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EXPERTS' VOLUNTEER KNOWLEDGE SHARING MOTIVATION – Why to mentor startups without monetary incentives?

Master's Thesis 2017

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ABSTRACT

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Knowledge work is working with abstract matters and thinking. The gained knowledge is personal, and sharing it creates wealth without handing over the power of the ability to use the knowledge. Knowledge sharing is a volunteer action, and experts need to be willing to share their knowledge to work. This master's thesis aims to find out why do experts share knowledge to startups voluntarily by acting as an informal mentor or advisor to a startup without monetary incentives. What drives different types of experts to invest their time and knowledge to help companies to grow? Study aims to bring new understanding on experts' knowledge sharing motivation, autonomous and value-based individual behavior.

The study is a qualitative case study using abductive approach. Data is collected from interviews and expert applications as a secondary data. According to the findings, experts share knowledge voluntarily since they want to help startups to grow, believe in their abilities and find their knowledge useful for others. In addition, they want to learn, gain new experiences, challenge themselves and increase their expertise, find new networks, and to gain professional reputation – to act expert-like. Findings indicate that especially helping others, the need to do meaningful actions to get self-fulfilment, belonging to a group, and enjoying the tasks are important motives for experts in volunteer knowledge sharing.

TIIVISTELMÄ

Tekijä	Kaisu Koskiaho
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Tietotyössä työskennellään ajattelemalla, abstraktien asioiden ja käsitteiden parissa. Tietyöntekijän kerryttämä tieto on henkilökohtaista ja sitä voi jakaa luovuttamatta tiedon hyödyntämiseen liittyvää valtaa. Tiedon jakaminen on vapaaehtoista, ja asiantuntijatyössä työskennelläkseen siihen on oltava valmis. Tämän pro gradu –tutkielman tarkoituksena on selvittää, miksi asiantuntijat jakavat vapaaehtoisesti tietoaan startup-yrityksille. He mentoroivat yrityksiä saamatta siitä rahallista palkkiota. Miksi eri taustoja ja rooleja omaavat asiantuntijat jakavat tietojaan ja käyttävät aikaansa auttaakseen yrityksiä kasvamaan? Tutkimus pyrkii tuomaan uusia näkemyksiä asiantuntijoiden tiedon jakamisen motivaatiosta, sekä autonomisesta ja arvopohjaisesta käyttäytymisestä.

Tutkimus on laadullinen tapaustutkimus, joka hyödyntää abduktiivista lähestymistapaa. Tutkimuksen data kerättiin haastatteluilla sekä käyttämällä asiantuntijoiden hakemuksia sekundääriaineistona. Tulosten perusteella asiantuntijat jakavat tietoa vapaaehtoisesti startup-yrityksille, sillä he haluavat auttaa yrityksiä kasvamaan, ja uskovat omien tietojensa olevan hyödyllisiä. Lisäksi asiantuntijat haluavat oppia uutta, kerryttää kokemuksiaan ja asiantuntijuuttaan, haastaa oman ammattitaitonsa, löytää uusia verkostoja ja muodostaa ammatillista mainettaan – eli käyttäytyä asiantuntijamaisesti. Tutkimuksen löydökset osoittavat, että asiantuntijoiden tiedon jakamisen motivaatioon vaikuttavia tekijöitä ovat etenkin halu auttaa ja tarve tehdä merkityksellisiä asioita toteuttaakseen itseään, tarve tuntea kuuluvansa ryhmään ja halu nauttia työtehtävistään.

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And finally – thank you for reading this! I hope you find something interesting or beneficial in the upcoming pages.

Helsinki, 4. 8. 2017
Kaisu Koskiaho

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1 INTRODUCTION

Knowledge work has been increasing since 80's and it is a key factor in 21st century's working life. Finnish Ministry of economic affairs and employment stated in their Development strategy of working life 2020 (2011, 7) that knowledge-based work will increase and replace traditional organizations and jobs. The strategy highlights, that the change will lead to increased self-determination and freedom at work, in addition to accountability for results, success, and lifelong learning. The role of experts is changing from organization employees to outsourced workforce and freelancers in temporary projects (Drucker 2002, 2). This leads to a high autonomy and a need to be visible and available in the job market. In addition to their expertise, experts need a good personal reputation and social connections to be acquired into projects.

The change in creation and utilization of expert knowledge was seen already in the 90's (Bereiter & Scardamalia 1993; Tynjälä, Nuutinen, Eteläpelto, Kirjonen & Remes (1997, 488). Bereiter & Scardamalia (1993) defines working with expert knowledge as *expert-like behavior* where expertise is constantly evolving by solving problems, gaining experiences, learning new and challenging the existing knowledge. Expert knowledge is a combination of facts, experiences and abilities to think and learn and it is owned and controlled by the expert. Since they possess the knowledge organizations need they also have the power of knowledge. Still experts can't resolve the complex problems by themselves: they need to be able to produce new, interpersonal knowledge in cooperation with other experts (Pyöriä (2005, 121). In temporary teams, a common task orientation and questioning ideas enable experts to achieve high-quality results and creativity (Nisula & Kianto 2016, 164). To work successfully and to create new knowledge, experts need to *be willing to share knowledge* and *question the existing knowledge.*

In the end, knowledge sharing is a voluntary action. People can't be forced to share their knowledge and experiences. Knowledge sharing is found out to have similar qualities as voluntary behaviors, like helping others Frey (1993). Both volunteer actions and knowledge sharing are dependent on individual autonomy to decide if to act or not – the motives are similar (Frey, 1993; Gagné, 2009). According to respected motivation researchers Ryan & Deci (2000), the desire to help other people or community is natural and the motivation arises from fulfilling personal values and identity. In a world where creating new knowledge

and wealth is dependent on knowledge sharing, the research on knowledge sharing motivation is important.

This master's thesis examines the nature of motivation in knowledge work in *experts' volunteer knowledge sharing to startups.* Empirically thesis studies knowledge sharing in the context of experts' sharing knowledge voluntarily as informal mentors or advisors to startups.

1.1 Background of the research

Sitra, The Finnish Innovation Fund, recruits experts to share knowledge to startups in a Growth Experts program ('Kasvun Osaajat' in Finnish). Growth Experts are professionals, managers, entrepreneurs, mentors, investors, supervisory board members, and experts looking for work. In the program experts act as informal mentors or advisors to startups and growth-oriented firms in a Finnish business growth competition, Kasvu Open. Experts get an opportunity to learn the business of growth companies and to network with people outside of their own branch and organization. In the same time, they learn to pitch their expertise and get an opportunity to work with a startup and growth-oriented entrepreneurs. (Sitra 2016.)

The project provides an excellent opportunity to research volunteer knowledge sharing motivation. Knowledge sharing motivation is studied previously for example in organizations (see for example Stenius, Haukkala, Hankonen, & Ravaja 2016), in teams (Hung, Durcikova, Lai & Lin 2011) and in electronic communities (Wasko & Faraj 2000). Volunteer knowledge sharing motivation, on the other hand, is researched for example in professional blogging (Hsu & Lin 2008), collaborative bibliography creation (Hendry, Jenkins & McCarthy 2006), Wikipedia content production (Nov 2007), open source development (Hars & Ou 2002), knowledge sharing in voluntary work project (Ragsdell, Espinet & Norris 2014) and prosocial mentoring (Bear & Hwang 2014.)

In the Growth Expert program knowledge experts share their knowledge voluntarily in informal, non-organizational context to startups. This kind of knowledge sharing context lacks organizational norms, hierarchy, monetary incentives and previous interpersonal relationships. Considering this, the study context is new and interesting. What are the expectations of experts on volunteer knowledge sharing in the Growth Expert program?

1.2 Objectives

Since possessing expert knowledge includes the power to use it, knowledge work is dependent on knowledge sharing willingness. Studies of knowledge sharing motivation lack an understanding in the informal, volunteer knowledge sharing to startups. Knowledge sharing as a mentor or advisor to startups is found out to have a strong effect on the company's success. Endeavor Insights (2014) studied the lessons to support the growth of information technology startups, and found out that the top performers have strong mentoring relationships with successful entrepreneurs. Also, mentoring relationships are found out to be important for organizations internally (Kram 1985). Internal knowledge sharing and mentoring differ from this study's informal, non-organizational role of experts' volunteer knowledge sharing to startups.

The phenomenon of volunteer knowledge sharing is seen also in Wikipedia content production and in open source development communities. It can be seen as prosocial behavior where experts aim to *pay it forward* what they possess – knowledge of their professional domains. What drives experts with different backgrounds and working life roles to invest their time and knowledge to help companies to grow, without monetary incentives? This will be studied by exploring the applications to the Growth Expert program. To gain a better understanding of the experts' motives, the study will find out what type of experts apply to the program, what kind of expertise roles and skills they possess, what are their expectations, and do their knowledge sharing motivations differ.

Theoretically this study aims to understand experts' knowledge sharing motivation and to participate in the academic discussion about knowledge work motivation. Motivation factors are expected to vary from research on knowledge sharing motivation in organizations. It is important to find out the motives for autonomous, volunteer actions to promote this kind of value-based individual behavior in other contexts as well. The practical goal of the study is to provide new understanding of experts' volunteer knowledge sharing motivation to startups to improve the Growth Expert's program in the future. The results of the study can be utilized also for motivating experts to volunteer knowledge sharing.

1.3 Study's framework, method and research questions

The subject will be examined through theories on expert knowledge and knowledge sharing motivation. The study is a qualitative case study using abductive approach. Empirical data is collected with interviews and using Growth Expert applications from spring 2016 as a secondary data. First, interviews are conducted to understand the study's subject and to find deductively a suitable theoretical approach. After this, the application data is categorized into themes according to inductive Gioia method where informants voice is retained throughout the study (Gioia et al. 2012, 16–17). Finally, the theoretical concepts from data are recognized, and data structure and research framework will be created for analysis of experts and motives. In this way, the study adopts the academic discussion on expert knowledge and knowledge sharing motivation into the case study's context, *experts' volunteer knowledge sharing motivation to startups* (Figure 1. Study's framework).

Figure 1. Study's framework

This thesis aims to answer the research question *RQ. Why do experts want to share knowledge voluntarily to startups?* To answer the research question, three sub-questions are studied:

- SQ1. What type of experts are willing to share knowledge voluntarily to startups?
- SQ2. Which factors motivate experts to share knowledge voluntarily to startups?
- SQ3. How do motivation factors differ between expert types?

First sub-question, *'What type of experts are willing to share knowledge voluntarily to startups?'* will find out what types of experts apply to the program. It will clarify the roles and skills of knowledge experts to define experts according to the secondary application data. Second sub-question, *'Which factors motivate experts to share knowledge voluntarily to startups?'* studies previous research on knowledge sharing motivation and finds experts' motives from the application data. The third sub-question, *'How do motivation factors differ between expert types?'* aims to recognize if and how the expert types have different motives in volunteer knowledge sharing to startups.

Study expects experts expecting to have new experiences and contacts, to gain reputation and to participate in the startup buzz. Since they are participating in the program voluntarily, they are not after paycheck. Are they more after new business leads and selling their services? Or is the experience and willingness to help more important reason?

1.4 Key concepts

The study consists of two theoretical fields: *expert knowledge* and *knowledge sharing motivation*. This chapter will define the key concepts of *experts, expert knowledge, volunteer knowledge sharing motivation,* and to clarify the context, *startup companies*.

Experts

Expertise means positive, effective, considerate and excellent working abilities (Kirjonen 1997, 26). Main element of expertise is *expert knowledge* and *the ability to adapt and use existing knowledge* (Tynjälä et al 1997, 488). This research will consider experts of knowledge work era. These experts or knowledge workers are a heterogeneous group of specialized people (Drucker 2002) whose work is the process, not the product (Pyöriä 2005). Their knowledge is their expertise and their capital.

Expert knowledge

Expert knowledge is the end-result of thinking: experts integrate facts and their experiences with perceptions, beliefs, ideas, intuition, and wisdom of the subject (Eteläpelto 1997; Alavi & Leidner, 2001). Research has defined several types of knowledge, like *formal, practical and self-regulative knowledge* (Tynjälä et al 1997, 481–482; Tynjälä 1999, 359) or *tacit* and *explicit knowledge* (Polanyi 1966; Nonaka & Takeuchi 1995). According to these views,

formal knowledge contains **facts and documented knowledge**, the information experts learn in education or can read from manuals or documents. It is called also declarative knowledge (Tynjälä) and explicit knowledge (Polanyi 1966) or know what (Ryle 1945). Practical knowledge, on the other hand, contains the **individual experiences** of an expert, contextual (Tynjälä) and tacit knowledge (Polanyi 1966) or know-how (Ryle 1945). In addition, self-regulative knowledge is used in psychology and learning research to study the **reflective skills** that individuals use for self-evaluation. In this study, expert knowledge is the result of expert's previous experiences, knowledge and knowledge-like abilities as reflection skills. Therefore, expert knowledge contains the all types of knowledge. This study uses terms expert knowledge and knowledge are used to refer the knowledge experts possess.

Volunteer knowledge sharing motivation

Motivation is needed for any individual's behavior, also in knowledge sharing. In this context, *volunteer* defines the autonomous and informal nature of knowledge sharing without incentives. As stated in earlier in this research, knowledge sharing is a voluntary action, and the motives vary. This study considers different types of motivation to share knowledge. Motivation varies in strength but also in the type, the classified reasons, behind the action. This study considers *intrinsic, extrinsic*, *autonomous, controlled motivation,* and *prosocial motivation*. The motivation type is especially important in knowledge-work since its demanding nature. (Deci & Ryan 1985a, 2000; Gagné & Deci, 2005.)

Intrinsic motivation arises from the action itself, when "individuals seek *enjoyment, interest, satisfaction of curiosity, self-expression, or personal challenge* in the work" (Amabile 1993). Extrinsic motivation aims to *reward, reciprocal or reputational benefit* obtained from the work (Lin, 2007). Autonomous motivation, on the other hand, contains intrinsic and extrinsic factors that lead to volatile, internally autonomous actions. It has a positive effect on volunteer actions and knowledge sharing. Prosocial motivation is a desire to benefit other people. Controlled motivation contains behavior out of external pressure, avoiding punishment or getting approval from self or others. (Deci & Ryan 1985a, 2000; Gagné, 2009; Ryan & Connell, 1989.)

Startup companies

Startup companies in the research refer to growth-oriented companies. Entrepreneurs are participating in a business growth competition. The competition includes also start-again companies who are aiming to gain new direction to growth. In this study, the startup term refers to both company types.

1.5 Research focus

The focus of the study is in individual knowledge sharing motivation. Since the Growth Experts have self-selected to apply to the program, they have an *intention to share knowledge to startups*. The study does not focus on the action of knowledge sharing since the data is from applications to the program and collected before knowledge sharing. The study aims to recognize the expert types and motives that lead to the positive knowledge sharing intention.

As stated in the previous chapter, the study considers expert knowledge as a combination of experts' previous knowledge types, facts, experiences, skills, know-how and self-reflective skills. Viitala (2005, 114, adapt. Toikka 1984) classifies the expertise dimensions as expert's abilities: knowledge, skills, and attitudes. Using Viitala's view, in this study's context **experiences** are *domain-specific knowledge*, **skills** are *task-specific skills* that include *role specific know-how, skills, and abilities*, and **attitudes** are addressed as motivation for expert behavior. Self-reflective knowledge means the reflection skills experts use for self-evaluation, to know '*what works for them'*. This study recognizes the reflection skills but does not examine their theory due to the psychological orientation.

Since experts' have an intention to share their expert knowledge without financial incentives or organizational environment, the organizations, teams, management or organizational knowledge sharing motivation are not studied in this research. Although experts work in cooperation with other experts when producing knowledge (Pyöriä 2005), this study considers only intrapersonal views. Knowledge sharing motivation will be researched within the motivation types found out in data.

1.6 Structure of the study

First, as presented in Table 1. The structure of the study, research introduces the subject in introduction. Next the study continues to theoretical discussion on expert knowledge and experts' volunteer knowledge sharing motivation. The chapter three presents also an *ex-ante theoretical framework,* a forecast how experts' volunteer knowledge sharing motivation can be studied. Chapter four presents research methodology, description of the research context, research design and methods, data collection and data analysis. In addition, it presents an *ex-post framework* where the framework is modified suitable for analyzing available data. Chapters five contains findings and answers to research questions, what motivates experts to volunteer knowledge sharing to startups. Chapter six will discuss theoretical and practical implications and present ideas for future research. Conclusions are presented in chapter seven.

