

Software Professionals' Qualitative Perceptions

Case of an International IT Service Provider

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<p>Tiivistelmä</p> <p>Opinnäytetyön taustat pohjautuvat useiden vuosien aikana kerättyihin työperäisiin kokemuksiin ohjelmistoprojekteihin ja toimeksiantoihin liittyen. Työelämän havainnot johtivat kysymyksiin ohjelmistoammattilaisten motivaation ja voimaantumisen lähteistä, sekä nostivat esiin tarpeen selvittää ovatko nämä tekijät ymmärrettyjä ja tuettuja työelämässä.</p> <p>Tavoitteena oli selvittää ohjelmistoammattilaisten laadullista motivoitumista sekä motivaatioon johtavien kokemusten yhdenmukaisuutta ohjelmistopalveluyrityksessä. Aihealuetta lähestyttiin laajalla teoria-analysillä jonka avulla keskeiset sisäisen motivaation teemat tuotiin esiin tutkimuksen lähtökohdaksi. Toimeksiantajayrityksessä suoritettu tutkimusosa sisälsi sekä määrällisen että laadullisen osion minkä lisäksi täydentävää tutkimustietoa kerättiin ohjelmistopalvelun asiakkailta.</p> <p>Tulokset osoittivat että asiantuntijatyössä toimivat ohjelmistoammattilaiset arvostavat työn merkityksellisyyttä sekä autonomiaa melko yksimielisesti. Yrityksen sekä ympäröivien sidosryhmien luoma hallitseva konteksti sekä staattiset hallinnolliset menettelyt saattavat heikentää työntekijän voimaantumisen tunnetta sekä sisäisten motivaatiotekijöiden kehittymistä.</p> <p>Suurimmiksi hyvän työsuoriutumisen esteiksi koettiin keskeytyksiä sekä häiriötekijöitä ylläpitävä työkuultuuri. Kokonaisvaltaisen kommunikointikäytännön kehittäminen sekä järjestelmällisen tiedonhallinta-arkkitehtuurin luominen ovat keinoja joilla yritys voi tukea ja kehittää tasapuolisen ja hallinnollisia valtarakenteita purkavan ilmapiirin luomista.</p>		
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Abstract <p>The background for the thesis has been formed during the years of collaboration in software projects and assignments. These work related observations led to questions if the professionals of brainwork share the perceptions regarding a meaningful and motivational work atmosphere and if those perceptions are actually understood or misinterpreted.</p> <p>The objective was to examine if the coherent qualitative motivators exist within a group of software professionals and if so, how those aspects are seen by the stakeholders. The theme was approached with the deep theory analysis that gave structure for the research part. The research was conducted in the employer company and consisted of an analysis of both qualitative and quantitative results. A supplementary research material was collected from the customers with a separate, flexibly structured qualitative research.</p> <p>The results showed that the professionals collaborating in brainwork are quite unambiguous in their tendency to appreciate the meaningful rationale of the task and autonomy at work. The controlling context and defensive management are factors that can efficiently undermine the employees' internalized motivation and work involvement.</p> <p>Distractions and communicative issues were perceived as one of the major frustrations and obstacles hindering good work performance. Holistic and relevant communication methods and a comprehensive information management are actual means that the company can take to support an equal distribution of responsibility and to promote more autonomous mindset.</p>		
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Contents

1	Thesis Fundamentals	6
1.1	Orientation to Thesis	6
1.2	Expectations	7
1.3	Thesis Characterization	8
1.4	Research Strategy and Implementation.....	9
1.4.1	Mandator Context, ITSP Explained	9
1.4.2	Research Implementation Fundamentals	10
1.5	Research Questions	12
2	Existing Research Review	13
3	Aspects on Quality Perceptions in Providing Software Service	14
3.1	Introduction.....	14
3.2	Work Motivation	15
3.2.1	Towards Internalized Motivation	17
3.2.2	Motivation Through Quality	20
3.3	Employee Empowerment.....	21
3.4	Team Collaboration	22
3.4.1	Relevancy of the Team Context.....	22
3.4.2	Team Dynamics.....	23
3.4.3	Performance Through Discipline	27
3.5	Challenges and Misconceptions When Managing Creative Work	28
3.6	Conclusion	32
4	Customer Relationship	33
4.1	Introduction.....	33
4.2	Orientation towards the Customer Perspective	33
4.3	Understanding the Customer's Expectations.....	36

