreciation of present situation and what a true leadership can really be in the future (Chapman, 2017).

Author have realized that the ICT-businesses effective management and leadership, does not necessary require great deal of specified technical, educational or extra high intellectual capacity. These specified attributes might help when conducting their daily responsibilities, but these are not compulsory. Every people can reflect from their own working places to this situation. Purpose of this statement is not to subjugate no one. Author is simply pointing out that you really don’t need to be a “Mensa”-member in order to be a highly valuated leader in their own working environment.

Leadership is so much more than intelligence, education or simply just one specified thing. It’s usually a synergy of all the factors and competences that leaders can archive in their careers. Hard working, experience, innovation and determination are most common competences, which are highly valued when talking leadership.

## 2.2 Leadership and management

During the thesis writing process, the author have studied and researched many references, which all have stated different things about management and leadership.

One theory refers to individualism. Second toward strategies and others using creatively innovation. Because of some sort of information overload about leadership theories, the author have selected a specific model, which describes best ICT-management situations and targets in the Company X (table 1.).

	<b>Management</b>	<b>Leadership</b>
<b>Directions</b>	<i>Keeping focus on bottom line</i>	<i>Keeping focus on horizon</i>
<b>Alignment</b>	<i>Directing and creating boundaries</i>	<i>Creating values and reducing boundaries</i>
<b>Relationships</b>	<i>Task oriented guidance and boss</i>	<i>People oriented guidelines and persuader</i>
<b>Qualities</b>	<i>Organizational and problem resolving</i>	<i>Strategic and open minded innovative view</i>
<b>Outcomes</b>	<i>Stability</i>	<i>Change</i>

Table 1. Management / Leadership - Adopted from: Ryan, 2007, p. 2

Table 1, refers perfectly differences between management, leadership and their different relationships toward leading behaviour. Many of the sources refers the managers being some kind of a negative phenomenon. Also, describing the overall environmental awareness in businesses are always presented in a really wage way. The leadership, in other hand, is shown in a very positive way in many of a various business purposes and ICT-environments.

Researchers often argues about the leadership differences in a million different ways. Especially the ICT-leadership tend to raise difficult questions, which usually are not answered straight away.

Author named Richard Pascale have said that; “while managers think incrementally, leaders think radically”. The author recognizes that this saying summarize all the research and referencing findings quite effectively. These kind of sayings have helped the author to visualize different objectives and research themes. Path toward future innovative ICT-management leadership competences can be bumpy but overall rewarding.

### 2.3 Visionary leadership

Innovative leaders have a clear vision about things what he/she wants to achieve in the future. Different companies often use some kind of “mission statements” to visualize goals and different business strategies.

Leaders usually guide people to perform specific actions. Usually these are the best actions for overall business purposes. These are often used in companies for internal purposes. For example in sales, marketing or even in ICT-environments.

Future visionaries and unique leaders will possess these features and competences: (Cavusgil et al., 2016, pp. 321–326)

- Inspirational and organizational culture motivated
- Motivational and strategical
- Creative and value oriented
- Willingness to commit
- Passionate
- Guidance

When supporting these listed future leader values, the leaders can also emphasize different cross-cultural aspects. These aspects support the companies thinking toward highly skilfully and visionary management.

The companies without a visionary leaders are not suitable for international business (IB). The international businesses and markets requires an exceptional vision and an ultimate leadership competences. Usually these features separates companies from successful ones, to failure ones. The managers are usually focusing on different day-to-day actions. The leaders are focused on creating long-term visions, strategies and others means and ways to lead the company toward a better future. ICT-technologies will support always future actions and goals. Especially in company environments (Cavusgil et al., 2016, pp. 321–326).

## 2.4 Innovation

Innovation can be described in many different words, but the author's vision of innovation can be describe like this; "New idea, method or a process, which can be created or modified from a complex totality to a simple structured entity".

One word like "innovation" can raise a lot of feeling and different speculations among different researchers. Many authors and researchers have tried to explain word "innovation" with a technology or even by a science. The author have found the best description for the Company X's innovation leadership competence attitude; "pervasive attitude that allows organizations to see beyond the present and create a vision of the future" (Kettunen, Ilomäki, & Kalliokoski, 2008, pp. 30–31).

An innovative and creative people, are usually really structured persons. Usually they do not want to even know their future or even their ultimate goals. Moving toward the future and settings goals in different way, is the right way to use people's innovative thinking.

“Innovation” is a word, which is suffering from an overall lack of meaning and usage. So many matters are considered to be an “innovative matter”. This is how simple word can simply just lost it’s quite simple meaning. Authors and researchers have described this as a good and a bad thing (Kettunen et al., 2008, pp. 30–32).

- Good thing, as it is so popular that there are many views and opinions about innovation.
- Bad thing, because innovation is often mixed with improvements and development.

Usually only couple of things separates these two things from each other. These mentioned things are: (Kettunen et al., 2008, pp. 30–32)

- Benefits
- Novelties
- Uniqueness

Innovation is a tricky thing, which causes different kind of reactions in people and companies. Author have recognized that innovation have become even a burden in some of the companies. Few companies have even got in trouble, because the fixation toward innovation have become a bourdon for the whole business environment. Sometimes in business life it’s hard to see the forest behind the trees.

Sometimes when you’re focused on different means and purposes, you may lose the big picture of the overall core business. Simply by keeping a sharp perspective, you’re able to focus on important factors. But still you are able to handle the overall business functions well.

Innovation requires a lot of resources from the companies and businesses environments. That’s why it’s important that only the best people handle important innovation project’s and creations. When using the best possible team (A-Team) available, it’s possible to reduce not needed hassle around the companies and use overall resources in a more effective way. (Sloane, 2007, pp. 26–27).

Author recognizes that continues development and innovation reactiveness, requires also new perspectives and opinions. The main responsibility always need to lay on the “A-team”. Worst thing to do, is to delegate important innovation responsibilities to the people, which are not used to handle these kind of responsibilities.

#### 2.4.1 Innovation and research & development (R&D)

The companies need to be flexible and ICT-functions must support the competitiveness issues. To be able to create significant competence models

strategies and functions; ICT-environment must support the overall responsibilities of the company.



Table 2. Adopted from: Kettunen et al., 2008, pp. 34

Table 2 explains different levels, where innovation can be used with different strategies in companies. ICT-environment leaders benefit from these strategies (table 2.), because overall ICT-functions need visions and processes. Also that they are able to develop future ICT-management leadership competences.

Innovation and knowledge walk together; hand in hand. Many researchers have described management issues as a guideline for creativeness and overall capabilities in the ICT-business. Innovation also raises many questions, which are shown in the author's theory material and research results. The thesis is emphasizing, how Company X will point out innovation and develop different competences in ICT-environment.

When explaining innovation management and research & development (R&D), there is usually a really thin line between two matters. With a table 3, the author tries to clarify this matter better.

Money		
Innovation Management		Research and Development
Capabilities		

Table 3. Adopted from: Kettunen et al., 2008, pp. 39

Innovation management and R&D, are highly addicted to two matters; money and capabilities (table 3). Usually these two factors decide, which kind of strategies or processes will be involved in the ICT-management and for leadership competences. Companies have huge responsibility to guide their functions toward the future objectives. Table 3, clears visions about synergies. Depending on companies, different ways can be chosen. Still the business operations always relies on its own terms.

## 2.4.2 Innovation types

Innovation requires specified strategies, processes and scopes. These matters help the overall control of the technology and management aspects. Increasing innovation knowledge and different competences fulfil usually the company's future business competences and process needs. (Kettunen et al., 2008, pp. 42–44)

Innovative ICT-leaders and manager's don't just create different goals, but they are usually trying to create a new idea. Different methods or processes are means to reach the overall business goals. Sometimes, even before the ultimate goals are determent.