Table 1. The structure of the study

No	Chapter headline
1	INTRODUCTION
2	EXPERT KNOWLEDGE
3	EXPERTS' VOLUNTEER KNOWLEDGE SHARING MOTIVATION
4	RESEARCH METHODOLOGY
5	RESEARCH FINDINGS
6	DISCUSSION
7	CONCLUSIONS

2 EXPERT KNOWLEDGE

Knowledge work can be defined as thinking and solving problems at work. Knowledge work consists of highly specialized domain-specific experts, contingent problems, and constant learning. It is a phenomenon of post-industrial society where knowledge is the commodity and output of organizations and individuals. Drucker (2002, 9) states that knowledge workers are qualitatively different since they create wealth, jobs, and success. Though, the group is hard to define, since they lack common professional identity. They are a group of experts who can be *defined by the work they do, and the knowledge they attain*. Knowledge work is domain-specific, autonomous and under constant change. It includes solving non-routine problems often in temporary organizations. Since technological development, it can be done in anywhere. Knowledge workers are well-educated people who work with knowledge, think and make decisions. (Scarbrough 1999, Pyöriä 2005, Choi & Varney 1995.)

Expertise research since 70's in psychology, education and learning and organization research, state that experts have excellent working abilities in their domain of knowledge and experiences, and they use these abilities and knowledge for decision-making (e.g. Bereiter and Scardamalia 1993, Chi 2006, Hung 2003, Prietula & Simon 1989). Considering this, knowledge workers are experts of knowledge work era. *Knowledge is a major part of expertise.* The chapter 2 will discuss the previous research of knowledge work, expert knowledge, and expert roles and behaviour in knowledge work.

2.1 Knowledge work

The term 'knowledge worker' is introduced by Peter Drucker (1959, 1979), a modern management researcher. He stated (2002) that knowledge workers are not subordinates but associates, heterogeneous group of specialized people. It has been defined as a profession but it is more a feature of individuals and their actions (Kelloway & Barling 2000). Pyöriä (2005) mentions that knowledge workers have a high level of education and skills, and the core of work is the process, not the product. He states that this increases the demand of symbolic understanding and ability to use scientific and technical knowledge. Knowledge work is also unstructured and lacks traditional boundaries and norms, and only experts themselves understand enough to organize the work. Thinking processes are not routine-like nor dependent on place, time or tools used for working. This leads to high autonomy at work. (Scarbrough 1999, Pyöriä 2005.)

Experts are professionals with positive, effective, considerate and excellent working abilities (Kirjonen, 1997, 26). Traditional expertise research considers experts as *highly talented individuals* as chess masters, or by researching the *expertise gained in formal education or in hands-on experience*. This view finds the difference in becoming an expert, either by being a natural talent or learning and practicing. Surprisingly research has found out that intelligence does not correlate much with expertise in any domains (Ceci and Liker 1986). Expertise can be seen as a gained skill or a way of acting and thinking as Chi (2006), where expert is never ready and constantly learning new, rather than some specific stage to achieve. Bereiter & Scardamalia (1993, 11–15) explain the way of thinking as a *progressive problem-solving* to have a deep understanding of the problem. This is the **expert-like behavior**, that is discussed more in chapter *2.4 Expert-like behavior.*

Knowledge workers can be defined in terms of education, skills, the nature of work, organization and the medium of work as stated in Table 2. Compared to traditional work, traditional worker needs some basic education and learns the needed skills by working with standardized physical production, and knowledge worker instead needs extensive education, learns continuously when working and can use the skills for several positions and industries. Bereiter & Scardamalia state (1993, 11–15) that education and formal training are not necessary for an expert but they are usually associated with expertise. Knowledge work contains very little standardization, that means the work is situational and changing all the time. The work is self-manageable, includes circulation of jobs and tasks, and lacks bureaucracy compared to traditional work. Knowledge is abstract and communicated through symbols and/ or people. (Pyöriä 2005, 124.) Drucker (2002, 9) highlights that in knowledge work individuals create productivity when in traditional work the productivity came from the system.

fTable 2. Traditional work vs. knowledge work (edited Pyöriä 2005, 124)

Dimension	Traditional work	Knowledge work
Education	Some education and learning by working	Extensive education, continuous learning by working
Skills	Strictly defined, for one job	Transferable for several jobs
Nature of work	Standardized, working with physical products or matter	No or little standardization, working with abstract knowledge and symbols
Organization	Bureaucracy, teams, fixed roles and positions	Professional bureaucracies, self-managing teams, job and task circulation
Medium	Physical material and/ or people	Symbols and/ or people

As a summary, experts have most likely extensive education, they are autonomous actors of working life, who act expert-like, solve problems by thinking and learn constantly. Expert knowledge is domain-specific but easily transferable from one branch to another. Next, the study will consider more closely the knowledge types of experts.

2.2 Knowledge types

Expert knowledge consists of different types of knowledge as stated in introduction chapter: the *formal, explicit knowledge* and *practical, tacit knowledge*. In addition, experts need *knowledge-like abilities, skills, and self-regulative knowledge*. This chapter will enlighten these knowledge types needed in knowledge work.

Expert knowledge is researched in cognitive psychology from the 70's as formal, theoretical knowledge, and extended later into perceptions and beliefs of experts. According to Eteläpelto (1997, 97), it is deep, domain-specific knowledge that consists of expert's experiences, skills, and know-how. Eteläpelto states, that experts integrate this domain-specific knowledge with formal, theoretical knowledge by using their perceptions, beliefs, intuition, and wisdom of the subject. Therefore, expert knowledge contains both, formal and practical knowledge. Domain-specific knowledge is according to Tynjälä et al (1997, 488) and Viitala (2005, 109) the *main element* and base for professional development in expertise. Also, Stenmark (2001, 10-11) states that *expertise depends on this tacit knowledge of the expert*. Expertise is developed by integrating new and existing knowledge, and according to Pyöriä (2005, 121), it is the most important skill in knowledge work.

Formal knowledge is traditionally based on education. Both education and the role of universities is questioned as producers or formal knowledge and experts, since business world makes its' own research and produces knowledge to gain competitive advantage (Scott 1996; Kirjonen 1997; Konttinen 1997; Pyöriä 2005), and the certificates from universities do not produce experts since experts need work experience to become experts (e.g. Tynjälä 1999). Experts are not able to prove their expertise with university diploma, they need to present it by doing and create a personal reputation (Konttinen 1997, 58). On the other hand, knowledge work is dependent on theoretical knowledge and formal education that provide a theoretical foundation for expertise and informal learning. (Pyöriä, 2005, 199, 121.) It would be hard to gain equivalent thinking ability, one of the experts' most important qualities (Kirjonen 1997), without education. Gaining formal knowledge helps to recognize and acquire new formal knowledge, and to construct new knowledge and skills (Bereiter & Scardamalia 1993).

Practical knowledge contains individual *task-specific skills* and *domain-specific experiences* (Toikka 1984). According to Bereiter and Scardamalia (1993, 42–44), experts can work without formal knowledge but not without the experience-based knowledge of the field (43–44). Task-specific knowledge is also part of tacit knowledge of Polanyi (1966) and know-how of Ryle (1945) since it contains knowledge that expert has learned by working with specific tasks. Highly qualified skills enable the task completion, bringing better results and appreciation from others and giving a social status for the expert (Viitala 2005, 112). Whereas skills are task-specific knowledge like sales, marketing or project management, experiences are domain-specific *(*e.g. Hung 2003). This conceptual, domain-specific knowledge concerns specific field, like renewable energy solutions, or situations, like launching new products. Conceptual knowledge is experts' raw material, capital that produces new knowledge (Tynjälä et al. 1997, 488). Psychology studies consider also self-regulative knowledge that means the reflection skills individuals use for self-evaluation, to know '*what works for them'*. This study will not consider the reflection skills further due to the psychological level.

To summarize expert knowledge and the terms in this research, this study considers that experts have formal knowledge from education, and practical knowledge from previous *domain-specific experiences*, task-specific *skills,* and *goals and attitudes* that channel the actions. Expert knowledge is a combination of formal and practical knowledge. Goals and attitudes relate to using expert knowledge, and they are addressed *Chapter 3. Volunteer knowledge sharing motivation*. Next, the study will consider the roles of experts.

2.3 Expert roles

Experts' field is as wide as the variety of knowledge workers' skills and domains. Expertise is domain-specific, and as stated earlier, expert needs formal knowledge, and *domain-specific experiences* and *task-specific skills*. Expert specializes in a specific field of education, like marketing, and gains work experience from some branch, like food industry, before considered an expert. Here marketing is the task-specific skill, and food industry is the domain-specific experience.

Since experience is domain-specific, highly experienced expert is a novice in another context. On the other hand, according to Pyöriä (2005, 124), skills can be utilized in several positions and industries. Experts can work with law, medicine, accounting, consulting, organization management, engineering, computer programming, research and product development, or with any intangible matter, that include planning, problem-solving and decision-making. (Jarvenpaa & Beers 1996; Konttinen 1997, 51; Sulek & Marucheck 1994.)

Since experts are highly skilled, they are also expensive and often outsourced from organizations. Traditional employment is changing to outsourced employee relations, freelance experts, and temporary consultants in changing projects (Drucker 2002, 2; Filander 1997, 138–9). Due to these changes and little standardization in knowledge work (Pyöriä 2005, 124), work roles and domains are not permanent either. Expert-like behavior includes constant learning that is needed in changing expert work. This increases the need to be skilled in cooperation to work in changing teams in international environment with experts from other fields (Tynjälä 1999, 357–8).

This temporary consultancy role requires experts to be available for projects, the people who are seeking expertise. According to Hertzum (2014, 775) expertise seeking, choosing the right consultant, is found out to be related to social network and connections between people. Team formation considering the quality (skills and experience) of expertise is only one factor in the market – friendship and personal dislikes matter. Expert's reliability, accessibility, social abilities and connections to previous colleagues have an influence on the seeker. As stated before, this leads to situation where experts need a good personal reputation and social connections to be able to work.

2.4 Expert-like behavior

Working as an expert is solving abstract problems. Bereiter & Scardamalia (1993) see this as a way of **acting expert-like**: addressing problems and constant learning in the problem-solving process. Also, Rantalaiho (1997) highlights experts' learning process and understanding the context: practicing techniques, understanding what to do and why, conducting situational evaluation, and intuitive decision-making. This chapter presents the expert-like behavior, constant learning and problem-solving.

Constant learning is stated also as *life-long learning*. Learning is part of human nature, it brings satisfaction and strengthens the belief on own abilities. In expert work, learning creates routines, makes problem-solving easier, and releases mental resources. When acting expert-like, released mental resources are used to improve knowledge and skills further to learn more and to find new knowledge and solutions for unpredictable situations. In expert-like behavior, experts need to be ready to admit the complexity they do not yet understand and challenge their current beliefs to learn more. (Bereiter & Scardamalia 1993, 3, 73–93; Kirjonen 1997, 31.) The knowledge-centered world has increased the importance of constant learning, defining the changing problems and making decisions in dynamic situations with insufficient information (Lehtinen & Palonen 1997, 114–5). Experts need skills in *critical thinking* and *reflecting* own thoughts and actions (Tynjälä, 1999, 373).

Expert-like behavior is described also as **progressive problem solving** (Bereiter & Scardamalia 1993, 81–82), where experts solve problems by going beneath the surface to deal more extensively with the essential parts of the problem. They want to understand and develop the big picture. In the same time, experts learn from the experience by questioning their own thinking, rethinking and redefining their tasks.

Traditional expertise research contains two interesting views, that seem to be related to modern startup business: *solving constitutive problems of a domain* (Bereiter & Scardamalia 1993) and expertise relying on *trial and error methods* (Kahneman & Tversky 1979). **Constitutive problems** are domain-specific, endlessly complex problems. Solving these problems experts define the future of their professions. Changing the problem, the whole profession will change. An example of constitutive problem of a domain is elimination of a disease in medicine, elimination of misery in social planning, and an agreement where all are winners. There are no answers but progress is possible. (Bereiter & Scardamalia 1993, 96.) Learning from **trial and error methods,** on the other hand, is found out to be

part of experts intuitive thinking and managing with uncertainty already in the late 70's, getting also criticized for leading into mistakes (Kahneman & Tversky 1979). These both views are a part of agile startup business where changing the business in a constitutive way is a day dream and constant learning from experiments with Silicon Valley's '*fail fast, fail often'* mantra is spreading all over to the business world.

2.5 Summary and expert knowledge in the study

As a summary of expertise in knowledge work can be stated, that experts are highly educated and experienced, heterogeneous group of experts in different domains with wide range of job descriptions. Expert roles are often outsourced and experts work as temporary consultants in changing projects. In this role, experts need wide social networks and connections to be chosen to work in projects. (Drucker 2002; Hertzum 2014.) Expert work is autonomous and under constant change. Their work quality, reputation, reliability, accessibility, social abilities, and connections assign their status on modern labor markets. Also, continuous learning and self-development is an important part of expertise (Bereiter & Scardamalia 1993, Tynjälä et al. 1997, Tynjälä 1999). Experts aim to learn and gain new experiences to update their expertise. Participating in Growth Expert program can be seen as self-development and continuous learning, where experts gain and create new knowledge. Figure 2. Expert work describes the elements of expertise in this study.

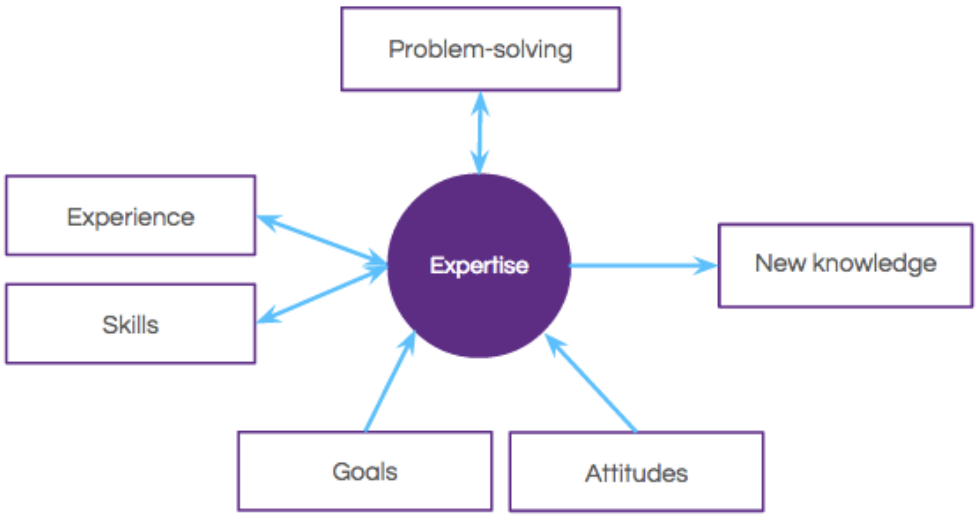


Figure 2. Expert work

As Figure 2 presents, this study considers that experts have previous *experiences*, domain-specific *skills,* and they use their personal *goals* and *attitudes* to channel their motivation when solving problems and creating new knowledge. Next, the study will examine the experts' volunteer knowledge sharing motives.

3 EXPERTS' VOLUNTEER KNOWLEDGE SHARING MOTIVATION

Experts, as stated in previous chapters, use personal *goals* and *attitudes* to channel their motivation. This chapter considers the volunteer knowledge sharing motivation presenting relevant motivation theories, motivation types and a model for knowledge sharing motivation. In the end of this chapter is presented an ex-ante theoretical framework for the study (Figure 4. Ex-ante theoretical framework for the study). It will be adapted into study's ex-post framework in the chapter 4 (Figure 6. Ex-post framework).

As stated in introduction, knowledge sharing is found out to resemble voluntary behaviors like helping and prosocial behavior (Frey, 1993; Gagné, 2009) and people cannot be forced to share knowledge. In Sitra's program Growth Experts have a knowledge sharing intention to help startups to grow. Considering this, knowledge sharing motivation is examined as an intention to share knowledge. Intention lies between motivation and action. Ajzen (1991, 181) highlights, that intention captures the motives that have an influence on a behavior. According to Ryan & Deci (2000, 54), motivated person has a will, an intention, energy, and ability to do something. They state that motives are based on attitudes and goals of the person.

This study investigates volunteer knowledge sharing motives through previous motivation theories and a suitable model for knowledge sharing research. Study presents first the motivation theories, next the different types of motivation and knowledge sharing motivation in the study's context, and finally an ex-ante theoretical knowledge sharing model for the study.