4.4	Evaluating the Customer Perspective Using a Service Quality Model	38
4.5	Service Quality Dimensions	40
4.6	Questioning the Need for Service	41
4.7	Conclusion	42
5	Administering Quality When Delivering Software	43
5.1	Introduction.....	43
5.2	Quality Management through Process Conformity	44
5.3	Management Frame of the Company ITSP	45
5.3.1	Project Management Principles	45
5.3.2	Operational Work	47
5.4	Conclusion	47
6	Implementing the Thesis Research	48
6.1	Research Context.....	48
6.2	Survey Phase A: Individual Perceptions	50
6.2.1	Preparations and Principles.....	50
6.2.2	Result Analysis	56
6.2.3	Group Discussion	71
6.3	Survey Phase B: the Customer Perspective.....	71
6.3.1	Preparations and Principles.....	71
6.3.2	Result Analysis	73
7	Conclusions and Actions.....	75
7.1	Primary Findings and Synthesis.....	75
7.2	Limitations	76
7.3	Propositions of Improvement Actions	77
7.3.1	Preface	77
7.3.2	Information Architecture.....	78

	7.3.3	Communication	81
	7.3.4	Generating Awareness in an Organization	82
8		Closing Words.....	83
9		References.....	85
10		Appendices	89
	10.1	Appendix A: Survey A results.....	89

Figures

Figure 1. The organizational context.....	10
Figure 2. Qualitative methods explaining quantitative results.....	11
Figure 4. Simplified view on relative efficiency of rewards	18
Figure 5. Example of performance goals.....	28
Figure 6. Matrix of perceived rewards	31
Figure 7. The focus of examined theory base in the chapter 3	32
Figure 8. Influencing customers' expectations	37
Figure 9. Simplified presentation of gap model.....	39
Figure 10. The focus of examined theory base in the chapter 4	43
Figure 11. Example of process chains' inputs and outputs, simplified illustration	46
Figure 12. The focus of examined theory base in the chapter 5	48
Figure 13. Research questions and the context.....	49
Figure 14. The target scope of the survey phase A.....	54
Figure 15. The most important sign of success, question 26 (n = 46)	63
Figure 16. The target scope of the survey phase B.....	72
Figure 17. Phased model for creating maintainable information architecture	79
Figure 18. Dependencies between data units and functional context.....	80

Tables

Table 1. Characteristics of fundamental motivation types.....	16
Table 2. Human regulatory styles, their associated processes and examples.....	19
Table 3. Organizational hierarchy in team formations	24
Table 4. The ten requirements for a customer-oriented company	35
Table 5. Summary of the survey form characteristics	51
Table 6. Theory context categories.....	55
Table 7. Category A results of the survey phase A.....	57
Table 8. Category B results of the survey phase A.....	59
Table 9. Category C results of the survey phase A.....	60
Table 10. Category D results of the survey phase A	62
Table 11. Category E results of the survey phase A.....	64
Table 12. Frustrations of daily work, question 24 (n = 46)	66
Table 13. Corrective measures in question 25 (n = 45)	68

1 Thesis Fundamentals

1.1 Orientation to Thesis

“Qualitas Potentia Nostra”

Finnish Air Force 2014

Over the last two decades of professionally practiced information technology (hereafter referred to as IT), the concept of quality has inspired countless studies, academic debates and industrial projects. Numerous methods for measuring and enhancing the quality in a product have been developed. Quality is something that is accepted and endorsed in the industrial world, and often used as a primary sales argument. When moving backwards in time and away from modern computer science, the meaning of the word quality receives even more fundamental tone. Philosophical aspects give the word a meaning as a property or an attribute.

Depending of the perspective and the context, quality can be addressed with a few clear measurement data sheets or with an ambiguous and subjective discussions that are continuous in nature and occupy a large group of people. As objective as the concept of quality tends to present itself in an industrial environment, we all have our own perception of it. Furthermore, we usually have an idea of the collective requirements for defining quality within an organization or a project. In an industrial world, it is an effort of labor that has been transformed to a user experience. In software companies of the world, thousands of code builders and managers work continuously for defining and fulfilling the quality targets and for optimizing the value earned through those targets.

According to DeMarco and Lister (1999, 19), we as employees tend to build our self-esteem strongly on qualitative aspects of our work. Indeed, if our internal criteria for

satisfactory performance is undermined or dismissed, we tend to lose motivation at least momentarily. Quality frames and models have adopted this holistic, employee driven quality perspective efficiently. Goetsch and Davis (2006, 7) illustrate the concept of total quality with the three-legged stool where one leg symbolizes empowered people with built in quality perception.

As the quality in a work place is often measured and analyzed, it is also something intrinsic to us all and something we perceive but do not categorize. This thesis examines those individual drivers that motivate us and make us feel comfortable with what we do. The main perspective for qualitative work criteria is taken from one's individual and subjective values. This perceived, intrinsic feeling that originates from satisfactory work performance is evaluated against the context of organizational guidelines and support. The organizational context of an IT company and its stakeholders provide the circumstances that can nurture or challenge those intrinsic values and perceptions, the thesis researches the case of an international IT service provider.