Researchers have studied and created a visual table, which acts as a hypo theoretical way of describing different innovation features. Especially when comparing different outcomes of "incremental vs radical innovation" in overall businesses (table 4).

<b>Variables</b>	<b>Type of innovation</b>	
	<i>Incremental</i>	<i>Radical</i>
<b>The Players</b> →	Members with clear competences  in business	Members with cross-functional view toward business competences
<b>Organizational Structures</b> →	Projects that uses team functions  to create business	Projects, which varieties and switch forms so that R&D competences reaches the ultimate business goals
<b>Resources and Competences</b> →	Processes helps with the overall handling of management formalities	Mixing external and internal resources to maximize overall business resources
<b>Business unit involvement</b> →	<u>Involment</u> from the beginning	"Need to know" <u>involment</u> and businesses should avoid <u>captiviness</u> for projects

Table 4. Adopted from: Kettunen et al., 2008, pp. 43

Table 4, gives some perspective for innovation solutions and different scenarios. The author recognize that some of the types and variables of innovations are straight from the Company X way of to handle variables. Keep in mind that innovative types and factors are needed, when conducting successful business.

Incremental innovation, is described in way where future companies and environments can be foreseeable as best to their knowledge. Modular competence for future leaders can be described, so that the future ICT-leaders needs different modular parts to handle the whole picture.

It's easy to get lost in an innovation processes or in companies fancy goals, but still the modular thinking helps with the overall environmental control (Kettunen et al., 2008, pp. 35).

### 2.4.3 Innovative leaders of the future

Future innovative leaders can be described as "Millennials". This group of leaders are the most amphibious and educated group of persons of our century. Millennials will lead us toward future challenges. Millennials as a term can be simplified by telling that they are people's, whom are born just before 21th century. This group of persons are used to succeed and their business thinking is highly filled with a different technological aspects (Cavusgil, Riesenberger, & Knight, 2016, pp. 23–26).

These are the persons who really can use the available technology to their advantage. These future leaders has increased innovation and learning significantly around different leaders, which also can be adopted toward the ICT-technologies and businesses. Education, high motivation and goals toward different achievements, are the most common and recognized values to Millennials (Cavusgil, Riesenberger, & Knight, 2016, pp. 23–26).

Our future leaders are people who have experienced the technological breakthroughs and newest social media plays a big part of their everyday life. Millennials values highly visual, collaborative and relevant learning. Digital platforms and different applications don't create problems. Rather these aspects help the future leaders to adopt better to their new situation, company and environment. Millennials are important part of our future working habits. These kinds of situations can divide or they can create new innovative situations in the companies (Cavusgil, Riesenberger, & Knight, 2016, pp. 23–26).

In Company X this kind of cultural breakthroughs are "slowly raising their head". This can be seen in managers and leader's new positions. Also new kind of responsibilities in working environment are being developed all the time.

Different innovative leaders of the future can be categorized in different ways. Table 5, describes features of different leaders and their special competences, features and capabilities.

<p><b>Global leaders</b></p> <ul style="list-style-type: none"> <li>• Attract global talent, operate across boundaries, meet diverse customer needs</li> <li>• Require global perspective, <b>cultural agility</b>, self-awareness, openness, and flexibility</li> <li>• Depend on their capable, self-directed teams</li> </ul>	<p><b>Innovation leaders</b></p> <ul style="list-style-type: none"> <li>• View problems as challenges to be overcome</li> <li>• Use technology for new products/services</li> <li>• Work hard to stay in front of trends by creating new markets</li> <li>• <b>Open to diverse points of view</b></li> </ul>
<p><b>Change leaders</b></p> <ul style="list-style-type: none"> <li>• Pivot the organization in anticipation of or in response to market changes</li> <li>• Swiftly change the business model and lead competitors because of adaptability and foresight</li> <li>• <b>Master the ability to inspire and motivate people in a dynamic environment with unprecedented diverse teams</b></li> </ul>	<p><b>Growth leaders</b></p> <ul style="list-style-type: none"> <li>• Thrive in new, complex, and crowded business environments</li> <li>• See and understand how to reach, design for, and <b>serve traditionally underrepresented consumers and clients</b></li> <li>• Grow business under difficult circumstances that may involve a lack of resources, fierce competition, or razor-thin margins</li> </ul>

Table 5. Different leaders for future ("The inclusive leader", 2017)

No matter what the future leadership categories brings, some basic values are always appreciated. These values are common also for ICT-management leaders in the ICT-environments. These values are (Cavusgil, Riesenberger, & Knight, 2016):

- Communication
- Background understanding
- Analytical skills and understanding
- Reflective thinking
- Multicultural mind-set
- Global vision toward economy and technology
- Able to bring meaningful content

## 2.5 Change management

In modern environments personnel always have to trust in their leaders and their overall management skills. Changes, developments and transitions must be handled smoothly and organized.

Change management can be referred as a "bomb", which can be triggered in every function and set off whenever companies are ready for it. After detonation these "change-pieces" can then be picked up and start to



build/form new changed environment. The change processes (table 6) supports future and business benefits with help of the overall businesses.

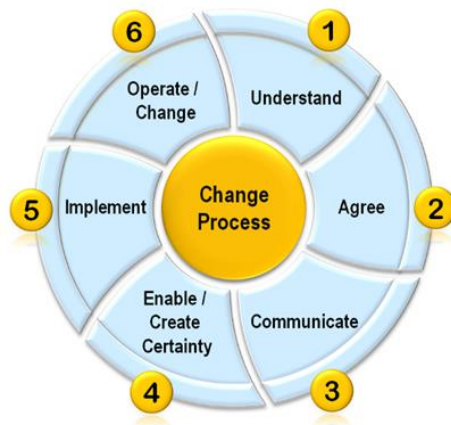


Table 6. Change process ("Change Management | WesternacherAGT", 2017)

Table 6, purpose is to shown change management processes, which needs to be evaluated when change management process is planned. Especially change process is needed after change management has been initialized.

The change management has always been a sensitive subject, because everybody dislikes not needed changes in environments. Especially in ICT-environment, which has several human resource management (HRM) - factors involved. But without major changes in the ICT-environment, there can be no real profitable progress. Creasing level of development and possibilities can gain competitive advantage in overall business (Nicholson, 2003).

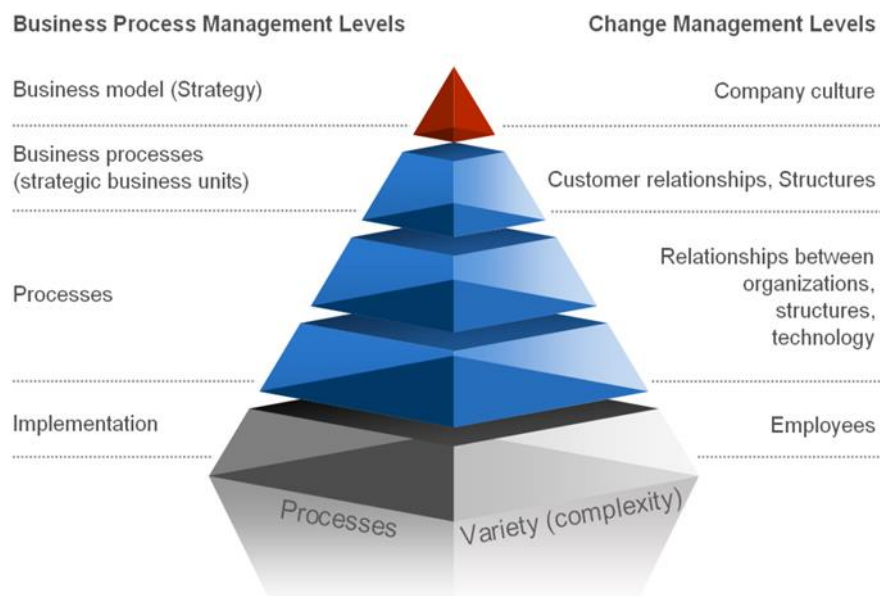


Table 7. Change Management level pyramid ("Change Management | WesternacherAGT", 2017)

When talking about change management, it's different matter than development. Usually these two thing are somehow mixed and usually creates confusing situations especially with ICT-environments. Table 7, describes different levels of the change management and business management processes development. These levels shows, how companies needs to consider different aspect when processing change management project and processes. Table 5, shows different complexity aspects and ways to understand this connectivity processes. Better understanding can help companies to reduce severe pushbacks in their strategies.