3.1 Knowledge sharing motivation theories

In the study's context experts' knowledge sharing is volunteer, and experts' own the knowledge they share to startups. According to Wang & Noe's review (2010, 121), *knowledge sharing motivation* is researched with theories of beliefs on the knowledge ownership, perceived benefits and costs (social exchange theory), interpersonal trust and justice (social exchange theory) and individual attitudes (theory of reasoned action). Considering the volunteer context, *The theory of reasoned action* and *Social exchange theory* are examined. In addition, study demonstrates *Self-determination theory* to figure out the effects on motivation types in volunteer knowledge sharing, and Gagné's (2009)

Model of knowledge-sharing motivation, that is based on Theory of planned behavior and Self-determination theory. Next, the relevant motivation theories are presented.

3.1.1 Theory of planned behavior

Theory of planned behavior (Ajzen 1991) is based on Theory of reasoned action (Ajzen & Fishbein, 1980). It is developed over decades into a theory to explain any social behavior. The theory assumes that intentions are motives that influence in a behavior: more intention (motivation) leads to more likely in behavior. (Ajzen, 1991; Fishbein & Ajzen, 2010, 17–20). According to Gagné (2009, 572), knowledge sharing is intentional behavior, and it can be studied using Theory of planned behavior. The theory describes three factors that guide behavioral intentions: *attitudes*, *social norms* and *control beliefs*. Attitudes are beliefs towards the outcome: is this behavior (not the topic generally) favorable or not. Social norms are social pressures to behavior: what is expected. Control beliefs consist, according to Gagné (2009, 572), the belief in own control considering the behavior: is there enough skills, resources, and opportunities for it. Theory of planned behavior and Theory of reasoned action are used much in predicting knowledge sharing behavior and proven useful in the context (Gagné 2009, 573).

3.1.2 Social exchange theory

Social exchange theory (Blau 1964; Emerson 1976; Homans, 1961) explains the rational behavior of individual in social exchange of two parties. Parties exchange a valuable resource as a favor, like knowledge in this case, and a return is expected in the future. Wang & Noe (2010, 121) state that knowledge sharing is studied much with Social exchange theory where *“individuals evaluate their personal benefits to possible costs and base their decisions on this”.* According to the theory, the goal is to maximize benefits and reduce costs of the exchange. According to Blau (1964), possible types of benefits can be rewards or social exchanges: reward can be monetary incentives, and social exchanges social approval, self-esteem or respect.

Relatively new study of Razak et al. (2016, 550) found support for Social exchange theory in business environment in their theory review. They noticed that attitude and subjective norms lead to knowledge sharing willingness, but also consideration of the exchange benefits had effect on individual knowledge sharing behavior. Wasko & Faraj (2000) found out that in professional networks the knowledge usefulness to others is even more important

than the personal benefits gained. Perceived costs of knowledge sharing can be lack of time or unfamiliarity of the subject (Hew & Hara, 2007). They are knowledge sharing barriers as well, especially in voluntary knowledge sharing. Other barriers can be insecurity, knowledge originality and mistrust (Razak et al, 2016, 550).

People do seem to involve in knowledge sharing in the evaluation of benefits and costs of the action, and the norm of reciprocity and the mutual indebtedness can be seen to drive knowledge sharing of professionals.

3.1.3 Self-determination theory

Self-determination theory suggests that motivation varies also in quality in addition to strength presented in Theory of planned behavior and Social exchange theory. The traditional work motivation quality is shared into intrinsic and extrinsic motivation (Porter & Lawler, 1968; Hertzberg, 1966), that were considered complimentary. Self-determination theory brings another distinction in motivation, between autonomous and controlled motivation (Ryan & Deci, 2000). Self-determination theory has evolved over three decades and it has proved that the quality of motivation affects in experience and performance of actions (Ryan & Deci 2000, 54).

As stated earlier, knowledge sharing behavior has similarities with voluntary actions like helping and prosocial behavior (Frey, 1993). Self-determination theory considers people active, adaptive and growth seeking, that is line with voluntariness and expertise definition of curious and learning individuals. Self-determination theory is proven to be useful for studying knowledge sharing and volunteer actions (Deci & Ryan, 1985a, 2000). The theory defines that the essential needs in human development, that are necessary for effective functioning for all individuals are *competence, autonomy, and relatedness*. These needs are essential when feeling effective and able. People need to feel some degree of authority, to have the possibility to choose and to feel connected to other people. (Gagné & Deci, 2005, 336–337.)

Motivation types defined in Self-determination theory (Deci & Ryan 1985a, 2000) and Gagné (2009), are presented in the next chapter *3.2 Knowledge sharing motivation types* in *Table 3, Motivation types*. As presented there, the orientation into *intrinsic* and *extrinsic* and *autonomous* and *controlled* types, is based on different goals behind the action. The degree of internalization of the action separates controlled and autonomous: autonomous

actions are internally valued, and they lead to higher quality in performance. In Self-determination theory motivation can also change from extrinsic reasons to autonomous reasons, that is called internalization. The degree of internalization of the action separates controlled and autonomous: autonomous actions are internally valued, and they lead to higher quality in performance. (Deci & Ryan 2000, 55.) Next the study will clarify the motivation types from external to intrinsic motivation.

3.1.4 A model of knowledge sharing motivation

According to Gagné's model (2009), autonomous motivation predicts knowledge sharing intention that predicts knowledge sharing behavior. The model combines the two theories presented earlier, Theory of planned behavior and Self-determination theory. From Theory of planned behavior, the model utilizes attitudes and sharing norms, and from Self-determination theory the autonomous and controlled motivation qualities. Model is made to predict individuals' knowledge sharing intention in organizations, and it includes human resource management practices and staffing that are likely to affect the needs and sharing norms.

As in Theory of planned behavior, the model considers attitudes and social norms to predict intentions, which influences in knowledge sharing behavior. Need satisfaction includes the need for competence, autonomy, and relatedness, as in Self-determination theory, where need for competence replaces the control beliefs presented in Theory of planned behavior. The need for relatedness includes also Social exchange theory in the model. In the model, sharing norms moderate the effect of need satisfaction and autonomous motivation to knowledge sharing. (Gagné 2009, 574–578).

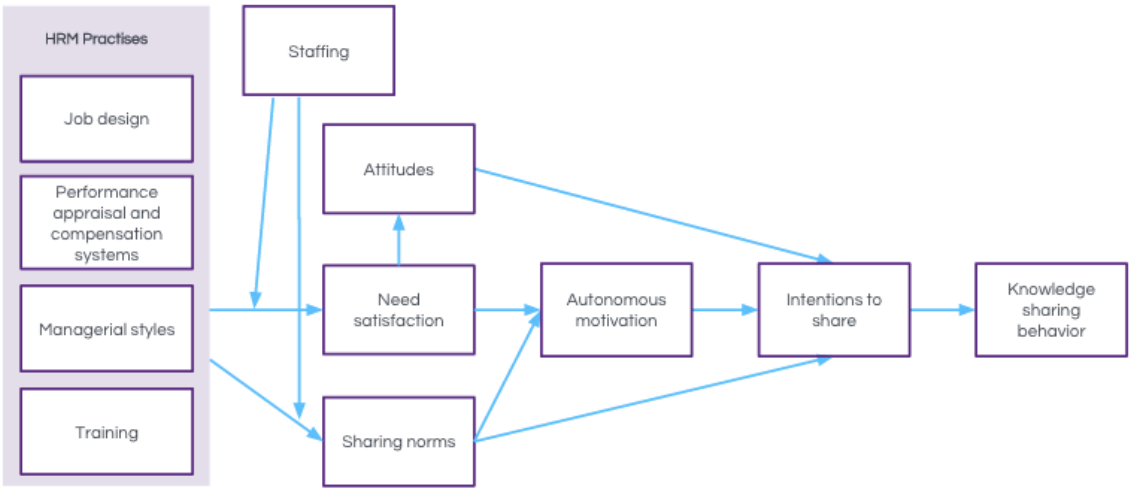


Figure 3. The original model of knowledge-sharing (Gagné 2009)

Other available knowledge sharing motivation models are for example *Kelloway and Barling's (2000) model of knowledge use in organizations* and *Gottschalg and Zollo's (2007) interest alignment model* for generating a sustainable competitive advantage by aligning individual and collective interests. Since models represent theories on knowledge sharing in organization level and this study concentrates on individual volunteer knowledge sharing, they are not seen relevant for this study.

3.2 Knowledge sharing motivation types

It is important to highlight the type of motivation since knowledge work's demanding nature (Gagné and Deci, 2005). Motivation types used in this study are defined by Deci & Ryan (1985a, 2000) and Gagné (2009). The original orientation is based on different reasons or goals behind the action, and it shares motives into *intrinsic* and *extrinsic*. Intrinsic motivation is personal interest and feeling of internal joy of the action itself, where extrinsic motivation is acting to gain something, like a reward (Deci & Ryan 2000, 55).

Motives can be classified in categories also as in traditional motivation theory of Maslow (1954, 1970). Theory presents the *Hierarchy of five-stage model* of needs that people pursue: (1) the basic biological and physiological needs, (2) safety needs, (3) needs for belongingness and love, (4) esteem needs and (5) self-actualization needs. Experts have high education and comprehensive incomes. Considering this, their basic and safety needs are fulfilled. The third, fourth and fifth stages are closely related to experts' knowledge sharing motives. Volunteer knowledge sharing motivation is included in these upper stages.

Extrinsic and intrinsic rewards were the first motivation qualities used by Porter and Lawler in 1968. Also, Maslow (1987) recognized internal and external psychological needs that drove people's actions: internal needs for self-actualization and self-esteem, and external desires for recognition, fame, and reputation. Deci (1975) began using the distinction between internal and external factors in the 70's. He called psychological factors intrinsic motivation, that explained the intensity that people orientate in their hobbies. Intrinsic motivation category contains the desire to feel competent and to self-determine in relation with environment. He also stated external factors as rewards, direct or indirect monetary compensation or recognition of others.

Deci & Ryan (1985a, 2000) share extrinsic motivation further into four types: external, introjected, identified and integrated. These types vary between avoiding punishment and acting according to the inner values without the internal joy towards the action itself. The latter one has the same sense of volition as intrinsic motivation without the action being inherently interesting or enjoyable. Table 3 presents the motivation types from external to intrinsic motivation. Extrinsic motives are on the left, and intrinsic on the right in the figure.

Table 3. Motivation types (Deci & Ryan 2000; Gagné 2009)

Extrinsic motivation				Intrinsic motivation
External	Introjected	Identified	Integrated	Intrinsic
Controlled		*Autonomous*		
Promised reward Avoiding punishment	*Egoistic Seeking approval from self or others*	*Personally meaningful In line with own values*	*Action in line with own goals*	*Personal interest Enjoyment Immediate satisfaction*

Deci & Ryan (2000, 55) share motivation also in *autonomous* and *controlled* motivation types. Autonomous motivation contains intrinsic, integrated and identified motivation, that are volatile actions out of personal interest or enjoyment, getting satisfaction or acting according to own values. Controlled motivation is behavior out of pressure, avoiding punishment or getting approval from self or others. In addition to these, autonomous type includes prosocial motivation that is found often in volunteer actions and helping others. It is a relevant part of study's volunteer knowledge sharing context.

All autonomous types have internal goals, where controlled types are externally driven. In knowledge sharing context, Gagné & Deci (2005) found out that autonomous motivation has more positive effects on knowledge sharing than controlled motivation. This is researched also by Mitchell, Gagné, Beaudry & Dyer (2008) on new information technology use, by Osterloh and Frey (2000) tacit knowledge sharing and Malhotra, Galleta, & Kirsch (2008) in online educational platform use. Autonomous motivation towards goal behavior has a positive effect on intention to share. Gagne & Deci (2005) suggests that the autonomous motivation types should be kept separate theoretically and empirically. Intrinsic motivation seems to generate the interest on tasks, but autonomous extrinsic motivations will increase the actions. This means that integrated and identified motivation provide internal importance especially for more complex and important tasks, and lead to action. These motivations improve the efforts of *solving complex problems, citizenship behavior and commitment to the group*. All autonomous motivations seem to increase volunteering and prosocial behavior. (Gagné & Deci, 2005, 345–8.)

Prosocial behavior is based in desire to benefit other people (Ryan & Connell, 1989). According to Bolino (1999), prosocial actions are related to altruism and they can be called also as organizational citizenship behavior. The theory of reasoned action (Ajzen & Fishbein 1980) defines altruism as a social norm that drives the participation in action. People seem to be naturally prosocial by having nurturing needs (Ryan and Deci 2000). Gagné (2003) has studied prosocial behavior and found out that the need for autonomy is strongly related to prosocial behavior. This kind of behavior is noticed also in studies on environmental protective behavior like recycling, where autonomous motivation predicted actions (Greene-Demers, Pelletier, and Me´nard, 1997). In addition, autonomous extrinsic motivation (integrated) was found out to predict environmental prosocial behavior better than intrinsic motivation (Pelletier, Tuson, Greene-Demers, Noels & Beaton, 1998). Extrinsic reason gives a meaning for the action, and this increases participation more than simply doing something pleasant (Grant, 2008, 48).

When a person has prosocial motivation, there is a will and self-control to achieve a goal. The decision is less autonomous than in intrinsic motivation, where the action itself is the intriguing part. Intrinsic motivation includes a short-term goal aiming at instant pleasure, whereas prosocial motivation aims to long-term goal of fulfilling identified personal values and identity, or introjected goal of avoiding guilt. (Ryan & Deci, 2000; Gagné & Deci, 2005; Grant, 2008.) Offering rewards for conducting prosocial actions might also diminish

motivation. In the 70's Upton (1974) studied blood donors and noticed that rewards decreased blood donations. The same effect was noticed in children in the 80's (Fabes, Fultz, Eisenberg, May-Plumlee, & Christopher, 1989) where rewards decreased the helping behavior, and in knowledge-sharing, where Frey (1993) found out that offering rewards as extrinsic motivator effects negatively in altruism, intention to help. Next, the study will examine motivation types and factors relevant for the study's context.

3.3 Growth Experts' volunteer knowledge sharing motivation to startups

Growth Experts have a knowledge sharing intention to startups in Sitra's program. Since the experts' have applied to the program and do not gain monetary incentives, the action is considered volunteer. As stated earlier, knowledge sharing itself is also voluntary action (Gagné 2009), that reminds helping and prosocial behaviors (Frey, 1993; Gagné, 2009). Sitra is a future-oriented fund that aims to support public administration. Experts participating in Sitra's actions can be seen as *prosocial behavior, helping in national level*. As Gagné stated in her study (2003), autonomous motivation promotes volunteering and other prosocial behaviors, so it is expected to have a significant role in experts' motivations.

Motivation theories describe attitudes as long-term reasons to behavior, whereas short-term reasons will provide a momentary enjoyment (e.g. Deci & Ryan 1985b, 109). The feeling of importance is a common reason for prosocial behavior Gagné & Deci (2005, 345). Internal interest is hardly the only reason for prosocial actions since the short-term enjoyment of the motive. It would be imaginable that not many people like the feeling and situation of donating blood. It is also noticed that rewards can have a negative effect on prosocial behavior, and controlled motivation is expected to have less effect on volunteer knowledge sharing than autonomous motivation.

This kind of volunteerism without monetary incentives is not a new phenomenon. For example, people help each other, donate blood, vote in elections, write in Wikipedia and develop open source software. In knowledge sharing people are willing to share for passion for work, to help others or the group they belong to, to improve own self-esteem, or to gain a reward or avoid punishment (Gagné, 2009, 574). These reasons can be for example social behavior, getting incentives, or situational factors, like startup event's buzz. Since experts need reputation and social contacts, their aim might be to grow their social network and gain personal reputation by volunteer knowledge sharing to startups in the program.

Since study has a strong prosocial context, the prosocial motives are considered as a separate motivation type in addition to autonomous and controlled motivation. According to this, four types of knowledge sharing motivation types from previous research were collected and categorized. Table 4 presents the study's motivation types with the study's theoretical concepts, *controlled motivation types of* rewards and incentives as external motivation, *ego and status* as introjected motivation, *autonomous motivation types belonging and helping* as prosocial motivation, and *values and internal joy* as intrinsic motivation.

Table 4. Motivation types in study's context

Extrinsic motivation				Intrinsic motivation
External	Introjected	Identified	Integrated	Intrinsic
Controlled		*Autonomous*		
Rewards and incentives	*Ego and status*	*Belonging and helping, prosocial*		*Values and internal joy*
Promised reward *Avoiding punishment*	*Egoistic* *Seeking approval from self or others*	*Personally meaningful* *In line with own values*	*Action in line with own goals*	*Personal interest* *Enjoyment* *Immediate satisfaction*

Rewards and incentives in study's context are the possibility to advance own career by gaining contacts, and networking. In addition, experiences and learning increase experts' human capital and the market value of knowledge they possess. This can lead to selling more own services in the future and increased paycheck since the market value. (Gagné 2009, Hars & Ou 2002, Lin 2007, Nov 2007.) These factors are extrinsic external motivations and classified as controlled motivations in this study.