1.2 Expectations

Evans (2004, 2) insists it is necessary to define quality from a wider perspective than just technical excellence. In the field of IT, it is most common to have metrical data and numerical definitions regarding qualitative targets. Although important, those are not sufficient. Quality contains also human factors, and aspects that are harder to express with metrics.

"Experience is everything," is an often heard phrase and also opening sentence in Shaun Smith's (2002, 1) book describing the importance of customer experience. Providing superior customer experience has become more and more crucial also in the field of IT, and also presents important view point on quality. If a company with excellent process maturity and internal efficiency is failing in producing positive customer experience, they will be struggling to maintain their quality brand in the market.

Regarding the definition of quality, Goetsch and Davis (2006, 6) refer to Kaoru Ishikawa's statement that quality and customer satisfaction is the same thing. This introduces the point of view that in business, the employees' values and motivational factors are not separate but resonate towards the stakeholders and all the way to the customer. Therefore it is important that the organizational context, management practices and the customer expectations are examined in relation to employees' intrinsic aspects. In a world of heavily defined software projects, thick process encapsulations and key performance indicators, individual beliefs and traits still form the value base of the company. When creating value and sparking loyalty in a customer relationship, people are the single most important factor (Smith & Wheeler 2002, 101). These individuals, with their quality perception and personal attributes, are working to fulfill the requirements and expectations of the stakeholders. This thesis studies the quality **perceptions** of a software professional and researches the alignment towards the stakeholders.

1.3 Thesis Characterization

Pursuing and achieving quality is an activity that requires many definitions and the field of information technology is full of those. This thesis steers away from metrical target definitions and standardized quality. In other words, this thesis does not include comparative studies on quality frameworks and management models. Instead the target is to study the quality perceptions of individuals in software development and in customer side. These intangible aspects are researched with a case study on software service team providing a comprehensive IT service for the customer. Regarding the case study, the qualitative encapsulation is defined and examined, so that studying the case occurs in predefined qualitative environment.

The case study of software service providing team and its customer are actual and occur in current IT business environment. The theoretical basis of the thesis examines the trademarks of quality in a software service – in individual and team

level and in customer relations. On this theory foundation, the qualitative and quantitative research surveys are conducted.

The objective of the thesis is to research how personal motivational factors show in a work place, and what are the stimulators of those factors. Customer interface is examined as an important stakeholder and as a possible stimulator for the internalized motivation. In the research part of the thesis, primarily the uniformity of software professional perceptions are studied. As a supplementary perspective, the correspondence of the three tier formation of individual – quality process management – customer relationship is addressed.

1.4 Research Strategy and Implementation

1.4.1 Mandator Context, ITSP Explained

The thesis research takes place in a Finnish IT company that provides holistic around-the-clock software services for the customer. The company is hereafter referred to with an acronym ITSP. Actual company circumstances and issues are addressed through this fictional acronym. The visibility of the employer company was discussed in several occasions, and even though there is no particular reason to exclude the company details from the thesis, it was chosen as an appropriate approach in this case. The generic nature of the thesis theme does not require specifying a particular company, but rather addressing the existing circumstances instead. Also, when covering the quality related topics in association with the company and its customers, the misinterpretations would be unfortunate and could ultimately effect to the scope and content of the thesis.

Figure 1 illustrates the organizational context where the thesis research is placed. The customer is being provided with the software service that is managed through the software projects. The specialists within the teams, the project teams or operational teams supporting the service maintainability, use their professional skills in creating a product that fulfills the requirements of the customer. The development

work is managed by the project managers, solution managers and operational managers that administrate the work progress towards the set target. As the perceptions of the software professionals are researched in the thesis, this role based separation is taken into account. Managers are often associated with the decision making and responsibility. One perspective in the research part is to examine the role based variation in perceptions to conclude if actually such variation exists and if so, how the quality perceptions are influenced by the organizational context.