Many businesses, organizations and companies have always search for ways to develop. Change management with different flexible and innovative processes, carries overall ICT-environment toward better future. Different author's describe, that change management can be a mean for companies and ICT-management to give responsibilities for all of those who have a really keen interest about future of a business environment.

Companies and businesses must keep in mind, that change management is not often seen in a positive or even in a good way. Some people see that this kind of management movement and change, is a sign of unclear future and uncomfortable business situation. This is a factor, which no one likes. Especially when changes are revolving the overall business environment. Too many people refers matters too much from "the good old times". This is clearly blocking future of change management developments. Unclear situations create also an overall management block in the businesses management and leadership environments in companies.

## 2.6 Human resource management (HRM)

Companies should all consider and involve basic HRM-functions, when thinking about the future of ICT-management with evaluation of different innovative leadership competencies.

The Company X have realized that communication is one of the most important aspect of their working environment culture. It doesn't matter if you are communicating with your co-workers, clients, managers or customers. You simply need to be an excellent communicator with ability to know how to talk with people.

There are a lot of benefits, that you are able to maintain good communication skills in the ICT-environment. ICT-related fields are often referred as a very "geeky" kind of working places. Contract to the overall expectations, "geeks" can talk and communicate even better than "normal" employee to their colleagues and partners. It is important that everyone realize, that good communication always increases the overall productivity with different future leadership competencies.

The HRM– services and functions must be developed all the time so that the whole company and individuals can provide cost effective solutions and services for overall business purposes. This kind of HRM- development requires daily contacts, where trust and communication are the key feature (Mulyanyuma, 2015).

When information and thoughts are being shared, this will automatically provide different opportunities and better challenges for everybody who is involved in the ICT-services and functions. In the Company X environmental communication with trust, high morale and development are the main functions, which everyone are emphasizing. To be able to manage and lead the ICT-functions, all of these previously mentioned competences are really in an important role.

Good relationship is the key for all different product ranges and for providing unique services to the customer. Once someone starts to underestimate communication value and purpose from the ICT-managers with leaders, this is a point where someone has gone in the wrong way. Only way to get back in track, is to change the environmental way of thinking and start to realize that social get together is an important factor in overall ICT-environments.

#### 2.6.1 Information overload

In the business life, there can be seen leadership competences in many ways. All the researchers emphasize meaning of information, but lately the information overload has become more valid feature than ever. Especially in the ICT-business. Different information is available and can be search through in a million ways from various sources. This has become a well-known dark-side for all of those who are working close to the information technology communication (ICT-) environment.

To be able to understand the information overload, people must keep in mind, that there is ways to ease the burden of the information overload. Companies and the organizations plays a big part of this puzzle. Companies need to recognize, that people's availability and readiness for the business purposes need to strict and create productivity phases toward healthier norms. Resolving and adapting to this situation has become the biggest challenges for future leaders and managers in 21st-century (Dean & Webb, 2011).

### 2.6.2 Multitasking

Part of the information overload is multitasking. This feature is very highly appreciated among the management and leaders in ICT-environment. Although the feature is valued, it has a negative side also. "A body of scientific evidence demonstrates fairly conclusively that multitasking makes human beings less productive, less creative, and less able to make good decisions. If we want to be effective leaders, we need to stop." (Dean & Webb, 2011)

There has been many published researches from multitasking. Part of the human nature is believing, that people can do several tasks simultaneous, which helps us achieving better the business productivity with better results. But like many other things, this matter has also its down sides. Multitasking has even proven to unequivocally restrict productivity and creativeness. The thesis references even quote this matter like this - "Multitasking is not heroic; it's counterproductive".

Let's face the facts, we are humans. Our nature dictate some of our basic features. But people must keep in mind that there is easier approach toward creativity, morale and better business results. The leaders and managers simple must start thinking new habits, which will overstrike these old ones. Only way to overcome the information overload in productively matter is to create environmental changes toward better future leaders in ICT-management (Dean & Webb, 2011).

### 2.6.3 Self-discipline

Important part of the information overload is understanding and creating awareness with self-discipline. People are struckling with the time, filters and overall focus. All of these matters are heavily suffering from the information overload, when people are supposed to do their work more efficiently and productively. This will ultimately lead to situation, which is not good for the management environment (Dean & Webb, 2011).

## 2.7 **Competitive advantage**

Many businesses and organizations are relaying on different aspects of profit making. The ICT-functions generates possibilities for organizations to proceed with their business strategies toward profit and better process handling. The Company X is relying on the competitive advantage and overall leadership competences with world-class products.

The competitive advantage, profit and cost-efficiency are extremely important factors in core businesses. These factors brings the most benefits with the competitive advantage between arrival business functions and services.

Companies have realized that the ICT-environment and different businesses want to be stable and demanding. But at the same time, fair and loyal to its most common users. Of course you have to keep in mind that different departments are acting differently depending on the field of the core business. The Company X provides always elements of new functions and services mixed together. This provides a wider supporting role and gathers the profits from their efforts.

Weight of the profit handling in the ICT-functions, are increasing when reflecting on today's financial aspects in the businesses. The profit and money are facts, which tend to arise a lot of questions and debates. But the fact is, that there won't be any future developing to think about without overall changes in the ICT-businesses.

## 2.8 Future of leadership management

Key issue in the future management, is to implement successful processes toward the future leaders, which are always depended to have strong support from the highest organizational level. Without that kind of support, understanding and visions toward different processes will not work as a part of the business competences in ICT-management.

Top-level management have a huge role in introducing and implementing the processes to different business levels and environments. When top-level management have a vision, this usually helps the managers and leaders to cope with different development processes of management changes and changing the business strategies in different functions according to these leadership visions.

When the companies are providing different services, we must know always our own prize. When we are involved in the IB's, we really must give our absolute best working effort and time in a relatively good prize. We Finnish tend to lower our leadership prizes toward our self-esteem. Simply, if we want to make a decent salary with our competences and services, we must appreciate our own value as a future leader. Sometimes the best profit from managers and leaders competencies comes simply from a better self-esteem and better knowledge of required businesses in the ICT-environment.

One factor, which has developed lately are the ICT-leadership roles. The ICT-roles of the businesses are getting complicated and more complex. Now day's when you are dealing with the ICT-functions, there is always a certain need for different experts. Reliability and development are the key factors in the ICT-roles, which influence the selection of the future management factors. The company X don't difference from this at all.

## 2.9 Communication and networking

Communication and networking are more difficult matters than anyone can realize. All depends on the services and models, that businesses are focused on. The author's personal business field represents information service business, where a personal communication is the key factor. To be able to agree different matters face-to-face, is more important than many of the companies are willingly to realize. Many of the similar industry service providers are using different virtual technologies, but it is not just the same thing.

Traditional Leadership	Network Leadership
Uses corporate hierarchy to exert control and influence	Uses the network and personal vision to exert leadership and influence
Engages primarily with executive peers	Engages at every level, including outside the organization
Creates professional relationships of expediency	Cultivates enduring network relationships
Establishes trust primarily through titles and prior accomplishments of subordinates	Inspires trust through transparency, communication, and pro-active engagement
Controls information flow to maintain power	Employs authentic conversation and sharing of knowledge to create influence
Changes the organization to fit leadership and work style	Adapts to the style of the network and local digital communities
Pushes communication to the organization	Uses the network to spread new ideas and to co-create improvements together
Attempts to control how work is done	Lets the network do the work
Learns from knowledge hoards and peers	Learns from the entire network

Table 8. Leadership comparison (Hinchcliffe, 2017)

Table 8, describes differences when comparisons are being made between traditional and network leadership competences. In this reference companies are being divided in two ways. Some prefer more traditional leadership approach, which support the human related leadership aspects and controlled business environments. Those who are supporting the network leadership approach, them are more technique and technology oriented businesses.