Ego and status related factors are to gain recognition among other peer professionals and increasing professional reputation among peers and other networks. Having recognition increases the belief in own abilities and belief in the usefulness of own knowledge (self-efficacy). These factors relate to perceived control and control beliefs mentioned in theory (e.g. Deci & Ryan 2000, Gagné 2009), that are experts' own beliefs if they have enough skills, resources, and opportunities to share their knowledge. This can be seen as professional self-esteem. Experiences affecting in self-esteem are achieving goals, having

challenges and responsibility, and seeking peak experiences. This category contains also social pressures and norms to act according to expectations and using the power of knowledge to influence others. In this category are also the evaluation of reciprocal (mutual) benefits and costs, and the feeling of mutual indebtedness in social situations. Experts might gain respect and self-efficacy, and give their time and knowledge. (Chen & Hung 2008, Deci & Ryan 2000; Gagne 2009; Gagné & Deci 2005; Hars & Ou 2002, Lin 2007, Maslow 1987, Nov 2007, Wang & Noe 2010.) These factors are extrinsic introjected motivations. This study considers them as controlled motivations.

Needs for belonging and helping others are stated as one category in this study. It contains a need to have affection and a need to identify in a group, like nation, team or professional group. It includes also altruism, the willingness to help others and sacrifice for greater good. (Chen & Hung 2008, Gagne 2009, Gagné & Deci 2005, Hars & Ou 2002, Lin 2007, Maslow 1987.) In this study, altruism can be seen also as a will to relate in the nation, entrepreneurs and startup scene by advancing the growth of Finnish companies and economy. These factors are identified and integrated motives, and they are classified as autonomous and extrinsic motivations. They are related to prosocial behavior and can be stated also as prosocial motives.

Values & internal joy in this study are autonomous motivations, that are intrinsic or introjected. This category contains feelings of independence, autonomy, the feeling of choice for own behavior. It is expected that experts in study's context have these three factors, so they will not be considered. Self-fulfillment, having a meaning for own actions, passion for work, and enjoyment of the task itself belong to this category. These will be found from the empirical data. Expertise features of personal growth and learning, a desire to understand surrounding things and curiosity belong in this category as well. In addition, the social behavior to meet people to have social contacts is part of this group. (Chen & Hung 2008, Deci & Ryan 1985b, Gagne 2009, Gagné & Deci 2005, Maslow 1987, Nov 2007, Wang & Noe 2010.)

All motivation factors and references considered in the study are presented in APPENDIX 1. Knowledge sharing motivation factors from theory. The next chapter will present a summary and an ex-ante theoretical model for the study.

3.4 Summary and ex-ante theoretical framework

The research will examine the experts' knowledge sharing motivations adapting Gagné's model (2009) to the study's context. This summary presents an ex-ante theoretical framework for the study. The framework is based on Gagné's model of knowledge sharing motivation (2009) that is adapted into the context of individual knowledge sharing motivation. Original model's human resource management and staffing dimensions are not considered (*see original model in Figure 3*).

As a summary of motivation types can be stated that main difference between motivation types are the goals they aim for. Internal interest aims to volatile action that provides pleasure or joy for the person. The action contains freedom and high autonomy. Extrinsic motivation is an action out of pressure, hope for reward, or separate consequences than the action itself. Prosocial motivation, on the other hand, is autonomous, and differs from intrinsic motivation by having a longer-term goal, being directed to the future (Grant 2008, 48). Motivation types vary in the amount of self-determination, the feeling of autonomy of the action. Attitudes, sharing norms and need for competence, autonomy and relatedness effect in knowledge sharing motivation. Since autonomous motivation is found out to be superior in volunteer actions and performance (Gagné, 2003; Millette & Gagné, 2008), autonomous and prosocial motivation are considered important knowledge sharing motivation types in this study.

Study aims to find expertise dimensions from data, and analyze the experts' knowledge sharing motivation. The framework will be updated into ex-post framework in the next chapter's iterative process between data and theory. Knowledge sharing motivations are based on motivation theories as in Gagné's model. Gagné shared the motivation factors in her model into motivation dimensions of **attitudes**, **needs** and **sharing norms** based on Theory of planned behavior and Self-determination theory. Figure 4 presents an ex-ante theoretical framework for the study.

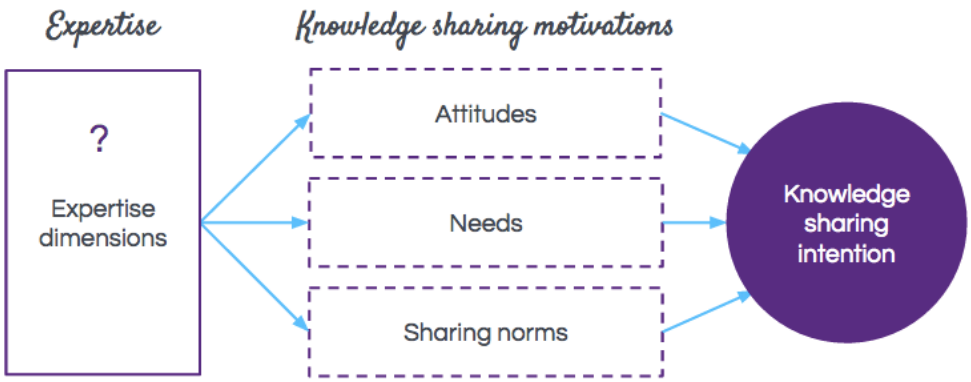


Figure 4. Ex-ante theoretical framework for the study

Next chapter will present the research methodology, research context, research design and method and data analysis.

4 RESEARCH METHODOLOGY

This study aimed to find out, why Growth Experts are willing to share their knowledge to startups. To analyze this phenomenon of individual level knowledge sharing motivation, the study found out experts' reasons to apply to the Growth Experts program. As an empirical material study utilized program applications as secondary data and collected more data by making interviews. Interviews were conducted since application data was secondary data that created some limitations to the study. Semi-structured phone interviews provided deeper insights on the phenomenon. Since the program is dependent on the experts' volunteer knowledge sharing, the study aimed to give ideas for future development. Since knowledge sharing willingness is a key function in knowledge work, volunteer knowledge sharing motivation was seen closely related to work motivation and experts' work context.

This chapter presents the description of the research context, research data structure creation process, and data analysis. Since research's context was relatively new the need for the qualitative approach was seen appropriate, as it seeks to understand new phenomenon or situation by examining it from participants' perspectives (Bryman & Bell 2007, 402; Gioia et al. 2012, 19). The research model was built using abductive approach by utilizing theory and data following Gioia methodology (Gioia et al. 2012). Data collection and research methodology were implemented in the study's context, Growth Experts' volunteer knowledge sharing motivation to startups.

The process looked for themes and dimensions for expertise and volunteer knowledge sharing motivation to draw conclusions on motivational factors from data. By analyzing the application data was aimed to find out, why experts applied to the program and had knowledge sharing intention. The study aimed to develop the Growth Expert program in the future.

4.1 Description of the research context

Growth Expert program was established in 2016. The idea for the program came from a research made by Trailmaker (2015) in Kasvu Open 2015. The research stated, that the Finnish growth-oriented companies lack the knowledge and resources to grow. According to the research, the biggest deficiencies were in the know-how in sales, internalization, and

marketing. (Trailmaker 2015.) Growth Expert program was developed to fill this gap in the market, to find experts for growth-oriented companies.

Growth Expert program was marketed in Kasvu Open events, and to networks of Sitra and Kasvu Open. Experts were asked to apply to be a partner or advisor for a startup company. The goal was a win-win situation: growth companies get to fill the knowledge gap, and experts get a possibility to learn new and build working possibilities. (Nikkilä, 2016.) Experts qualified in the program were expert or leader employees, supervisory board members, investors, entrepreneurs, mentors or consultants, managers, or experts looking for work. They all are knowledge workers, but their work role and situation is very different. Since theory findings, it was assumed that Growth Experts have a university degree and a wide work experience, and they have gained an extensive formal knowledge to base their expertise.

4.2 Research design and method

Since the phenomenon of experts' volunteer knowledge sharing to startups was relatively new, the research model was built using an abductive approach in theories and data following Gioia methodology (Gioia et al. 2012). According to this methodology (Gioia et al. 2012, 17), the organizational world is socially constructed, and people themselves can explain their own thoughts, intentions, and actions. Since this, the study aimed to retain informants' voice throughout the study, from data collection to analysis and reporting as recommended in Gioia method (Gioia et al. 2012, 16–17). The method considers also previous theories and literature as a guide when finding new concepts and a framework for empirical material. The approach is flexible and open to new concept development based on the case study (2012, 16–17, 26). This research aimed to recognize new concepts so Gioia methodology was found suitable for structuring study's data and theory and developing a framework.

First, the study used a deductive approach in planning interviews and reaching the core theoretical outlines of the study. The ex-ante theoretical framework was formed according to this approach. Next, the inductive Gioia's method of systemic presentation of data was used to analyze the interviews and secondary data collected before the study process. Data dimensions and data structure was created according to abductive reasoning. In this point literature, interview insights, and secondary application data was considered. Data structure combined discovered themes and dimensions into study's context and created an ex-post

framework for the study. Content analysis of secondary data was conducted according to the ex-post framework. In the end, the process was iterative between data and literature. Figure 5 describes the empirical research data collection and analysis process.

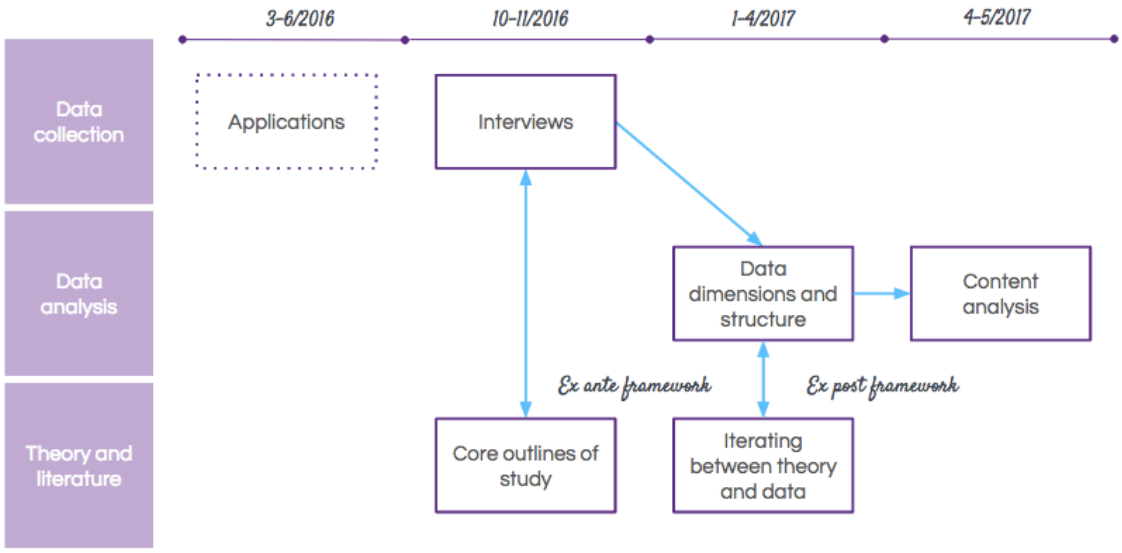


Figure 5. Data collection and analysis

The systematic presentation of data was used to gain insights of expertise and knowledge sharing motivation from data. In this way, the study contained voices of informants and the researcher, and allowed to figure out patterns true to informants and meeting theoretical criterion (Gioia et al. 2012, 17–18). The method served for building the ex-post research framework to conduct the content analysis of application data. Content analysis aimed to find knowledge sharing motives and motivation types in application data. Qualitative content analysis is a method describing and quantifying written, verbal or visual communication (Krippendorff 1980), and it can be used in both, qualitative and quantitative studies (Neuendorf, 2002). It was seen appropriate for analyzing the content.

4.3 Data collection

As stated earlier, the study used two data sources to gain an understanding of the phenomenon: experts' interviews conducted by the researcher and Growth Experts' anonymous applications to the program as secondary data. Using data triangulation is typical for qualitative research. As Gioia et al. state (2012, 19), semi-structured interviews are a good way collect wide and realistic insights directly from people experiencing the phenomenon. Interviews were conducted right after the Growth Expert program. It was

approximately six months later than the experts had written applications to the program. Applications were collected between March and June 2016 and interviews were done in November 2016.

4.3.1 Interviews

Interviews aimed to gain deeper insights on the phenomenon by interviewing participants. Four semi-structured phone interviews were conducted, recorded and transcribed by the researcher. According to Gioia method (Gioia et al. 2012, 19), interviews followed informants story without strict structure. This was important to catch the informants' genuine experiences.

Research questions were formed deductively according to the previous theory on knowledge sharing without a specific definition of the phenomenon at hand. Four informants, presented in Table 5. Interview informants, were chosen to represent experts with different backgrounds. All interviews were conducted between 2nd and 8th of November 2016, after the participants' cooperation with a startup. The length of each interview was approximately 20 minutes.

Interviews contained 9 questions. Questions included

- open personal background question,
- few questions about the program,
    - how did they find the program,
    - how did it work,
    - and how was the experience for them,
- question why did they apply to the program and did they have any doubts,
- what skills or experience they contained that they believed to be useful for a startup,
- what did they want to learn,
- and what did they gained from the experience.

Interview questions are presented in APPENDIX 2. Interview questions.

Table 5. Interview informants

No	Gender	Domains of experience	Current work role
1	Female	Sales and marketing International relationships Coaching Entrepreneur	Entrepreneur (coaching)
2	Male	Sales and marketing communications Business leadership Startup entrepreneur	Startup entrepreneur (IT)
3	Male	Application development Digital services Web architectures Team leadership Business leadership	Head of business unit (IT)
4	Female	Marketing Business consulting	Entrepreneur (consulting)

Interview framework was built considering the main definitions of the study subject. The goal of interviews was, as Gioia methodology suggests (Gioia et al. 2012, 19), to understand the subject from the viewpoint of participating experts, and to recognize new concepts. This was considered important since the study was leaning on secondary data that was not collected considering the needs of this study. Interviews provided insights for finding informant-centric terms and codes for the 1st order analysis.

Research questions were focused on the knowledge sharing and their attitudes towards the situation. In the interview, leading-the-witness questions were avoided according to Gioia method (Gioia et al. 2012, 19), but otherwise, the research questions were mainly a guide for the interview's structure. The discussion was aimed to keep informal to gain good insights and follow informants where ever they lead the discussion. Since the interviews were not the main data in the study and there were only four interviews, the consistency was not seen important. Gioia et al. (2012, 20) state that consistency in research is not the best way to discover new concepts. Interview data was aimed to be more narrative than consistent. Consistency was considered more in organizing the data in 1st and 2nd order categories.

4.3.2 Applications

Study's timing was challenging to research the entire group of 221 applicants. The original plan was to conduct a new questionnaire to the entire group to find out the experts'

knowledge sharing motives. Only 80 experts of 221 applicants were chosen to the project, so most of the applicants were challenging to reach. In addition, the program ended when the study was planned, and the 80 participants were hard to engage as well. A combination of secondary data and interviews was seen as a sufficient solution. After all the existing application data provided quite much information on experts and their knowledge sharing intention.

The application form was created in Spring 2016 to collect interested applicants and to evaluate their suitability to the program. Since original data contained personal information and the data was not publicly available, researcher requested the data anonymously to avoid information security issues. The study was granted a permission to utilize application data for this research's purposes to improve the Growth Expert program in the future.

Applications were collected in a structured online form. The online form contained self-evaluative multiple choice questions and free text fields. Relevant questions for this study considered **expertise dimensions** as previous *work experiences* (previous tasks, current work role) and *skills* (current skills, specialization). Questions that considered **knowledge sharing motivation dimensions** were the *reasons to apply to the program* and *the goal role working with a growth company*. Applicants were asked to report their skills (role-specific practical know-how) in scale *'Little experience–Some experience–Specialty'*. This study aimed to consider the reported skills to see what experts applied to the program possessed. The application form is presented in APPENDIX 3. Growth Experts' application form.

4.4 Data analysis

Qualitative data from interviews and applications was analyzed using Gioia method (Gioia et al. 2012). This systematic presentation of data aims to organize it into 1st and 2nd order categories (Gioia et al. 2012, 18). The goal for Gioia method was to recognize expertise dimensions and dimensions for volunteer knowledge sharing motivation. Method revealed what type of experts are the Growth Experts, and found the reasons for volunteer knowledge sharing to startups in the program. After categorizing data, part of the data is presented in descriptive statistics and finally, a content analysis for application data's free text field of reasons to apply was conducted.