Author have recognized many businesses, which uses successfully both of these leadership competences and features. The leadership comparison (table 8) is providing different ways, means and examples, how these competences can be used in various purposes. When the companies are trying to figure what to do next, these examples lead the way toward a better understanding between traditional oriented leadership and communication networking.

If you want to build strong customer- services, -impacts and -relationships, personal contact is the most efficient way to involve different business services. Too many times author have seen these "middle mans", which don't help with the communication matter at all. When properly running service with its challenges are investigated and recycled through different vendors, it just don't work.

Like said, different customers like different communication methods. You might not like it in many of the times, but simply you have no choice. To be able to communicate and run the services, everybody must step back sometimes (Chapman, 2017).

### 2.10 Challenges

Failure - the most common fear of the humans. The leaders usually fear making a fool out of them self and also they might fear not able to live up to works environmental high norms, expectations, processes or unusual standards. Usually we have no idea where to begin to deal with this common fear. Some people handle fear as a positive resource and others just simply stuck where they are. The company culture dictates too often much of innovation, leadership and management improvements (Sloane, 2007, p. 149, 185).

There is nothing confusing than a leader, which will froze in an important moment. All of us probably have a few barriers that are standing in our way and preventing us from daring our self to new levels of greatness and leadership. Different barriers and fears, though them are imaginary obstacles, they seem very realistic in the moment we experience them (Lichtenwalner, 2012).

The author have recognized that cultural communications and environments are highly less appreciated that they should be. What people must realize is that, whenever we find our self-resisting anything during an innovative process, know that it's only fear talking, not realism.

Great person and an author named "Helen Keller" have stated - "The hilltop hour would not be half so wonderful, if there were no dark valleys to traverse".

## 3 RESEARCH AND ANALYSIS

Author's attitude toward working is long-termed, spontaneous, active, accurate, international and cooperative. Different interaction skills with other people are considered to be excellent. The author can also work with many kind of different peoples from different multicultural environments. Heavily skilled, educational, positive and business oriented leadership attitude, has also been praised by all of the author's partners that he have been working with.

Following short description text included important competences for the future ICT-managements innovative leader. Point of this is not brag with the author's best features, but simply point out different competences that can be recognized from the future innovative leader in the ICT-management. These mentioned competences are highly valued in the research, which was conducted in Company X.

### 3.1 Online-survey

Purpose of the survey was to get answers from the Company X's ICT-managers and leaders for the thesis research question. The research question, which is part of thesis objectives were: "how organization can better define and develop effectively their next generation leaders in ICT-management?"

The survey was conducted and created online:  
(<https://www.kyselynetti.com/s/fc8b9eb>)

The survey link and pre-words were send (appendix 1) to Company X's - participants. Persons who finished and participated in the survey, was total of 15 people. Altogether the link was send to 18 people, which makes response average over 80-percent (%). This was an excellent response rate in author's opinion. Such good response rate gave opportunity to this thesis to analyse the research with good, valuable and reliable research data.

#### 3.1.1 Question 1

The author started survey for Company X participants with a question related to the participant's gender (table 9). Total participant to the survey was all together 15 people; 13 male and 2 female. Original participants invited to complete the survey were 18, which included 4 female and 14 male.

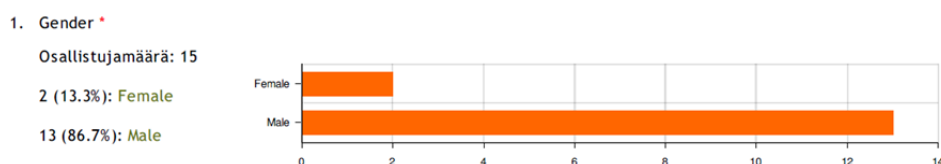


Table 9. Selection to the survey question "Gender"

Purpose of the question 1, was to research the gender variation of participants in ICT-leadership and management. The research reveals that the Company X gender variation among participants is highly predominantly male oriented. Still it was really important to get a female perspective part of the overall data analysis.



The male oriented answering rate was a expect result, when consider the gender difference of the overall participants. Research result reflects also slightly on, how the ICT-manager and leader positions are divided in most of the ICT-environments in companies. Luckily more female managers and leaders are coming to involve the future business related ICT-functions.

### 3.1.2 Question 2

The question number two was age related. The participants answered their age with preselected age range specified by the author. Age categories were; 25-34, 35-45 and 45-63 years old.

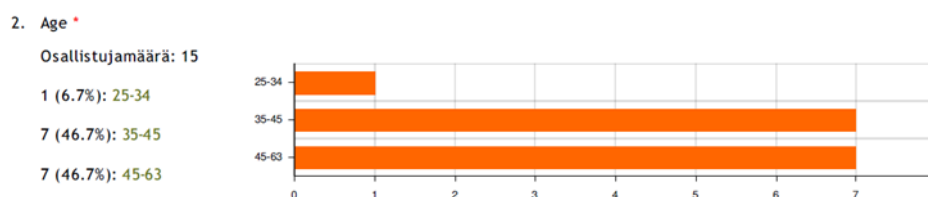


Table 10. Selection for the survey question “Age”

Purpose of the question was to gather information about age differences between participants in Company X. Age range varieties quite nicely, so that all the categorizes got representatives. From research point of view, it’s important to get experienced leader participants as well younger managers.

### 3.1.3 Question 3

Innovative visions and future goals for leaders are important for the ICT-management. This why it’s important to research, how companies are taking advantage these important features and competences.

The author created question number 3 (table 11), so that the author can receive whole picture of, how the Company X is setting their individual goals. Are there developing competences in Company X individual goals or does the company set all of the goals for the ICT-management?

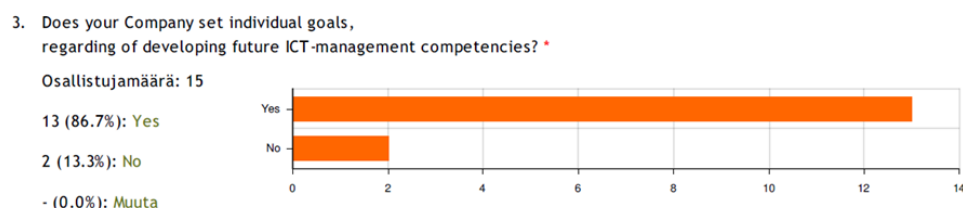


Table 11. Selection for the survey question “Does your Company set individual goals regarding of developing future ICT-management competencies”

- 86,7 % (13/15) of the participants answered that Company X is settings all the individual goals for the future ICT-management competences.
- 13,3 % (2/15) feels that Company X is not settings any individual goals for the ICT-management competences.

The research data reveals important factor, which describes that individual ICT-management competences are highly set from the company side. Research analysis revealed a very typical answer in the company, which use a hierarchical structure in the management and leadership portals. Company X relays heavily on their standards and processes, which support individual competence development in the ICT-management.

#### 3.1.4 Question 4

The current trend in companies is to outsource different functions, departments and even personnel. This kind of trend tells a certain kind of story of the companies’ willingness to invest away from their own resources. The outside resources are often seen as a best option for the companies to develop their own functions and resources.

The author understands that the company need to relay to an outsourcing partners in many cases. Still too often for example: leader personnel, is hired from outside of the company. Many of the similar cases contains equal candidates that would have been hired internally. Still the external selection have been made.

Question 4 (table 12), the author asked important factor, which is related to hiring, outsourcing and the company’s usage of internal leader competences. The participants were asked to give answer to this question: “Would hiring outside leaders; increase the future management and leadership competences in your Company”.

#### 4. Would hiring outside leaders; increase future management and leadership competences in your Company? \*

Osallistujamäärä: 15

7 (46.7%): Yes

8 (53.3%): No

3 (20.0%): Muuta

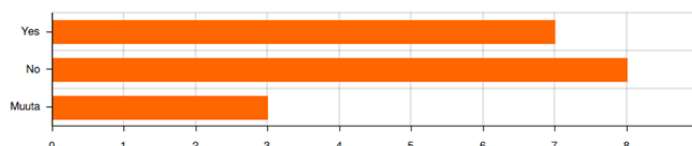


Table 12. Selection for the survey question “Would hiring outside leaders; increase the future management and leadership competences in your Company”

- 46,7 % (7/15) of the participants answered, that hiring an outside leader will increase the future management and leadership competences in Company X.
- 53,3 % (8/15) answered, that an outside leader don't bring any value for the future management and leadership competences in Company X.
- 20% (3/15) of all of the participants wanted to give extra information for their answer. Three participants explained their answer with following clarifications:
  - Young organization - hiring from outside is self-evident.
  - Company's core management and leadership layers are handled internally.
  - Consultancy services in some parts are fine.
  - Relevant information comes always from internally.
  - Benchmarking relevant competences outside can improve usage of own internal competences.

When analysing researched data the author discovered, that this question divides participants quite evenly in the Company X. The author assumes from the answers that participant's don't oppose the option of hiring external (outside) leaders. Still it needs to be evaluated carefully and internally before implementing any hiring actions.

The Company X have long working careers with their leaders, which describes the company's' high value on their own internal competences, effectiveness and development in the ICT-management environment.

### 3.1.5 Question 5

Different relevance issues in the ICT-leadership were important to research for the thesis in the Company X. This is why the author created question number 5, how company's development toward leadership are being felt by the participants.

The participants were asked to evaluate their future personal developing aspects; are they being individually developed or does the business needs highlight all of the future development aspects (table 13)?

## 5. Choose which is more relevant in your Company?

1. Future ICT-leadership needs are being developed individually
2. Company is highlighting future ICT-leadership needs accordingly to business needs \*

Osallistujamäärä: 15

1 (6.7%): 1. Individually

14 (93.3%): 2. Company

1 (6.7%): Muuta

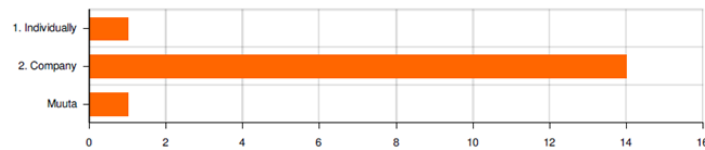


Table 13. Selection for the survey question “Choose which is more relevant in your Company”

- 6,7 % (1/15) answered, that Company X is developing the future ICT-leadership competences individually.
- 93,3 % (14/15) participants thought, that Company X is highlighting the future ICT-leadership needs accordingly to business needs.
- 6,7% (1/15) wanted to clarify his/her answer. The participant pointed out, that the ICT-functions are just one part of the business functions. Mainly the ICT-department is serving the business in Company X, which creates that the leadership cannot simply being developed from the individual point of view.

The research analysis reveals that the Company X need to come simply first. Individual development is still important, but the business functions and strategies lead the way. The author have realised, that the Company X is being developing their leadership competences through their core business. Many companies can relate to this strategy, because the author knows that other companies are being acting in similar ways.

### 3.1.6 Question 6

Describing the future innovative ICT-management leader can be tricky question in different companies. The author wanted to know from the participants, what kind of features and personalities they see in the future ICT-leaders. The author preselected different variables, which were used in this question (table 14).

The participants needed to select from the list these features/personalities (table 14):

- Perceiver (Keeps options open. Values spontaneously and flexible plans)
- Imaging (Weigh pros and cons. Values honesty and fairness)
- Intuitive (Focus on big picture. Values creating solutions and innovations)
- Sensor (Realistic and focus on facts. Values details and practicality)

Also participants was asked to give numeral evaluation from 1 to 4. Where number 1 is the least relevant and 4 being the most relevant feature/personality.

6. Which features / personalities do you value highly in future ICT-leaders? \*

Osallistujamäärä: 15

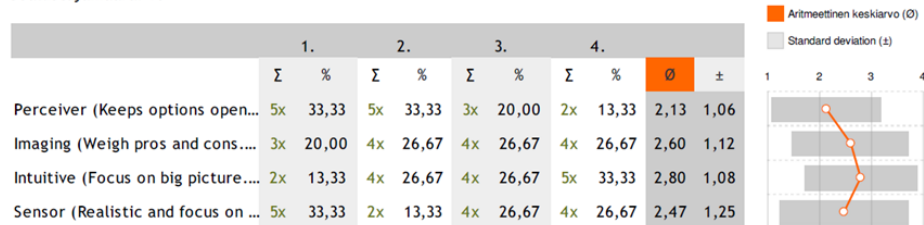


Table 14. Selection for the survey question “Which features / personalities do you value highly in a future ICT-leaders”

From the research data (Company X) the author was able to create valid analysis, which present different deviations, competences and relevancies between participant’s answers.

- Perceiver: The participants evaluated, that perceiver is a feature which seems to be quite relevant. Spontaneously and flexible planning persons received average value of 2,13 (+/- 1,06 standard deviation). All in all perceiver was the feature, which was least valued among the participants in the Company X.
- Imaging: A person who values and weights pros and cons received average value of 2,60 (+/- 1,12 standard deviation). Honesty and fairness gain the second best score in overall features, which are highly valued in the Company X.
- Intuitive: A person who are creating solutions and innovations gained average value of 2,80 (+/- 1,08 standard deviation). Seems that being able to focus on the big picture is highly valued in the Company X. Intuitive received the best values of the scores.
- Sensor: The participants valued realistic and fact based ICT-leader. The future ICT-leader who values details and practicality, received value of 2,47 (+/- 1,25 standard deviation). Competence was third highly valued feature in the overall scores.

The Company X participants answered to the question quite lightly. The author would have thought that some of the features could have stand out from the crowd. Seem that the participant’s didn’t value these features as obvious choices.

The research data reveals that the Company X is valuing features, which are common mixtures of all of these question choices. The author created opinion, that being able to value highly the ICT-leader features, there should not be only one specific feature or personality. Combination, innovation and learning are the key words in the future leaders. When you are able find leader, which uses all of these features and personalities, you have found your future ICT-leader. Different companies are looking actively this kind of employee for them.

### 3.1.7 Question 7

Purpose of the question 7, was to ask The Company X participants opinions on importance and features of the future ICT-leaders.

The participants received two choices and they had to select from the line, which of the choices is more relevant than other (Questions 7-11).

The choices for the question 7, were “Innovative leadership or Leadership for innovation”. Participants answered, that “Leadership for innovation” is bit more important than “Innovative leadership”- average value was 56.00 (+/- 24,14 standard deviation, +/- 20,27 average absolute deviation).

7. Select your opinion.  
Which is more important?  
Which feature describes future ICT-leader? \*

Osallistujamäärä: 15

0 = Innovative Leadership  
100 = Leadership for Innovation

Aritmeettinen keskiarvo: 56,00

Keskimääräinen absoluuttinen poikkeama: 20,27

Standard deviation: 24,14

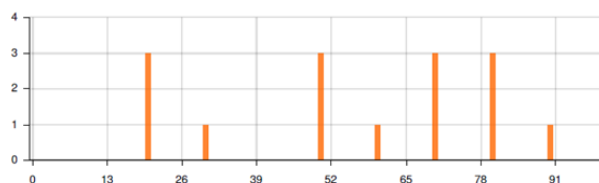


Table 15. Selection for the survey question “Select your opinion - Leadership”

When analysing research data, the author discovered that question 7 divided the participants quite evenly in the Company X. The author assumes from the answers, that the participant’s values both of the choices equally. Both of the features are important and both of them are valued and recognized in the future ICT-leaders.