Data analysis contained the following phases:

1. Organizing all data types and planning analysis methods.
2. The 1st order analysis for interview and application data by using informant-centric terms and codes.
3. The 2nd order analysis to recognize research-centric concepts from first step's data.
4. Building data structure, graphic presentation of data progression.
5. Restructuring and recoding data.
6. Building research ex-post framework grounded in the data.
7. Making content analysis.

The next chapter will describe the process of building the data structure and the ex-post framework for the study.

4.4.1 Building a data structure and ex-post framework

In the first step, **organizing all data,** both data sets, their dimensions and data types were collected in a table. Both data sources included content considering *expertise*, roles, experience and skills, and *knowledge sharing motives*, the reasons to apply. In addition, interviews contained experiences after the program, why the experience was worth it, and barriers for applying. Applications had more data on knowledge sharing motivations and it was categorized according to theory. Dimensions and planned analysis methods are presented in Table 6. All data and planned analysis methods.

In interviews, '*experience'* meant informants' backgrounds and contained the current role and previous work experience. Useful skills and knowledge to startup were informants' know-how and skills they considered useful for a startup. Knowledge sharing motives contained reasons why experts had applied to the program, what did they want to learn, what were the barriers for applying, and the best experiences after the program. All answers were qualitative, and they were recorded and transcribed by the researcher.

Applications contained *expertise dimensions* of experts' current work roles, previous experiences, skills (for example 'strategy work'), and special know-how they considered useful for the growth company. *Knowledge sharing motivations* were found from fields considering reasons to apply and goal role working with a startup.

Table 6. All data and planned analysis methods.

Dimension	Question theme	Question No	Data quality	Method
Interviews Expertise: Roles Experience Skills	Experience	IQ1.	Qualitative	Gioia method
	Useful skills and knowledge for startup	IQ5.	Qualitative	Gioia method
Interviews Knowledge sharing motives	Reasons to apply, learning goals	IQ3. & IQ7.	Qualitative	Gioia method
	Experiences (reasons) after the program	IQ9.	Qualitative	Gioia method
	Barriers	IQ9. & IQ4.	Qualitative	Gioia method
Applications Expertise: Roles Experience Skills	Current work role	AQ14.	Qualitative, changed into quantitative (1–10)	Gioia method
	Skills	AQ4.	Quantitative (1–11)	Descriptive statistics
Applications Knowledge sharing motives	Reasons to apply	AQ7.	Qualitative	Content analysis
	Goal role working with a startup	AQ8.	AQ8. Quantitative (1–7)	Descriptive statistics

* *AQ = Application questions*
* *IQ = Interview questions*

The second step, **making the 1st order analysis,** began with examining the data from interviews. Transcribed answers considering expertise and knowledge sharing motivation were collected in a spreadsheet, and first order concepts were recognized from answers. In this phase, also expert roles from application data were included in the analysis. Following Gioia (2012, 19–20), informant terms were retained and data was not categorized. Terms were translated into English for the next steps. Second, the similarities and differences were recognized and 1st order categories were labeled. Experts' interview answers and application data provided 54 experience and skills related 1st order concepts. From interviews 33 knowledge sharing motivation factors were recognized. Synonyms and doubles were combined.

Recognizing the 2nd order theoretical concepts from first step's data was **the third step**. In this phase, theory was observed to find concepts for expertise and knowledge sharing motivation. This second-order analysis aims to find an ex-post framework to use in this research context. According to Gioia et al. (2012, 20), the attention can be in nascent concepts that are not widely researched or existing concepts that fit in the new context. In this research, knowledge sharing motivations were collected from literature and compared to interview motivations, and common terms were chosen. For knowledge sharing motivations 13 second-order terms were formed. For expertise, 9 work roles (after editing, work role field Q14. change described in the fifth step) and 11 application data's skill categories were chosen. In this point, the skill categories were utilized as they were in the data, and the Gioia method was not completely followed. This seemed necessary to gain a reasonable data set for analyzes. Expertise's 2nd order themes were formed according to data and theory, and included 23 themes.

Fourth a data structure was built according to common aggregate dimensions. Gioia et al. (2012, 21) state that a data structure provides a plan how raw data will provide us themes for theoretical analyzes. It combines data, themes, concepts and dimensions and the relevant literature. In the end, 4 aggregate dimensions for expertise and 3 for knowledge sharing motivation data was formed:

- Expertise data aggregate dimensions
    - Education (higher education)
    - Work role (like employee, advisor, investor or entrepreneur)
    - Experience (like length of experience, branch experience)
    - Skills (like strategy work, sales and marketing, digital business)
- Knowledge sharing motivation data aggregate dimensions
    - Prosocial motivation (belonging to a community and helping others)
    - Controlled motivation (ego & status)
    - Autonomous motivation (values & internal joy)

Since education background was not included in the Growth Experts' application data, it was not included in the data structure. Another observation was that application data did not include a comprehensive information on experts' work experience years or branch, so this field was also discarded from the final data structure. Available and suitable expertise dimensions were *work role* and *skills*. Work roles were collected in a free form text field, and they were coded into categories. In skills, the domains of sales and marketing were decided to combine. The interviews revealed that experts often combined sales and

marketing skills. Also in application data, almost all experts in marketing (72 experts) informed to be experts also in sales as well (71 experts). Considering this, these domains were combined into 'Sales and marketing'.

Knowledge sharing motivation aggregate dimensions were chosen to be motivation types defined in theory. Recognizing defined concepts of attitudes, needs and sharing norms in data was considered challenging since the secondary data. This way the ex-ante theoretical framework based on Gagné's (2009) model was reformed containing motivation types of prosocial motivation, controlled motivation and autonomous motivation. Final data structures' aggregate dimensions and the needed data structuring is presented in Table 7. Complete data structures are attached to the study in APPENDIX 4. Data structures.

Table 7. Data structure aggregate dimensions and restructuring content.

Dimension	Aggregate dimension	Application data	Content type	Change into
Expertise	Work role	Q14.	Text field	Categories (1–10)
	Skills	Q4.	Categories (1–11)	Combine domains 2 and 3
Knowledge sharing motives	Prosocial motivation	Q8. Q7.	Q8. Categories (1-7) Q7. Text field	- -
	Controlled motivation			
	Autonomous motivation			

Need for this change lead to the next, **the fifth step of the data analysis,** that contained restructuring and recoding all data to be comparable for analysis. In the original data experts' work roles (Q.14) were collected with an open text field. Goal roles (Q8.) on the other hand was a categorized field in a scale of 1–7. To make comparisons easier between current and goal roles, the field *Q14. Current role* was coded into equivalent categories with *Q8. Goal role*. These categories were utilized in expertise data structure described in the fourth step of data analyze. Work roles after categorization are listed in Table 8. In addition, as presented, sales and marketing domains were recoded into one category, *Sales and marketing*.

Table 8. Expertise work roles.

Current role	Goal role
1 = Employee	1 = Employee
2 = Advisor or board member	2 = Advisor or board member
3 = Investor (expertise or capital)	3 = Investor (expertise or capital)
4 = Entrepreneur or partner	4 = Entrepreneur or partner
5 = Coach or consult	5 = Coach or consult
6 = Interim manager	6 = Interim manager
-	7 = Open for everything
8 = Managing director, CEO	-
9 = Other roles	-
10 = Experts looking for work	-

As the **sixth step of data analysis**, the ex-post research framework was build according to data and theories. Gioia et al. state (2012, 22) that the framework is meant to present all concepts, themes, and dimensions of the study. Ex-post framework presented in Figure 6 consists categories of expertise dimensions of **roles and skills,** and knowledge sharing motivation dimensions of **autonomous**, **controlled** and **prosocial** motivations.

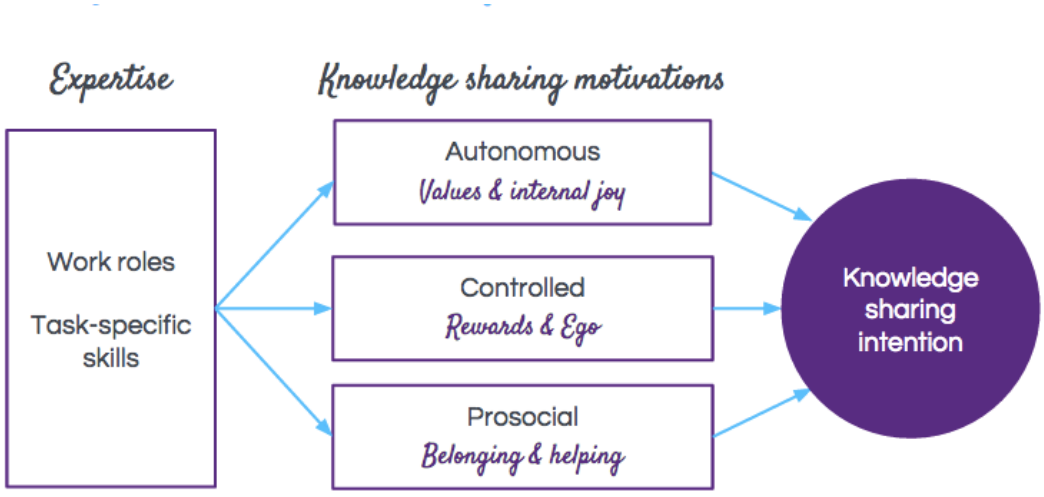


Figure 6. Ex-post framework

Next chapter will describe making the content analysis for applications to find knowledge sharing motivations.

4.4.2 Content analysis

Qualitative content analysis was used to analyze knowledge sharing motivation mentions in application data's free text field. Content analysis is originally developed in communication studies to analyze text material, like newspaper articles in a quantitative way. The qualitative approach into content analysis was developed later for human sciences, communication and language studies. It can use either, inductive or deductive approach, or in qualitative or quantitative studies. (Mayring 2014, 17; Krippendorff 1980; Neuendorf, 2002.) In this study, the content analysis used abductive approach by utilizing the dimensions formed with Gioia method using both, theory and data. In other words, content analysis utilized knowledge sharing motivation dimensions defined in previous steps of data analysis.

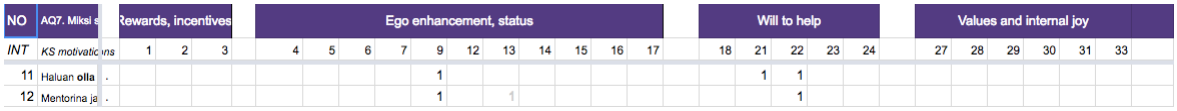
As stated before, data contained 221 applications. 182 of the applicants (82 %) had answered to the motivation question *AQ7. Why do you want to participate in growth company's operations (as a Growth Expert)?* This lead to a decision that 18 % of the applications were discarded from content analysis to make valid conclusions. Answers were in a text field as written content, and length and quality of answers varied. The content was analyzed to identify the knowledge sharing motives of applicants according to defined themes.

First, content was read through carefully making some perceptions and adding notes to the text. Question AQ7. contained 182 answers and 5 245 words. Next, the content was read through again this time considering the meanings of content and words. Motivations were aimed to recognize. All recognized motives were marked in the text and with "1" into columns in the text content line. Almost all answers included more than one motivation factor.

For example, an application citation and motivations marked with bold text:

"I want to ***advance (companies) growth***[1] *and scalability* ***using my know-how***[1]*.*
I want to ***challenge my own solution patterns***[3]***, lean new***[4] *and…"*

From this content was discovered four motivations: *1. want to help startups to grow*, *2. belief in own abilities, 3. need for challenges,* and *4. learning*. The motivation categories and factors were recognized from the content and recoded in a table. The table included a column for each motivation. In the column, the value '1' meant that the application mentioned this motivation, and empty field implied that application did not mention motivation. An example of content analysis lines in Figure 7. Text content was in the column AQ7., applicant number was in the column NO, and knowledge sharing motivations were marked in the same line in the cells of knowledge sharing motives in question.



NO	AQ7. Miksi s	Rewards, incentives			Ego enhancement, status											Will to help					Values and internal joy					
INT	*KS motivatio ns*	1	2	3	4	5	6	7	9	12	13	14	15	16	17	18	21	22	23	24	27	28	29	30	31	33
11	Haluan **olla**	.							1								1	1								
12	Mentorina ja	.							1		1							1								

Figure 7. Content analysis example.

Challenge was to use the analyze terms applicants used. This was dealt according to Gioia et al's (2012, 22) recommendation to develop rules how to code the terms according to own interpretation on the matter.

After recognizing knowledge sharing motivation dimensions, descriptive statistics out of data were reported and analyzed to find amounts, similarities and patterns in expert groups and knowledge sharing motivations. The findings will be presented in the chapter 5.

4.5 Reliability and validity

A qualitative study's reliability and validity are challenging to evaluate. The study is in any case also subjective and considers researcher's personal attitudes on the subject as well. This study's reliability and validity were considered according to Tracy's (2010) article on 8 validity criteria on qualitative research: worthy topic, rigorous data, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence (Tracy 2010, 840).

The topic was considered worthy because volunteer knowledge sharing to startups was a quite new phenomenon, and according to Endeavor Insights (2014) important for startups success. Increasing knowledge work and outsourced workforce make the volunteer knowledge sharing important and interesting in many contexts.

Data rigor was considered when interviews were chosen to be another information source in addition to secondary application data. The challenge in data sources is that they are collected at different times. Applications were written when experts had only an idea of the upcoming experience, and interviews were made after the experience. This can be seen as a problem and advantage. Experiences might have changed the experts' attitudes towards the context, but also make the experience more realistic. Interview informants probably remembered only the experience, not their application answers. Also, secondary data questions were formed to serve another purpose than literally *'volunteer knowledge sharing to startups'*. Secondary data did not contain sufficient information on experts' backgrounds nor direct options for knowledge sharing motivations. Using secondary data created a lot of challenges for study's methods and combining the subject into a theoretical framework.

Sincerity in the study is probably the most challenging part. Since knowledge work and volunteer knowledge sharing generates strong opinions from researcher's own work experiences, it is impossible to completely avoid subjective values and interpretations. A need for self-reflection was more present when making and analyzing interviews, since researcher had met all the informants, and gained some of the same experiences as Growth Experts' in participating in the Kasvu Open events. Getting too close to the informant experiences might lead into adopting their views (Gioia et al. 2012, 19). On the other hand, these experienced gave a good basic information for analyzing the data. Considering that also interview data was presented with systematic Gioia method, it helped to decrease subjectivity in analyzing the interview answers. The content analysis was the challenging interpretive part for the researcher. All the application data was anonymous and it did not include any opinions on the informants. In addition, the subjective challenge, the study aimed to keep the method part as transparent as possible, and describe also challenges to hold on to the research sincerity.

The credibility of the study was increased using details and examples with describing and showing the data. To keep the secondary data relevant and credible, interviews were conducted to gain data triangulation. Credibility challenge was only one researcher and her subjective and possibly naïve views without reflections of other group members. This was inevitable since the nature of the master's thesis.

Study's **resonance** to different audiences was not considered during the writing process. Naturally, a startup entrepreneur will interpret results in a different way than a startup investor or an expert. Since the individual knowledge sharing motivation context, the view

of the study is experts' view, and generalizable among individual expertise motivation studies. The information is useful also for recruiters, HR-managers and startup entrepreneur. The content and results can provide knowledge work insights to them.

Contribution's **significance** brings conceptually new insights on supporting startups, and experts' behavior and motives. Conceptual meaning is more important than theoretical findings on knowledge sharing motivation. The study did not aim to create new theory but to explain the new phenomenon with knowledge sharing motivation considered in study's context. Practically the results can help to reach more potential Growth Experts to the program, and to create better marketing messages to attract right kind of experts. The moral contribution is seen in the experts' overall willingness to help. It is not only other entrepreneurs who are interested in the startup entrepreneurs' *pay it forward* culture.

Study's **ethical consideration** was to decide to handle application data anonymously to protect the personal data and views according to data security. Analyzing human behavior according to individual interpretations of data needs includes the ethical frame of the researcher as well. Results are aimed to be objective but cultural and situational factors influence in interpretations as well. This considers especially the content analysis that made conclusions out of written text. Patterns were recognized and analyzed according to personal consideration that can also be biased. Research results are shared with Growth Expert program owners and they will be also public when this thesis is published. Every reader will need to use own consideration in utilizing of the results.