### 3.1.8 Question 8

The choices for question 8, were choosing between “Extrovert and Introvert”. The ICT-leaders and managers valued more “extrovert-leader” than “introvert-leader”. There were some deviation in the overall scores, but quite big amount of the participants valued a leader, which can talk and express them self-better in a working environment.

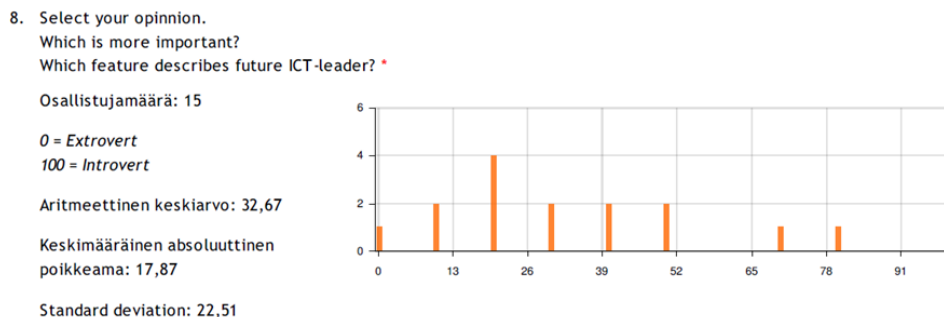


Table 16. Selection for the survey question “Select your opinion – Introvert/Extrovert”

“Extrovert” - gained average score was 32,67 (+/- 22,51 standard deviation, +/- 17,87 average absolute deviation).

### 3.1.9 Question 9

The choices for question 9, were choosing between “Business thinking and Innovative thinking”. The Company X participants answered so that “business thinking” is more valued than “innovative thinking”. When related to the Company X previous answers, this didn’t come as a surprise to the author.

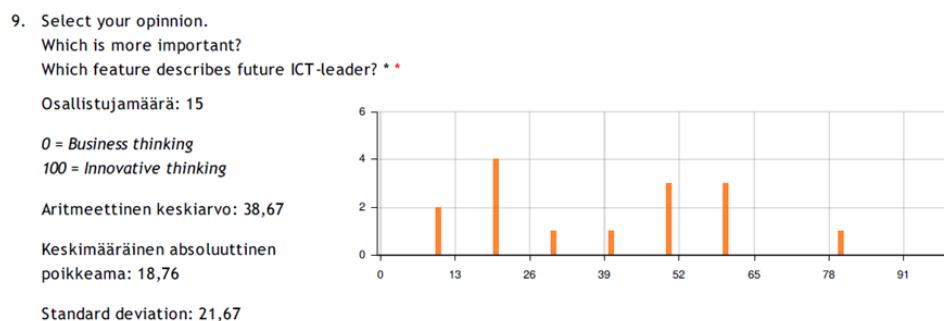


Table 17. Selection for the survey question “Select your opinion - Thinking”

“Business thinking” - gained average value was 38,67 (+/- 21,67 standard deviation, +/- 18,76 average absolute deviation).

The research data reveals that “business thinking” is more obvious choice for the Company X ICT-managers and leaders. The Company X participant’s reveals in their answers, that the core business thinking has been taught to the managers and leaders very well. The participants emphasize business loyalty, but they knowledge also the fact, that innovation is part of the future leader’s competence feature.

### 3.1.10 Question 10

The choices for question 10, were choosing between “thinker and feeler”. The participants recognized that thinker is more obvious choice for the future ICT-leader.

The research data shows that thinker is highly valued feature of the future ICT-leader. The purpose of this question was to make the participant think about normal feelings and observations toward leaders. This is quite personal question, but gives a good reference on, what kind of competences leaders are appreciating and looking for in future ICT-leaders.

”Thinker” - gained average score was 30,00 (+/- 14,14 standard deviation, +/- 10,67 average absolute deviation).

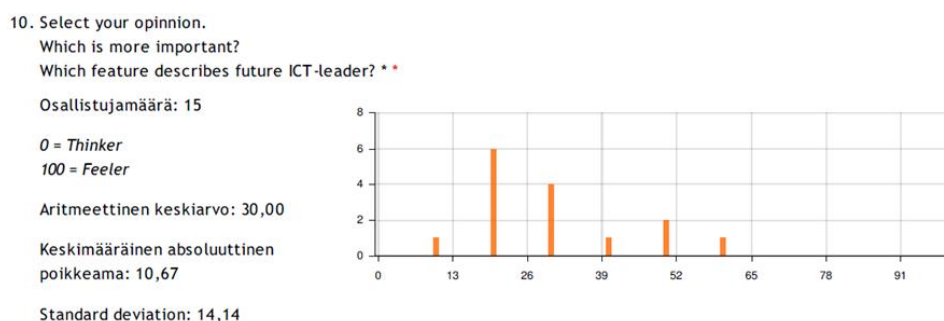


Table 18. Selection for the survey question “Select your opinion - Feelings”

### 3.1.11 Question 11

Different relevance factors were important research objectives in Company X. The question 11, wanted participants to choose between “Judge and Perceiver”. The participants recognized that perceiver is better feature for the future ICT-leader.

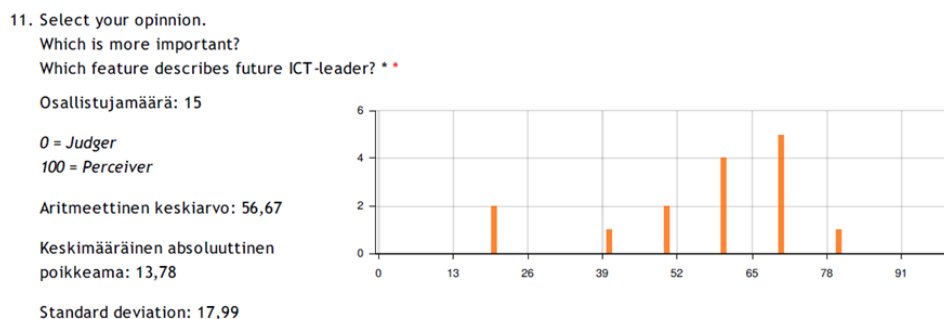


Table 19. Selection for the survey question “Select your opinion - Character”



”Perceiver” - gained average value of 56, 67 (+/- 17,99 standard deviation, +/- 13,78 average absolute deviation).

The question 11, brought a quite big surprise for the author. The author thought that “perceiver” will win by clear numbers. Still the research data shows that there are quite big support for “judger” also. The author searched research data and make a conclusion that future ICT-leaders needs a good perceiver attitude. In the same time, a little bit judging and questioning keeps everyone in focus with the core business.

### 3.1.12 Question 12

When describing a future innovative ICT-management leader many features can surface. The author wanted to know from the participants, what kind of features can support the ICT-management development in the Company X. The author have preselected different features and importance levels, which were used in this online-survey number 12 (table 20).

12. How these features support innovative leadership in ICT-Management (Accordingly to your opinion) \*

Osallistujamäärä: 15

	Dont matter at all (1)		Small relevance (2)		Dont know (3)		Important (4)		Significant relevance (5)		Ø	±
	Σ	%	Σ	%	Σ	%	Σ	%	Σ	%		
Organizational encourag...	-	-	3x	20,00	-	-	9x	60,00	3x	20,00	3,80	1,01
Leadership encourageme..	-	-	-	-	-	-	13x	86,67	2x	13,33	4,13	0,35
Teamwork and collabora...	-	-	-	-	-	-	7x	46,67	8x	53,33	4,53	0,52

Table 20. Selection for the survey question “How these features support innovative leadership in ICT-management”

From the thesis research data, the author was able to create a solid analyse, which shows a relevance and highly valued factors accordingly to the participants.

”Organizational encouragement”, received average score of 3,80 % (+/- 1,01 standard deviation). Value that describes this average score were near value “Important”.

- Three participants (20%) answered, that “organizational encouragement” have small difference in supporting leadership features in the Company X.
- Nine participants (60%) thought, that “organizational encouragement” was an important factor
- Three participants (20%) thought, that “organizational encouragement” creates a significant factor for the Company X to support innovative leadership in ICT –Management.

“Leadership encouragement”, received average score of 4,13 % (+/- 0,35 standard deviation). Value that describes this average score was a strong “Important” feature.

- Thirteen participants (86,67%) thought, that “leadership encouragement” was a solid and highly valued feature.
- Two participants (13,33%) thought, that “leadership encouragement”, was a significant factor for the Company X.

“Teamwork and collaboration”, received average score of 4,53 % (+/- 0,52 standard deviation). Value that describes this average score was a solid “Significant feature”.

- Seven participants (46,67%) thought, that “teamwork and collaboration”, was highly recognised feature in the Company X.
- Two participants (53,33%) thought that “teamwork and collaboration”, creates a significant factor for the Company X.

The participants clearly stated that all the features, which support the innovative leadership in ICT–management, are “organizational encouragement”, “leadership encouragement” and “teamwork and collaboration”. All asked survey features was highly valued by the participants from the Company X. Especially features that relates to encouragement, teamwork and collaboration.

The research data states that all of the participants recognize these familiar features being part of the Company X environment. The author recognize that significant values was highlighted in question 12, which supports the overall research data evaluated so far. The Company X clearly uses innovative leadership in the ICT-management by emphasizing encouragement and business related effective collaboration.

### 3.1.13 Question 13

Purpose of the question 13, was to get the participants thinking about concrete factors, which competences are important for the future innovative ICT-management leaders. Question 13, is first part of self-thinking questions. First part was focusing on “How to identify and develop next generation of ICT-leaders” (table 21).

All of the participants wrote their own opinion in short sentences. The author have summarized all of the answers to support the findings for the thesis research question.

13. Think of these two questions and answer in few sentences.

- What do you think about this matters?
- What comes in your mind?

Question 1:

- How to identify and develop next generation of ICT-leaders? \*

Osallistujamäärä: 15

Table 21. Selection for the survey question “Select your opinion – How to identify and develop next generation of ICT-leaders”

15 participants answered these factors as “the” most important factors, which support ways to identify and develop leadership competences in the future;

- Openness and courage for development
- Open minded in two ways;
  - o How to lead and work with organization
  - o How to obtain knowledge how ICT is developing
- Right kind of mind-set for right kind of leadership.
- More responsibility and support him/her to more challenged tasks.
- Creating education and management career
- “Out-of-the-box” thinking.
- Active, courage brave people who can provide concrete value / outputs.
- Lack of technical and business competencies can be developed by focused training
- Need to have an experience from the overall operations.
- Active career opportunities at the Company, job rotation in every 3-5 years.
- Continues improvement planning & benchmarking

#### 3.1.14 Question 14

Second part of self-thinking online-survey question 14, was focused to identify and recognize ways to “Describe innovative leadership competences in future ICT-management” (table 22).

14. Question 2:

- Describe innovative leadership competences in future ICT-Management? \*

Osallistujamäärä: 15

Table 22. Selection for the survey question “Describe innovative leadership competences in future ICT-management”

Online-survey participants were able to describe some kind of competences about future leadership in the ICT-management. Not all the participants answered this part (blank answers were given), but the overall research data is solid, comprehensive and consider wide perspective about future competences, which are needed for the ICT-management leadership.

These competences participants were able to point out;

- Open minded
- Agile
- Rapid decision making skills
- Honesty
- Team worker
- Keeping open minded mode and looking after the possibilities.
- Thinking business continuity
- Open minded for new innovations and especially for new way of working
- Good business understanding
- Wide technology competence
- Understanding business needs and the justification for ICT in the company

#### **4 COMPARISONS AND RECOMMENDATION**

The organization needs to participate more on the overall development of future leaders in the ICT-management. Many times the IT-leaders are used themselves to weigh different pros and cons, which helps them to find the best way to achieve their visions and goals. This supports the overall company's business benefits the most. But overall support needs to come from the organizational side.

However, too much of pushing and analysing can be used also to avoid the business managements and ICT-leaders future actions, commitments and decisions. It's easy to get lost just in the smallest details and never get around to do anything meaningful, innovative, magnificent or even significant. This can create different excuses and not needed over thinking. Too much of planning for every possible future scenarios can be obstacle for required business actions and misleading competitive advantage.

#### 4.1 Comparison survey

The author have recognized that different comparisons, studies and researches have been made from similar subjects, which the thesis subject refers to: “The leadership competences in the future”.

##### The Top 10 Leadership Competencies, Grouped Into Five Themes

When 195 global leaders were asked to rate 74 qualities, these rose to the top.

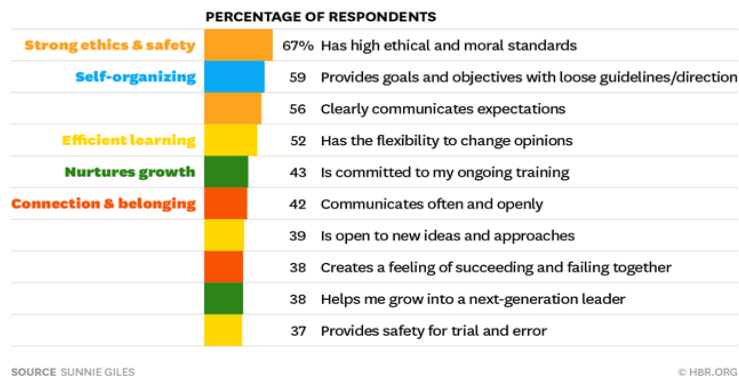


Table 23. Comparison survey: Harvard Business Review (Giles, 2017)

Table 23, present “The Top 10 Leadership Competences, grouped into five themes”. This is a survey, which were conducted for 195 global leaders, to able to point out 74 different and highly valued competences for leadership in the international companies. These themes were the most important ones in the survey;

- Strong ethics & Safety
- Ethical and Moral standards
- Self-organizing
- Goals, Objectives and Expectations
- Efficient learning
- Able to change
- Nurtures growth
- Commitment for training
- Connection & belongings
- Feelings, Success, Ideas, Help and Safety

Comparison survey was conducted in the international environment. Research for global leader’s support the overall research data, which the author have gathered, analysed and created online for the Company X. Similar themes are clearly recognized in the thesis research data and results. The Company X is also an international company, which helps to focus this global survey results and support global comparison.

## 4.2 Comparison competences

Many authors have recognized and studied the future innovative leadership competences. To be able to think how the organizations can better define and develop effectively their next generation leaders, you need to have similar comparison competences also. Table 24, describes many features, which has been recognized and which are said to last in to the future.

1 Be supportive	11 Keep group organized and on task
2 Champion desired change	12 Make quality decisions
3 Clarify objectives, rewards, and consequences	13 Motivate and bring out best in others
4 Communicate prolifically and enthusiastically	14 Offer a critical perspective
5 Develop others	15 Operate with strong results orientation
6 Develop and share a collective mission	16 Recover positively from failures
7 Differentiate among followers	17 Remain composed and confident in uncertainty
8 Facilitate group collaboration	18 Role model organizational values
9 Foster mutual respect	19 Seek different perspectives
10 Give praise	20 Solve problems effectively

Table 24. Leadership Competences (Feser, Mayol, & Srinivasan, 2015)

When analysing table 24, it's good to see how similar values, features and competences are shown also in the author's original research analysis. This comparison survey have not been specially focused to the ICT-management personnel, but similar values with features are being appreciated.