The coherence of the study was a challenge since secondary data was adapted into the research context. The original idea was to make quantitative research on knowledge sharing motivation for Growth Experts, and the original study methods and theories were planned according to this. Interviews were supposed to be background information to reach relevant theories and plan a questionnaire form. When the data sources changed into interviews and secondary data, the coherence and logic of the study suffered. Goals of the study remained, but methods and procedures changed to match the data choices. This change can be seen in the study's coherence within the theory and empirical section, and several methods used. Also, research questions changed several times during the process. Either way, Gioia et al. (2012, 20) state that consistency in research is not the best way to discover new concepts.

5 RESEARCH FINDINGS

Research findings chapter presents the study results, answers to research questions and a summary of findings. The structure of chapter is following the order of research sub-questions. The first chapter will present, what type of experts are willing to share knowledge voluntarily to startups (SQ1). This means Growth Experts' roles, skills and other information found from data. Second, data will be studied to find out the which factors motivate experts to share knowledge voluntarily to startups (SQ2). Third, the question how do motivation factors differ between expert types (SQ3) will be answered. Finally, a summary is presented and the research question (RQ), *Why do experts want to share knowledge to startups for free*, will be answered.

5.1 Growth Expert types

Growth Experts' work roles and skills were examined to define the expert types applied to the program. This chapter will clarify the findings from data.

The most **work roles** of 182 applicants were *employees with expert or leader status* (47), *entrepreneurs or partners* (50), or *coaches or consultants* (51). Applicants contained also 31 managing directors, 21 advisors or board members, 13 experts looking for work, and a mixed group of other roles, like 'taking a break year' or researchers (14). A minority of applicants were interim managers (4) or investors (2). Part of the experts worked in several roles. Interim managers, investors, advisors or board members, and other roles were not investigated since the amount was too small or roles of applicants were mixed. Experts looking for work were considered, despite the small number of applicants. This was due to the interest of their different status and motives to apply to the program.

In self-evaluating their own **expert skills**, the most applicants considered themselves as experts in *strategy work* (123) and in *sales & marketing* (121). Also, 107 experts reported to have an ability of *building partner networks*. *Internationalization* is a specialty for 84 experts and *human resource management* for 107 experts. Rest of the skills were digital business and service design (57), finance (35), funding (34), procurement and purchasing (23), and business law (7). Expert work roles, the number of applicants of each role and reported skills are listed in Table 9. Applicants work roles and skills.

Table 9. Applicants work roles and skills

Work role*	All	1	4	5	8	10
Number of applicants	**182**	47	50	51	31	13
Reported to have the skill						
1 = Strategy work	**123**	27	38	39	22	5
2 = Sales & marketing	**121**	28	35	32	20	9
4 = Digital business and service design	**57**	13	17	17	8	5
5 = Procurement and purchasing	**23**	4	9	10	2	2
6 = Internationalization	**84**	25	19	28	14	3
7 = Finance	**35**	10	13	5	6	0
8 = Funding	**34**	7	9	10	3	1
9 = Human resource management	**94**	19	25	30	20	4
10 = Building partner networks	**107**	28	31	28	19	6
11 = Business law	**7**	3	0	1	1	0

** Work roles*
1 = Employee (expert or leader)
4 = Entrepreneur or partner
5 = Coach or consultant
8 = Managing director, CEO
10 = Experts looking for work

Table 9 collects the experts' skills and numbers for all experts and role-specific for: (1) employees, (4) entrepreneurs, (5) coaches or consultants, (8) managing directors, and (10) experts looking for work. The most common, top 3 skills for all roles were *strategy work, sales and marketing, and building partner networks* (the highlighted cells in table 9). Since this, it seemed that Growth experts' skills did not provide notable expertise dimensions for the analysis, for example, *CEO's with strong internationalization skills*. Therefore, study decided to use expert work roles as expertise dimensions in analyzing experts' knowledge sharing motivations.

As an answer to a sub-question 1 can be stated, that *Growth Experts are expert employees, consultants or entrepreneurs, who are working in a responsible, expert role*. Skills of applicants were to be similar in all roles, and the most common skills were *strategy, sales and marketing,* and *ability to build networks*. Following roles were included in the further

analysis: 1) employees, 4) entrepreneurs or partners, 5) coaches or consultants, 8) managing directors, and 10) experts looking for work. Next chapter will investigate knowledge sharing motivation according to these expert types.

5.2 Experts' volunteer knowledge sharing motives

This chapter will present the Growth Experts' knowledge sharing motivations: goal roles working with a startup in the program and reasons to participate found from content analysis. Knowledge sharing motivations were discovered from application data, why factors (application data AQ7), and goal roles (application data AQ8). Goal roles were examined as influencers for other knowledge sharing motivations since they were specified in the application form.

Question AQ7. contained 182 answers and there were found 24 knowledge sharing motivations. Different factors appeared altogether 517 times and represented all three **motivation types** defined in the data structure: controlled motivation, prosocial motivation, and autonomous motivation. The most mentioned motivation type was renamed as **rewards and ego** (controlled motivation) that included 45 % of the mentioned factors. The next mentioned was renamed as **belonging and helping** (prosocial motivation) with 29 % of the mentions. Almost the same amount of mentions was included in the smallest motivation type, that was renamed as **values and internal joy** (autonomous motivation), 26 %. See table 9 and 10 for results, most mentioned motivation types, motives and mentions. Findings in Table 10 are added to the scale of different motivation types presented in Table 3. Motivation types (Deci & Ryan 2000; Gagné 2009). Controlled motivation includes motivations controlled by external factors, and autonomous factors include the more volitional actions.

Table 10. Knowledge sharing motivation results.

Extrinsic motivation				Intrinsic motivation
External	Introjected	Identified	Integrated	Intrinsic
Controlled motivation		*Autonomous motivation*		
Promised reward *Avoiding punishment*	*Egoistic* *Seeking approval from self or others*	*Personally meaningful* *In line with own values*	*Action in line with own goals*	*Personal interest* *Enjoyment* *Immediate satisfaction*
Rewards & Ego 45 %		Belonging & helping 29 %		Values & internal joy 26 %
Career advancement Selling own services	**Belief in own abilities** Ego enhancement Need for challenges Power of knowledge, influencing Achieving goals Professional reputation	**Will to help startups** Belonging to a group Will to help nation Will to help others Sacrifice for greater good		**Personal growth and learning** **Meaningfulness** Enjoyment or interest to the task itself Curiosity, understanding, inspirations Social behavior Passion for work

The most mentioned **motivations** in Growth Experts applications were the *belief in own abilities and knowledge* (115 mentions I 22 %), and the *will to help startup* (80 mentions I 16 %). These can be seen as the most important reasons that included 38 % of all mentions. On the other hand, when considering that experts applied to the program and they were asked to *describe their willingness and interest* in the application, the two of most mentioned factors were somewhat expected. They described their abilities and willingness to help startups in the program. Considering this, the next factors were more interesting. Personal growth and learning (32 mentions) and understanding, curiosity, and inspiration (19 mentions) are expertise features, that experts need in self-development and retaining their expertise. The most mentioned motivations are listed in Table 11. Total list of mentioned knowledge sharing motivations with motivation types are listed in APPENDIX 5. All knowledge sharing motivations and mentions. As one of the applicants stated:

”I have learned something on the way and I want to share it. In the same time, I’ll keep on learning. Entrepreneurs are brave people who employ themselves and others. They deserve all the support. I feel childlike joy when someone resonates with my ideas and finds them useful.”

Table 11. The most mentioned motivations.

Motivation type	Knowledge sharing motivations	
Controlled motivation, rewards & ego	**Belief in own abilities and knowledge**	**115**
	Career advancement	17
	Selling own services	17
	Ego enhancement	17
	Need for challenges	15
	Professional reputation	8
Prosocial motivation, belonging & helping	**Will to help startups**	**80**
	Belonging	26
	Will to help nation, serving public interest	24
	Altruism	14
	Sacrifice for greater good	4
Autonomous, values and internal joy	**Personal growth, learning**	**32**
	Having meaning, self-fulfillment	*26*
	Enjoyment or interest of the task itself	*26*
	Understanding, curiosity, inspirations	19
	Social behavior	18

Motives belonging (26), meaningfulness (26), enjoyment or interest of the task itself (26), social behavior (18) and passion for work (16) are all autonomous motivations. It seems that it may be stated that autonomous motivation has an important for Growth Experts. Another important factor was the willingness to help the nation and to serve the public interest (24), that is a prosocial motive. In content analysis, the altruism factors were distinguished into a will to help a startup, a will to help people, and a will to help the nation. The helping targets seemed to have a different meaning in the analyzed content so this seemed to clarify the motives.

Controlled motivations, in addition to belief in own abilities and knowledge, had a smaller share of mentions than autonomous factors. Though all mentioned controlled factors support expert-like behavior: career advancement (17), selling own services (17), need for

challenges (15), and professional reputation (8). This study included networking and meeting people under the factor professional reputation, and these factors were mentioned often especially in interviews. Also, the possibility for ego enhancement (17) in challenging projects is valued by experts. The need for challenges and supporting startups can be seen in following applicant's statement:

"I would like to use my knowledge for meaningful things like supporting the growth and actions of Finnish companies. In the same time, I aim to my (professional) growth and learning. I have worked in a public sector for a long time and it would be nice to work closer to clients and have a leaner working environment. And I want sincerely to support small businesses."

Motivation types were considered also without the two first dominating reasons (*belief in own abilities* and *will to help startups*) to provide more generalizable results. Excluding the two factors changed the relative division of motivation types. *Autonomous motivation was highlighted containing over 60 % of the experts' mentions*: values and internal joy had 42.5 % and belonging and helping 21.1 %. Controlled motivation contained 36.3 % of the mentions. This orientation into meaningful and altruistic intention was seen in the answers of question AQ7. where was mentioned quite often the *paying it forward* concept. For example, few statements from applicants:

"I believe in doing good, paying it forward. I believe that I have experience that will support some of the growth companies, and supporting these companies is the best 'good' you can do in Finland!"

"I'm curious and I want to bring PayItForward and CanDo cultures into Finland. I would like to improve especially sales skills and know-how in companies."

According to this chapter the sub-question '*SQ2. What motivates experts for free knowledge sharing?'* can be answered. Experts share knowledge volunteer to startups since they believe in their abilities and find their knowledge useful for others. In addition, they want to help startups to grow by providing free knowledge for them. As a summary can be stated, that experts share knowledge voluntarily since **they want to feel capable, useful, enjoy their tasks and helping others, gain professional connections, be part of a group** and **be accessible on the job market**. They want to develop their **expertise in expert-like**

behavior: challenging themselves and learning constantly new. Next chapter will compare the knowledge sharing motivations between expert types.

5.3 Differences in Growth Experts' volunteer knowledge sharing motivation

Differences of experts' knowledge sharing motivation were examined considering their work roles and goal roles in the program. The roles defined earlier were investigated: 1) employees, 4) entrepreneurs or partners, 5) coaches or consultants, 8) managing directors, and 10) experts looking for work. This chapter highlights the goals and motivations of each group and compares these with each other.

As the previous chapter stated, the most mentioned motivations in the study (38 %), were the *belief in own abilities* and the *will to help startups.* These factors were also top motivations for all investigated groups. As also stated in the previous chapter, these factors cannot be generalized without a doubt since Growth Experts' were asked to write how and why they would be willing to help startups. Since they applied, they all had a will to help startups and they believed that their knowledge and abilities are sufficient for this. This was considered when examining the differences in Growth Experts' knowledge sharing motivations.

Different roles considered were **employees** who worked as experts, **entrepreneurs or partners**, **coaches or consultants**, **managing directors**, and **experts looking for work**. Current roles, experts' goal roles, and knowledge sharing motivations are presented in Figure 8. The figure excludes the common shared motivations, the *belief in own abilities* and the *will to help growth companies*, to highlight the comparable factors.

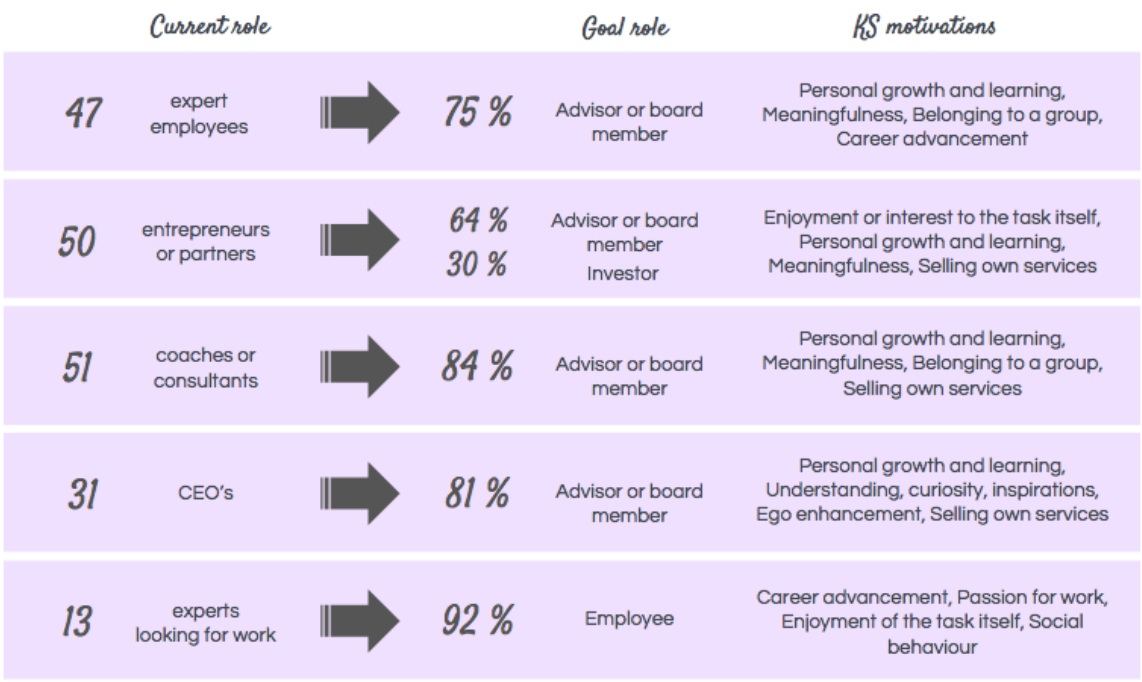


Figure 8. Current roles, goal roles, and knowledge sharing motivations.

Application data included **47 employees** who worked as experts or middle managers in organizations. 74% of expert employees stated **advisor or board member for a company** *as* their goal role. In addition to common motivations, the most important motivations for this group were personal growth and learning (10 mentions), meaningfulness (8), belonging to a group (7) and career advancement (6). In the text content, the meaningfulness and supporting startups were highly supported. Quote from two expert employees who aimed to be advisors:

"When you get to work with entrepreneurs who are craving for growth (of the company), it gives you energy and keeps you mentally active. All Finnish entrepreneurs who are willing to grow their companies deserve all the possible support."

"(I participate) To help and be involved in the growth of a company and gain vigor for me."

Another group that aimed to be advisors or board members, were **entrepreneurs or partners** (**50 applicants)** in their own companies. Out of this group, 64 % were interested in being an **advisor or board member**, and 30 % of them wanted to **invest in a growth-oriented company**. Motivations were personal growth and learning (9), meaningfulness (8), enjoyment or interest to the task itself (12) and selling own services (7). Groups'

motivations differed from employees replacing career advancement with selling own services. This was obvious considering the different status of an entrepreneur and an employee. Entrepreneurs did feel the enjoyment or interest to the task itself (12) more than employees (5). As one entrepreneur stated:

"I have a burning desire to share my experience and knowledge and to generate growth and internalization for a company. I have founded five companies, sold two of them, acted in (several) boards of directors, entered in international markets, had grand success and spectacular failure. But it hasn't been boring and (I) have survived from it all.

This group is overlapping with groups *coaches and consultants* and *managing directors* in the data since the roles do overlap and several roles were chosen in applications. This might bring similarities in these groups.

Data contained 51 coaches and consultants and over 80 % of them aimed also to be advisors or board members. Their motivations were quite similar as employee experts' motivations. This could mean that consultants identify themselves more as freelancer experts even if they would be working as (private) entrepreneurs. In addition to common goals, this group wants to learn (10 mentions) and have a meaning in their actions (9 mentions) and to belong to a group (9 mentions). Also, experts in this group do want to sell their own services and products (8) and advance their career (5). It might be that group includes experts with a different working life status. As one of entrepreneurial consult stated:

"I want to offer my knowledge and experience (--).
I have over 20 years of experience (--) of commercialization and challenges of health and wellness business. I want also to make my own company known as an expert of this branch. I do believe that I have a lot to offer for companies.
I have sparred over 500 companies on this branch…"

31 managing directors had applied to the program, and 81 % of them aimed to be advisors or board members as well. Their motivations differed compared to previous groups. In addition to learning (5 mentions) that was a common motivation with others, their motivations were curiosity, understanding and gaining inspiration (4), selling their own products or services (4) and increasing their professional self-esteem (4). Curiosity had a bigger role in this group. Group was smaller, including 31 applications, but it had only a few mentions of a need for meaningfulness and own values (2) and social behavior (2). Also,

the share of controlled motivation was higher, 53 %, than in all applications, 45 %. Few quotes of CEO's applications under.

"I want to share my expert knowledge
because knowledge is not power but strength."

"(I participate in) To network and to learn. And to pay it forward."

Experts looking for work were a small group of only 13 applicants. It was included in the study since their differing status. They can be as experienced as the others, but their motivations vary. First of all, 92 % of them wanted to be employees in startups. That is 12 out of 13. They did aim more to career advancement (4), social contacts (3), felt enjoyment of the task itself (3) and passion for work (3). Belonging and helping factors had only 16.2 % of mentions, where in all groups this category included 28.6 % mentions. The content of applications highlighted more about good qualities of experts themselves than their interest in the context. The text feels more like a job application. Few examples under.

"I would like to be part of a growth company since I have always been interested in innovations and creating, and tricky challenges. I want to 'put myself out there', step into my discomfort zone and learn new things. I believe that for my analytical mind and energetic character this would be very inspiring and motivating. It would be great to have an influence in operations and see the results of own work. And it would be great to be part of an energetic group!"

"I am enthusiastic innovator and builder of processes,
who would bring an enormous benefit to a growth company."

Next study presents a summary of differences in experts' knowledge sharing motivations and an answer to the sub-question SQ3, *How do motivations differ between expert roles?* All expert groups shared the most common motivations, belief in own abilities and will to help startups. Almost all groups aimed to be an advisor for a startup and they were looking for expert-like personal growth and learning. Only (10) experts looking for work aimed to be employees in a startup, and did not highlight learning as a goal. Entrepreneurs were often interested in investing as well. Meaningfulness seemed to be important for groups (1) employees, (4) entrepreneurs and (5) coaches and consultants. (8) CEO's and (10) experts looking for work had fewer mentions in this. Career advancement was important for groups

(1) employees and (10) experts looking for work. (4) entrepreneurs, (5) consultants and (8) CEO's were looking for to sell their services after the program.

Groups have differences when considering motivation types and share of the mentions presented in Table 12. Rewards and ego group was the highest for all, since the top motivation of belief in own abilities. Corporate employees seemed to need relatively fewer rewards and ego factors than others. Belonging and helping seemed to be more important for employees than for experts looking for work. CEO's mentioned fewer factors related to values and internal joy.

Table 12. Roles and knowledge sharing motivation types

	1	4	5	8	10
Rewards & Ego	41%	50%	47%	53%	51%
Belonging & Helping	33%	22%	29%	27%	16%
Values & Internal joy	26%	28%	24%	20%	32%

Next, the study will answer the main research question and make conclusions of the findings.

5.4 Answer to the research question

Previous chapters presented the roles as dimensions for expertise, examined the experts' knowledge sharing motivations and their differences in expert roles. All these matters aim to answer the research question of the study, *'Why do experts want to share knowledge voluntarily to startups?*'.

Figure 9. Study results summarize the findings. Data consisted of 182 experts' applications that included 10 expert roles. Five of the roles were seen significant: 1) employees, 4) entrepreneurs or partners, 5) coaches or consultants, 8) managing directors, and 10) experts looking for work. Experts work in **responsible, expert role**, and they might have several work roles. Experts aim to be in **three roles** for a startup: advisor or board member (69 %), investor (19 %) and employee (15 %). Other groups (1, 4, 5 and 8) aim to be advisors or investors, and experts looking for work (group 10) aim to be employees. **All groups find motivating** to share knowledge *the belief in own abilities* and *will to help startups*. Motivation mentions were found 517 from application content. In addition, the need

for expert-like behavior, like learning and challenges was highlighted. Advancing career or selling services, by networking and being accessible for projects were important as well.

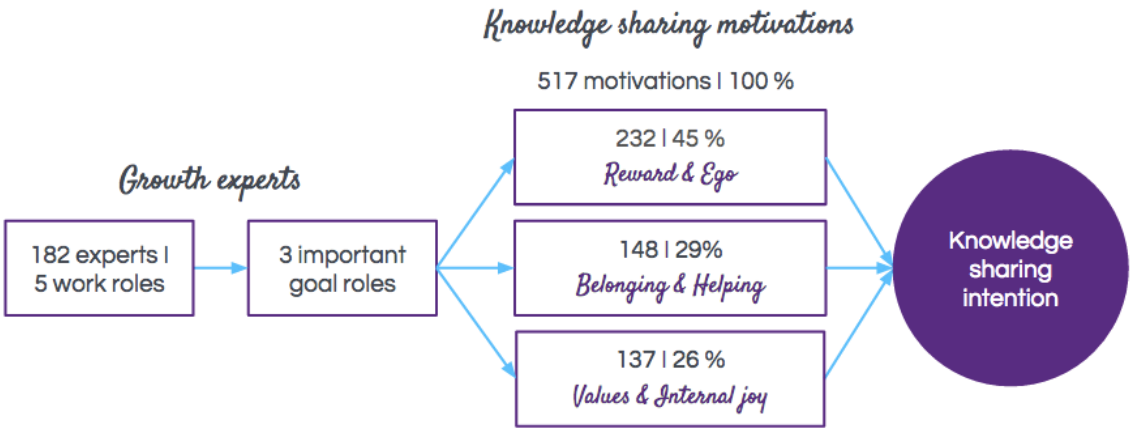


Figure 9. Study results

Shortly the categories, *rewards and ego* had more mentions (45 %) than *belonging and helping* (29 %) or *values and internal joy* (26 %). Since the last two categories are considered as autonomous motivations, autonomous motivation is more important (54 %) for Growth Experts than controlled motivation (45 %). Autonomous motivation factors also differed between groups. Meaningfulness seemed to be important for groups employees, entrepreneurs and consultants, but CEO's and experts looking for work did not value meaningfulness as much. CEO's are curious and entrepreneurs act according to their personal interests.

Considering the findings, the answer to the research question of the study, *'Why do experts want to share knowledge voluntarily to startups?*' is: since they believe they can, they want to help startups and Finnish nation, and they want to learn, gain new experiences and be available for projects – to act expert-like.

6 DISCUSSION

This chapter will conclude the findings, consider the practical implications for Growth Expert program and knowledge work, and present the implications of the research. In the end, critical appraisal and future research suggestions will be made. The aim of this study was to discuss experts' knowledge sharing motivation to startups, and to bring new understanding of experts' knowledge sharing motivation in informal, non-organizational context. The study presented theories of expert knowledge and volunteer knowledge sharing motivation, and researched Growth Expert dimensions and their volunteer knowledge sharing motivation to startups. This chapter considers Growth Experts' volunteer knowledge sharing motives and the findings' meaning to a bigger picture.

Experts share knowledge voluntarily since they *believe in their abilities* and they find *knowledge useful* for others, and that they believe to have enough skills and resources for sharing. As stated in theory, this can be seen as professional self-esteem of the expert. In addition, they *want to help* startups to grow by providing this knowledge. By doing this they want to gain *experiences* and *new networks*, *challenge themselves* and *increase their expertise*. This is expert-like behavior that is recognized also in expertise research (Bereiter & Scardamalia 1993).

Experts in their current role, especially expert employees, are tied into their own job description and its challenges. Seeking new challenges outside of the own job can be seen as expert-like behavior, that according to gains new knowledge for experts. As stated in theory, experts need to work with problems that are on the edge of their understanding and challenge them to gain new levels of competence (Bereiter & Scardamalia 1993, 73). In addition, experts are seeking the problem-solving process (Bereiter & Scardamalia 1993) and constant learning (Tynjälä 1999) to develop their expertise. Behavior describes well the Growth Experts reasons to participate in the program. A great example from one applicant:

"I want to enhance and accelerate growth process and scalability using my own expertise. I want to challenge my own thinking models, learn new and offer timely my network's possibilities. I want to be part of growing digital business (--)."

In addition to learning, experts aim to gain professional reputation and advance their career. This was not in the most mentioned motives, but it needs to be considered. According to theory, experts need personal reputation and social connections in outsourced expertise

work and temporary projects (Drucker 2002; Hertzum 2014). This way experts aim to gain new work possibilities. In addition, they need to be visible and accessible (Hertzum 2014) in the job market. This might be one of the experts' reasons to volunteer knowledge sharing to startups, even if they wouldn't state that in the application. This was seen in interviews, where a good networking possibility was mentioned several times.

Experts seemed to believe in their abilities to share useful knowledge. Belief in own abilities and knowledge is the **control belief** defined by Gagné (2009, 572), where expert believes to have enough skills and resources for the action. The same factor is described also as self-efficacy (Deci & Ryan 2000; Chen & Hung 2008) or competence (Gagné & Deci, 2005), and its placement in motivation categories is both, internal and controlled motivation. Since this study uses Self-determination theory's controlled and autonomous motivation types, the factor belongs in introjected motivation (Deci & Ryan 2000) and is considered as controlled motivation factor. If the study would use only for example extrinsic and intrinsic motivation types, the factor would be considered as intrinsic motivation. This is good to keep in mind when making conclusions of motivation type meaning in this context.

After the most popular knowledge sharing reasons, autonomous motivations had the most mentions. Belonging (26), meaningfulness (26), enjoyment or interest of the task itself (26), social behavior (18) and passion for work (16) are all autonomous motivation. The theory stated that autonomous motivation is important in knowledge sharing and in volunteer work (Frey 1993; Gagné 2003; Deci & Ryan 2000). Autonomous motivations influence positively in knowledge sharing and volunteer actions (Frey, 1993; Gagné, 2009). This seems to be true in this study as well. In the findings, autonomous motivation was represented in the need to do meaningful actions to get self-fulfillment, and enjoying the tasks are important. These factors can be stated to have a positive influence in the experts' volunteer knowledge sharing motivation. The study's results were also in line with Hsu & Lin's (2008) findings of knowledge sharing motivation in blog usage where enjoyment, altruism, community identification (*belonging* in this study) and a possibility to gain reputation had a positive influence on intentions to blog.

6.1 Theoretical implications

Theoretical implications of the study concentrated on the behavior of experts. Experts in knowledge work era work with knowledge in temporary project organizations. Work contains a lot of freedom but also responsibilities to organize the work and update the needed

knowledge. Theoretically, the knowledge sharing motivation of experts reached new extensions and one study model. New aspects were volunteer knowledge sharing without monetary incentives, knowledge sharing to startups, and informal, non-organizational knowledge sharing context. Study model utilized controlled and autonomous motivation types and considered prosocial motives as a separate group.

In knowledge work, volunteer knowledge sharing is the key to the results. As stated in the introduction, knowledge sharing is a voluntary action, and expert needs to be willing to share the expert knowledge to work. In organization environment employees have their salary and other monetary compensations for working, so the situation is different from the study's informal context. The most important motivation factors were the *belief in own abilities*, the *will to help startups*, *personal growth and learning*, *meaningfulness* and *enjoyment of the task itself*. In many studies, the feelings of competence, autonomy and belongingness are the main motives for knowledge sharing (eg. Gagne 2009; Gagné & Deci 2005; Stenius et al. 2016), and they are the necessary individual needs also in Self-determination theory (Deci & Ryan, 1985a, 2000).

The same reasons are seen in *belief in own abilities* that equal competence, and *autonomous motivations* that include also belongingness. These represent over 50 % of all motivation mentions, so findings back up the meaning of autonomous motives to have a stronger effect in knowledge sharing in this context as well. Also in a research made of Wikipedia content production motivation (Nov 2007), autonomous motivation types had a bigger role: enjoyment (Fun), personal values (Ideology and Values) and learning new (Understanding) were the most important reasons to produce content. In this research, on the other hand, controlled motivation had a strong role mostly since it includes the belief in own abilities. From other controlled factors, only career advancement and selling own services had some mentions in the experts' applications. Gaining rewards in this context is to gain visibility and networks. The study verifies the role of autonomous motivation in voluntary behavior and knowledge sharing (Frey 1993, Gagné 2009).

When considering the different definitions and motives, belief in own abilities and knowledge is the same as control belief defined by Gagné (2009, 572). In the control belief, expert believes to have enough skills and resources for the action. The same factor is described also as self-efficacy (Deci & Ryan 2000; Chen & Hung 2008) or competence (Gagné & Deci, 2005), and its placement in motivation categories is also internal and controlled motivation. Since this study used Self-determination theory's division of controlled and autonomous

motivations, the belief in own abilities belongs in introjected motivations (Deci & Ryan 2000) and is considered as controlled motivation. If the study would use for example extrinsic and intrinsic motivation qualities, the factor would be considered as intrinsic motivation. This is good to keep in mind when considering meanings of motivation types according to this study.

According to results, knowledge sharing to startups stands somewhere between prosocial behavior and self-marketing to gain new networks and work possibilities. 28 % of mentioned motives were prosocial that can be seen significant. The desire to help others is important motive also in working life, and it seems to increase participation more than intrinsic motivations (Grant 2008). This gives an idea to study more knowledge workers' prosocial behavior. What comes to expertise and knowledge work, study found out strong expert-like behavior in Growth Experts, who aimed to gain new experiences and learn new in the program. Knowledge work created the need for networking and to career advancement by presenting own knowledge. This way the study defined expert-like behavior of Bereiter & Scardamalia (1993) in knowledge work.

Also, being part of a growth company's actions might give experts the ultimate expertise challenge mentioned in theory, a *constitutive problem of a domain* (Bereiter & Scardamalia 1993, 96). It means a possibility to change the profession by changing the problem that is solved, like the elimination of a disease in medicine or agreement where all are winners. This can influence on the experts' interest in startup companies' actions.

6.2 Practical implications

Practical implications of the study were considering the Growth Experts program, generally expertise and society in knowledge work era. The most important motives of experts can be utilized in developing the program in the future as well as in organizing knowledge work. The most mentioned motives were the *belief in own abilities*, the *will to help startups*, *personal growth and learning*, *meaningfulness,* and *enjoyment of the task itself*.

The Growth Experts program can utilize the most important knowledge sharing motivations in the program's communication. Experts who participated in the program seemed to have prosocial attitudes. The program would benefit to have a more specific concept, to utilize *pay it forward attitude* in the society. Experts can be asked to participate to share their high-quality knowledge and experience to help Finnish growth companies and

Finnish nation. On the other hand, the prosocial attitude might arise from the fact that Sitra was organizing the first year's trial, and it as an organization has a high prosocial emphasis. Other good themes for attracting experts would be learning, self-development, networking, and having mind opening experiences in the exciting startup buzz. All interviewed Growth Experts had learned new things and gained experiences from events and working with a startup. Participating, helping others and knowledge sharing supports the needs of constant learning and belonging to a group. It brings satisfaction in addition to new networks, possibilities, and ideas.

Experts generally live in the constant change and solve demanding problems by thinking. This study's results can give implications, how experts behave and what do they want in working life. As stated in the introduction, the change from organization employees into freelancers gives a high autonomy but also accountability of work results, self-development, and the visibility and availability in the job market. First, to gain working possibilities, experts need a professional reputation and networks to be acquired into projects. Second, to create new knowledge and solve problems experts need knowledge sharing motivation, to be willing to share what they know with others.

To gain a **professional reputation** experts need to have examples of what they know, to present their knowledge. They need networks who to present the knowledge. This is how they can be visible in the job market. Volunteer knowledge sharing is one way to do this: write a blog or participate in professional events or programs, like Growth Experts. Voluntary knowledge sharing is quite a necessary part of modern expertise, and this is good to realize for anyone working in the field of knowledge work. Personal visibility and reputation have a significant role. **Knowledge sharing motivation** of experts resembles other volunteer behavior. In addition to the belief in own abilities and career advancement actions, also in this study, the knowledge sharing reasons are autonomous motives. Every expert can consider their own reasons to work: how much do I value helping others, personal growth and learning, belonging to a group and having a meaning in the work that I do? Do I enjoy my tasks, what makes me curious and inspired? According to this study, belief in own abilities, a will to help, personal growth and learning, making meaningful tasks, and enjoyment of tasks are more important than career advancement. Since motivation is individual, changing and people are different, it is good to find out the own motives and aim to work with them.