The Leadership values are quite common, no matter what is the function of the overall business. This comparison competences also shows that cross-cultural values are quite similar no matter, how different the business is. Keep in mind that the other functions and environments appreciate different matters, even if the business value is the same. All of this is just showing, that the leadership competences are being valued highly and specially when talking the future management competences.

## 4.3 Comparison development

A development aspect is highly important. Many researches have pointed out, that individual and the organizational development is really important when talking the leadership competences. Table 25, shows different development aspect through the individual- and organizational development. As clearly stated (table 25) in the example, to be able to create continuous development, individual and organizational, support

must be highly organized and structured. When talking about development, personal effort and the organizational effort is highly needed.



Table 25. Individual & organizational development ("Individual & organizational development", 2017)

Table 25, Shows the variables and depends of the overall leadership skills. Table shows also, how business related core competences can varies depending on the overall focus.

The author's thesis research data support this kind of thinking shown on "Individual & organizational development"-table. The ICT-environment is highly familiar with these variables and depends, which support the competitive advantage and changes in the future challenges.

#### 4.4 Recommendation (Company X)

The author was able to answer the overall research question based on the online-survey research data: "How organization can better define and develop effectively their next generation leaders in the ICT-management?"

The author recommends to Company X to fearlessly pursue their core business objectives and strategies in the ICT-management. Mixture of a strategies and different management actions support the overall process of developing the future ICT-management leadership. All of the participants in the survey have brought very good competences, opinions and informational perspectives for the future leadership aspects in the Company X.

The author recognized these competences as “The” most efficient ways to define and develop future leaders in the ICT-management:

- Team player
- Adaptive and embedded
- Open-minded
- Extrovert networker and team player.
- Breaks boundaries
- Open, reliable and able to act.
- Generate more and more value for the Company

By emphasizing these different leadership competences in the Company X these aspects will increase innovative leadership and competitive advantage in the future. These competences helps the Company X to increase synergy between management and leadership coordination. The Company X must evaluate different supporting processes, which are needed for keeping the whole business functions in continues planning phase with healthy competitive advantage in mind.

The thesis research gives suggestions and recommendations. The companies and organizations need to follow their own path to recognize and develop the innovative leadership competences by them self. The author hopes that the thesis will point out valuable and important competences, which can be used for developing different organizational strategies. The author recognized during research, that organizations needs to take these competences in better consideration and start to involve these recognized competences in their business functions and environments. The ICT-management specially needs a bigger overall attention with better appreciation from the business and organizational level.

## 5 CONCLUSION

Future expectations toward the future leader competences are truly mixed. In another hand the leaders have a lot of work and expectations, but also history have shown that everything changes in a really fast pace. Sometimes you are left with empty hands, but mind full of ideas.

Too often the leader and managers are focused on negative matters, views and aspects. Usually the most common questions are “what went wrong” or “how’s fault is this?” The author would like to think that part of the future competences in leadership would be, that the future leaders are able to ask the right and needed questions instead. The right and needed questions for the future leaders would be like, “where have we succeeded?” and “who have done the right things?”



The author recognize that time for continues negative views are over and new fresh views are entering in the business life. Especially in the ICT-management leadership environment, fresh views are needed and recommended.

Hopefully all of the companies and organizations will recognize and take better notice of their internal knowledge and leadership functions. The Company's needs to think, that they will not outsource needed relevant internal functions, when and if they are not considered to be so valuable. Sometimes the overall functions complete the equation perfectly, but if part is missing, overall competitive advantage will suffer seriously.

During the thesis research, the author was able to discover that the Company X ICT-leaders and their managers are considered to be reliable, stable and quite innovative persons. Participants showed also ability to evaluate very pedantic views for different the needed innovative future competences. The main importance focus toward responsibility and determination in the Company X, are seen in the search data and in the participant's online-survey answers.

The author realizes, that management and leadership is not so easily to split into right or wrong; black or white. The functions, processes and strategies may be seen in a simple way, but they really are not to be taken lightly. Maybe the best words for the future ICT-managers and for the future innovative leaders would be, that "don't allow different analysis to become an excuse for inactions". The leaders must act with their own built-in leadership instincts. This will ultimately guide and lead them automatically toward a path for the competencies with better abilities to develop the future of ICT-management and leaderships. Strong leaders lead the way.

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## Future of ICT -Management: Innovative leadership Competencies

### Page 1

Hey!

This survey will take about 5-15min to fulfil!!! Survey's questions are in ENGLISH!

Purpose of this survey is to gather data, which helps analyse and finish research called: "Future of ICT -Management: Innovative leadership Competencies".

Survey is a part of final thesis, that will analyse and help discover, which future leadership competences support future management in ICT-environments.

Thank You for participating this survey!!

.....

Hei!

Tämän kyselyn täyttämiseen kuluu aikaa noin 5-15minuuttia!!! Kyselyn kysymykset on ENGLANNIKSI!!

Kyselyn tarkoitus on kerätä tietoja, jotka auttavat analysoimaan sekä viimeistelemään tutkimuksen nimeltä: "ICT-johtamisen tulevaisuus: Innovatiivisen johtamisen ominaisuudet"

Kysely on osa päättötyötä, jonka tarkoitus on analysoida, tutkia sekä tuoda esiin ominaisuuksia, jotka auttavat ICT-ympäristössä innovatiivista johtamista tulevaisuudessa.

Kiitos paljon kyselyyn osallistumisesta!!

### Page 2

**Gender \***

Female

Male

### Page 3

#### Age \*

25-34

35-45

45-63

### Page 4

Does your Company set individual goals,  
regarding of developing future ICT-management competencies? \*

Yes

No

If "No", explain...(not mandatory)

### Page 5

Would hiring outside leaders; increase future management and leadership competences in your Company? \*

Yes

No

Write explanation for your answer ("Yes or "No") ... (Not mandatory)

### Page 6

Choose which is more relevant in your Company?

1. Future ICT-leadership needs are being developed individually

2. Company is highlighting future ICT-leadership needs accordingly to business needs \*

1. Individually

2. Company

Write explanation for your answer - "Why" (not mandatory)

## Page 7

**Which features / personalities do you value highly in future ICT-leaders? \***

Select answers (from 1-4), where 4 - most important and 1 - least relevant

- Perceiver (Keeps options open. Values spontaneously and flexible plans)
- Sensor (Realistic and focus on facts. Values details and practicality)
- Intuitive (Focus on big picture. Values creating solutions and innovations)
- Imaging (Weigh pros and cons. Values honesty and fairness)

## Page 8

Select your opinion.

Which is more important?

Which feature describes future ICT-leader? \*

Innovative Leadership  Leadership for Innovation

## Page 9

Select your opinion.

Which is more important?

Which feature describes future ICT-leader? \*

Extrovert  Introvert

## Page 10

Select your opinion.

Which is more important?

Which feature describes future ICT-leader? \* \*

Business thinking  Innovative thinking

## Page 11

Select your opinion.

Which is more important?

Which feature describes future ICT-leader? \* \*

Thinker  Feeler

## Page 12

Select your opinion.

Which is more important?

Which feature describes future ICT-leader? \* \*

Judger  Perceiver

## Page 13

How these features support innovative leadership in ICT-Management (Accordingly to your opinion) \*

	Dont matter at all	Small relevance	Dont know	Important	Significant relevance
Organizational encouragement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership encouragement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teamwork and collaboration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Page 14

Think of these two questions and answer in few sentences.

- What do you think about this matters?
- What comes in your mind?

Question 1:

- How to identify and develop next generation of ICT-leaders? \*

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**Question 2:**

**- Describe innovative leadership competences in future ICT-Management? \***

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You have completed the survey. Thank you very much for your participation.

You can now close the window.