Society in knowledge work era can have implications from this study as well. Are experts and work motivation changing since knowledge intensive work? The motivation behind societal influencing and knowledge work is similar, both are dependent on autonomous motivation. Intrinsic motivations, enjoyment of tasks or curiosity leads to interest, but not necessarily into action. External autonomous motivations, identified and integrated motivation types are needed to lead to action. They contain also prosocial reasons concerning helping others. This is where actions that are in line with own values or goals and have a meaning lead into results. People vote since they feel that it matters and they want to influence and donate blood since it can save lives. Not because the actions are pleasant but because they have a meaning. The same pattern can be utilized also in knowledge work for society by enlightening the meanings for people, experts, and citizens whose help is needed. Knowledge work can change also nations.

6.3 Critical appraisal and suggestions for future research

This chapter describes some critical appraisals and future research suggestions. Critical appraisals can be presented considering research subject, data, and research methods. With critical considerations, also future research ideas are presented.

First of all, the study considered experts' volunteer knowledge sharing intention, not the actual behavior. Is knowledge sharing intention a valid study subject? Intention is not guaranteed to lead in a behavior. Also, the study deals with volunteer actions, where the noble intentions can be stated without the real actions. On the other hand, considering experts and the need for professional reputation, maybe the pressure to act according to presented intention is high enough for action. This would be a good future study subject.

This research utilized application data that was collected to another use as secondary data. Since the experts had written the application, they had the intention to participate. Using this point of view, secondary data fits into the study's context. Still, the questions in the application were not written knowledge sharing intention in mind. Also, the answers are biased to self-marketing and answering to what the program was all about: helping growth companies. Therefore, the most mentioned motives, *belief in own abilities* and *will to help startups* need to be evaluated critically. Other mentioned motives are probably more genuine. It would be interesting to conduct the original idea of the quantitative questionnaire in the study's context, and compare the results. Also, deeper interview information on the experiences of Growth Expert program would be a good study subject.

Application data did not include a comprehensive information on experts' work experience, branch or years. This left the information on Growth Expert types quite lightweighted. In the data, there were another fields considering experience as well, but they were hard to utilized since the unstructured, free formed answers. Considering this, the conclusions of experts need to be considered critically. Another number missing was the age of applicants. Age and generation can have a huge effect in working life attitudes. Likely most of the Growth Experts were part of generation X since they were in expert roles and had gained a lot of work experience. The research on volunteer knowledge sharing motivation between generations x, y and z would be very interesting, since the different attitudes and experiences. Deloitte (2014) found out that generation Y is seeking for work experiences rather than building a career; they value more running own business, freedom and being creative. When does an expert have experience and enough belief in own abilities to be willing to share knowledge? Are younger generations more eager to share their own knowledge?

Research method of the study was adapted into the situation and the secondary data. Research process met surprises and it was challenging to coordinate. The complex process is described as well as possible. As a qualitative and partly mixed methods process, it is hardly usable for any other context. Process combined several methods to gain results from the secondary data.

Further research ideas from the study were related to a psychological view of expertise, motivation, and self-regulation. It would be interesting to study, is there limits in the volunteer knowledge sharing motivation? Considering experts who do also work with the same matters, they will not share expertise for free for ever. How long do they gain enough from the experience to feel more benefits than costs of knowledge sharing? When the learning and experiences are not enough to motivate an expert to participate? In addition, self-regulation, the experts' self-evaluation skills to know what works for them would be interesting to understand. In knowledge work, the reflection skills and knowing your own behavior is very important, and this knowledge would be useful for every expert.

Motivation types could be researched in several contexts of the outsourced workforce, volunteer actions, attending to societal influencing, politics and so on. Outsourced and informal expertise behavior for example in organizations could be researched comparing different motivation types, controlled and autonomous motivations. Depending on the study

subject, also prosocial motivation could bring valuable information for the organization. Generally, autonomous motivation predicts volunteer behavior, so studying the effect of different autonomous motives in different contexts is interesting. The desire to help others is important motive also in working life, and it seems to increase participation more than intrinsic motivations (Grant 2008). This gives an idea to study more knowledge workers' prosocial behavior. Or is the volunteer knowledge sharing compulsory part of expertise in knowledge work? Words *volunteer* and *compulsory* in the same sentence gives a good contradiction for further studies.

7 CONCLUSIONS

This study aimed to find out why do experts want to share their knowledge voluntarily to startups. It presented theoretical views on experts and knowledge sharing motivation, and researched the subject by structuring secondary and interview data, and making a content analysis for application text answers considering reasons to participate in knowledge sharing to startup companies. This chapter will make conclusions of experts' volunteer knowledge sharing motivation to startups.

In the introduction chapter was presented a good guess for a result of the study, that experts expected knowledge sharing reasons were *gaining reputation and visibility, respect, new work role, gaining new experiences, learning, networking, altruism*, and the *possibility to participate in the 'startup buzz'*. Considering the findings, the answer to the research question of the study, *'Why do experts want to share knowledge voluntarily to startups? '* is: since experts believe they can, they want to help startups and Finnish nation, and they get to learn, gain new experiences and be available for projects – to act expert-like. Experts believe in their own knowledge and expertise, and they do believe that it is worthwhile to pay it forward.

Volunteer knowledge sharing is part of experts' working abilities. This context studied why experts share knowledge voluntarily to startups as a mentor or advisor. For startup companies this is important. As stated in the introduction, successful startups have strong mentoring relationships (Endeavor Insights 2014). As motivation theories state, knowledge sharing behavior has similarities with prosocial behavior (Frey 1993), and people are naturally active, curious, adaptive and growth seeking (Deci & Ryan, 1985a, 2000). Self-determination theory states that individuals need competence, autonomy, and relatedness to feel effective and functioning (Gagné & Deci, 2005). This is well presented also in this study.

This phenomenon of volunteer knowledge sharing is part of the changing world. Acquiring, possessing and producing knowledge differs from physical production. Gained knowledge is personal, and sharing the knowledge creates wealth without handing over the power of the ability to use the knowledge. Knowledge workers create wealth, jobs, and success (Drucker 2002). This creates possibilities in free knowledge sharing if experts adopt the prosocial attitude in the matter. Experts produce content voluntarily in Wikipedia to provide

free knowledge and in open source development to help to develop and share code. Why not also share expert knowledge to improve nations and in a bigger picture, save the world?

The learnings from this study are also experts' expert-like behavior, the constant learning and challenging themselves. Since this is natural for people, but only some are acting expert-like, the study includes also a contradiction. Why are only some people active and curious at work? How to increase the belief in own abilities to develop and change? It is easier to work with familiar things and to trust in own abilities. Somehow, in the same time, experts can believe in their own abilities and to question them.

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APPENDIX 1. KNOWLEDGE SHARING MOTIVATION FACTORS FROM THEORY.

Name	Motivations	Study's category	Sources
Rewards & incentives	Career advancement Increasing own human capital (knowledge and market value) Selling own service or products (in the future)	Controlled motivation	Gagne 2009, Hars & Ou 2002, Lin 2007, Nov 2007
Ego & status	Having recognition among peers Professional reputation (networking) Achieving goals Belief in usefulness of own knowledge or abilities = self-efficacy, perceived control Using power of knowledge, influencing Ego enhancement, increasing self-esteem Having managerial responsibility Need for challenges Reciprocal benefits & costs Seeking peak experiences		Chen & Hung 2008, Deci & Ryan 2000; Gagne 2009; Gagné & Deci 2005; Hars & Ou 2002, Lin 2007, Maslow 1987, Nov 2007, Wang & Noe 2010
Belonging & helping others	Altruism, will to help other people Belonging to different groups, community identification/ affection: work, professionals, nation Will to help start-sup Sacrifice for greater good Will to help nation, serving public interest	Autonomous motivation	Chen & Hung 2008, Gagne 2009, Gagné & Deci 2005, Hars & Ou 2002, Lin 2007, Maslow 1987
Values & internal joy	Having meaning (self-fulfilment) Passion for work Personal growth, learning Understanding, curiosity, inspiration Enjoyment of the task itself Social behavior (networking)		Chen & Hung 2008, Deci & Ryan 1985, Gagne 2009, Gagné & Deci 2005m, Maslow 1987, Nov 2007, Wang & Noe 2010

APPENDIX 2. INTERVIEW QUESTIONS

Info		This interview is part of my master's thesis of experts' knowledge sharing motivation as a mentor to startup companies. The goal of the interview is to understand the background of Growth Experts program and to design a quantitative questionnaire to measure the knowledge sharing motivation. The questionnaire will be send to all applicants of Growth Expert program (221 persons). I might use this interview as a reference in my thesis. This call will be recorded. Is this ok for you?	
Background	1	What is your name and your background shortly?	
Background	2	Where did you find the Growth Expert program?	
Motives	3	Why did you applied to the program?	
Motives	4	Were there any preventing factors that influenced to your decision to apply?	
Motives	5	What knowledge and know-how you have that you consider useful for a startup company?	
Background	6	How did you share this knowledge to a startup in the program?	For example, telling about your experiences, explaining good procedures, listening and giving feedback.
Motives	7	Did you wanted to learn something from the experience?	
Background	8	How did you communicate with the company?	
Motives	9	What were positive and negative experiences in Growth Experts program?	
Permission	*10*	*Do you have an opportunity to be part of the pretesting group for my questionnaire?*	

APPENDIX 3. GROWTH EXPERTS' APPLICATION FORM

1) What assignments you've worked with on your career?
(Responsible/ contributed/ no experience)

- Launching new products or services
- Expanding into new markets
- Deployment of new technology
- Deployment of new business models
- Expanding into new industries
- Business ownership changes
- Takeovers
- HR change management

2) Have you worked as a manager?

- Yes
- NO

3) How many years have you worked as a manager?

- 0–2 years
- 3–5 years
- 6–10 years
- over 10 years

4) What skills and know-how you can offer to growth company?
(Little experience/ Some experience/ Strength/ Other, what?)

- Strategy work
- Sales
- Marketing
- Digital business and service design
- Procurement and purchasing
- Internationalization
- Finance
- Funding
- Human resource management
- Building partner networks
- Business law

5) What would you like to concentrate in the future?
(Choose from 2 to 3)

- Strategy work
- Increasing sales
- Marketing
- Digital business and service design
- Procurement and purchasing
- Internationalization
- Finance
- Funding
- Human resource management
- Building partner networks
- Business law
- Other?

6) What specific knowledge you would offer to a growth company?
- Free text field

7) Why do you want to be involved in a growth company's operations?
- Free text field

8) How do you want to be involved in a growth company?
- Employment relationship
- Advisor or board member
- Investor (expertise or capital)
- Entrepreneur or partner
- Other, what:

9) What things in a company you pay special attention to?
(Choose from 1 to 3)
- Growth possibilities in the market
- Competitive products and services
- Company's economy and prerequisite for operation
- Management's knowledge and team's know-how
- Brand, reputation and image
- Other cooperative parties
- Other, what?

10) * Name

11) * Phone number

12) * Email address

13) * What branch do you work at?
- Manufacturing
- Services
- Trading
- Finance and banking
- Other, what?

14) What is your work role?

15) * In which areas (in Finland) are you willing to cooperate with companies? (Choose from 1 to 3)
- Helsinki metropolitan area
- Uusimaa
- Southwest Finland
- Satakunta
- Tavastia Proper
- Päijänne Tavastia
- Pirkanmaa
- Kymenlaakso
- South Carelia
- Southern Savonia
- Northern Savonia
- North Carelia
- Central Finland
- Southern Ostrobothnia
- Ostrobothnia
- Northern Ostrobothnia
- Central Ostrobothnia
- Kainuu

- Lapland

16) * In case we invite you to the Kasvu Open's events in the fall 2016, which ones are you willing to participate? (Choose from 1 to 2 places)

- Tampere 20.9.
- Espoo 27.9.
- Kuopio 29.9.
- Oulu 4.10.

By filling in the application, you grant a permission for Kasvu Open to deal confidentially with your data when matching Growth Experts and startup companies.

17) Link to your CV.

18) Link to your LinkedIn profile.

19) Describe yourself at your best? Describe yourself and your strengths as a team player. In addition, if somebody did challenge you to apply to the program, please tell us the name and email of the challenger.

APPENDIX 4. DATA STRUCTURES

Table 1. Data structure expertise.

1st Order Concepts, informant terms	2nd Order Themes	Aggregate dimensions
master of economy around the year 90	High education	Education
working on doctoral dissertation		
head of business unit/ region	Employee	**Work role**
expert		
chairman of a board, senior consultant	Advisor or board member	
business angel	Investor	
entrepreneur background	Entrepreneur or partner	
private entrepreneur		
startup entrepreneur		
coach	Coach or consultant	
private business consultant		
entrepreneur, change consultant, interim manager	Interim manager	
managing director and expert	Managing director, CEO	
doctoral researcher	Other roles	
freelancer		
looking for new challenges	Looking for work	
experience from major companies	Organization experience	Experience
25 years	Extensive work experience	
almost 20 years		
around twenty years		
over 10 years		
food industry brands	Branch experience	
IT		
travel agency sector		
controlling the big picture	Strategy work	**Skills**
prioritizing		
growing company		
setting goals for a startup		
coaching skills		

business leadership		
helping startup’s managing director		
make easy to buy concepts for business models and services	Sales and marketing	
client management and development		
marketing management		
productizing know-how		
sales		
sales and marketing		
sales leadership		
support of sales and marketing		
digital services	Digital business and service design	
digital world		
originally programming		
web applications		
working with (web) architecture		
supply chain management and development	Procurement and purchasing	
international relationships	Internalization	
growth finance	Finance	
acquiring foreign investments	Funding	
team building	HRM	
team leadership		
team growing		
wide national and global networks	Building partner networks	
wide experience as a corporate layer	Business law	

Table 2. Data structure knowledge sharing motivation

1st Order Concepts, informant terms	2nd Order Themes	Aggregate dimensions	Motivation category
Since I have experience, why not share it as wide as possibly	Altruism	Belonging & helping	**Prosocial motivation**
We should share all the good know-how in Finland	Belonging to a group		
Willingness to help society	Serving public interest		
Share (knowledge) to pay back to the community (own education, possibilities)			
Since I have experience, why not share it as wide as possibly	Belief in own abilities	Ego & Status	**Controlled motivation**
helping other companies is my key competency			
good networking possibility	Professional reputation		
networking in Finnish market is very important			
as a consult is useful to have a wide network			
get visibility			
networking provides sparring also for self	Reciprocal benefits		
might be able to give and possibly also receive something			
using time to fill applications	Reciprocal costs		
using effort and time to be allowed to help			
You need to be noble-minded since it is not paid			
Loosing time, could be making better business elsewhere			
i'm very open and throw myself (into situations), why not	Curiosity	Values & internal joy	**Autonomous motivation**
this (competition, combining experts and startups) is interesting combination			
new experience			
interested in business development			
interested in mentoring and things related			
interesting (competition) process all over			
startup buzz and event excitement	Enjoyment		
learning from their (startups) pitching	Learning, Personal growth		
I did learn a lot from the startup			
I learned a lot of business related things that were useful for me.			

To express your own experience shortly was very useful.			
What contacts are you after. It made me sharper.			
leadership is responsible but lonely	Social behavior		
to arrange confrontations between people			
meeting new people			
discussions and sharing ideas			
Expectations (towards me) were unclear			

APPENDIX 5. ALL KNOWLEDGE SHARING MOTIVATIONS AND MENTIONS

		All	*1*	*4*	*5*	*8*	*10*
Controlled, rewards & ego	Belief in own abilities and knowledge	115	29	37	30	21	8
	Career advancement	17	6	2	5	1	4
	Selling own service or products	17	2	7	8	4	0
	Ego enhancement, increasing self-esteem	17	4	5	3	4	1
	Need for challenges	15	3	5	4	3	2
	Using power of knowledge, influencing	13	4	3	4	3	2
	Reciprocal benefits & costs	12	3	7	4	1	0
	Achieving goals	10	2	7	4	1	1
	Professional reputation	8	3	2	2	4	0
	Having managerial responsibility	3	1	1	1	1	0
	Increasing own human capital	2	0	1	1	0	0
	Having recognition among peers	2	0	2	1	1	0
	Seeking peak experiences	1	0	0	0	0	1
Prosocial, belonging & helping	Will to help startups	80	24	23	19	9	5
	Belonging	26	7	6	9	6	0
	Will to help nation, serving public interest	24	6	3	7	4	1
	Altruism	14	6	3	6	2	0
	Sacrifice for greater good	4	2	0	0	1	0
Autonomous, values and internal joy	Personal growth, learning	32	10	9	10	5	1
	Having meaning, self-fulfillment	26	8	8	9	2	0
	Enjoyment or interest of the task itself	26	5	12	4	3	3
	Understanding, curiosity, inspirations	19	5	5	3	4	2
	Social behavior	18	5	5	6	2	3
	Passion for work	16	3	5	3	1	3
	Total number of motivations in a group	**517**	**138**	**158**	**143**	**83**	**37**