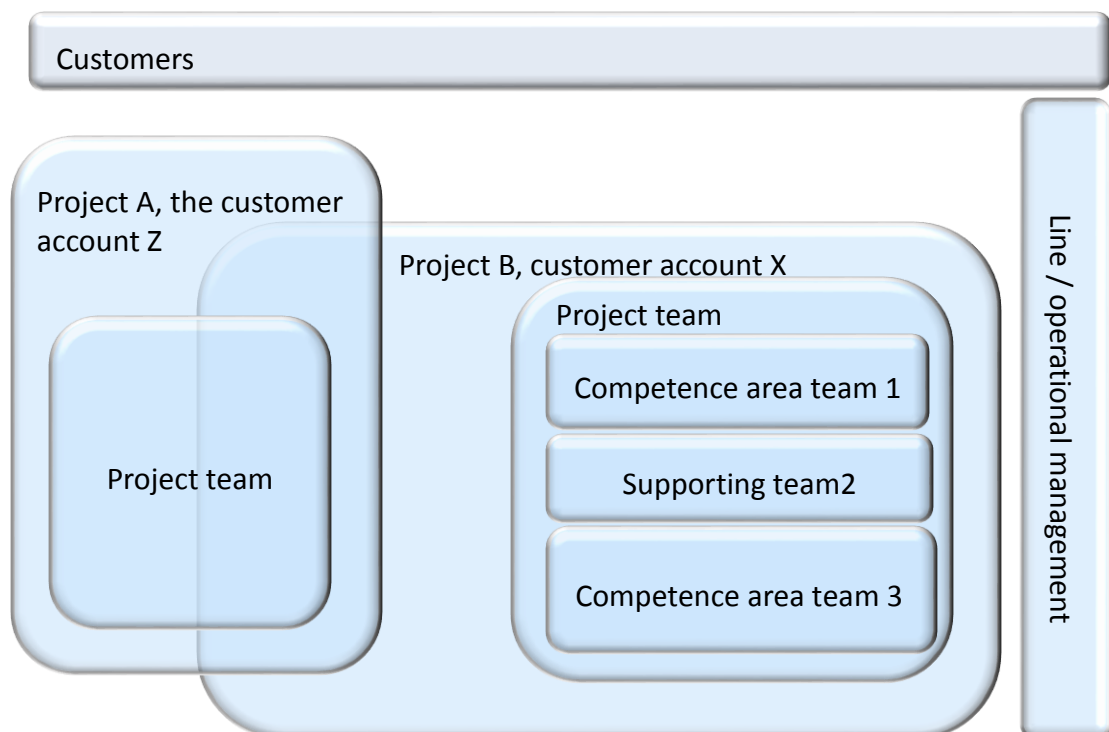


Figure 1. The organizational context

1.4.2 Research Implementation Fundamentals

The research implementation of the thesis has a qualitative and quantitative part that serve in keeping the focus on research questions. Using more than one verification method is a concept called triangulation and has its historical background in navigation and seafaring. Following the analogue with the navigation further, the

idea of triangulation is to achieve a more exact definition of the phenomenon using additional measurement points. (Perttula & Latomaa 2005, 228.) Among the most valuable for this thesis research is the purpose of providing more balanced setting and to be able to map regularities across the research composition. Quantitative results are supplemented with qualitative findings, as illustrated in figure 2.

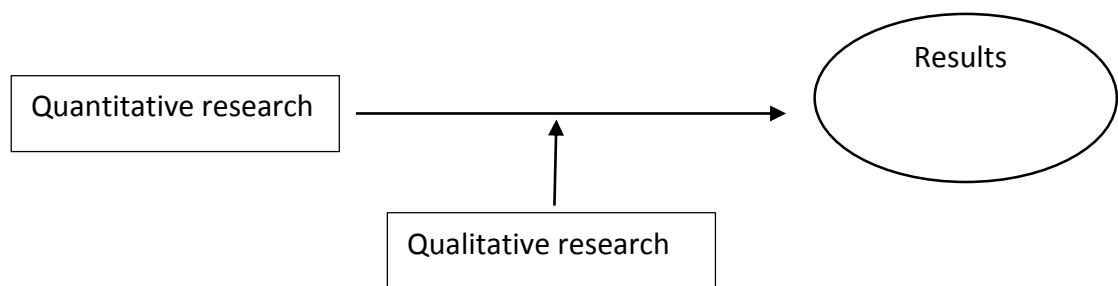


Figure 2. Qualitative methods explaining quantitative results (Perttula & Latomaa 2005, 230)

First research phase with the service provider professionals of the company ITSP provides a quantitative data through an online survey. Responses are collected through a set of statements that have a numeric scale to indicate the level of consent from the respondent. In addition, the first research phase collects qualitative information for holistic analysis and also for increasing the validity of the addressed topics. In the second survey phase, the customer is approached with a less structured qualitative survey where the customer perspective is examined. The customer experiences provide a supplementary information for the primary research question. The questions are listed in the following chapter and form a backbone for the thesis' theory and research.

1.5 Research Questions

Figure 3 summarizes the key domain that the thesis focuses on. The primary research question focuses on qualitative perceptions of the software professionals and is associated with the provider and its stakeholders. The supplementary questions regard the important interfaces that may affect the perceptions and intrinsic motivational mechanisms. These supplementary perspectives are that of the customer and the context of company's administrative frame.

To further define the research context, it is necessary to focus on research questions:

Primary:

1. Are there a coherent qualitative motivators to be identified among the software professionals?

Supporting questions:

2. How does the customer define and experience the quality they expect and receive?
3. Is there a consistency between experienced quality of a doer (provider), the structural project management layer and a customer (receiver)?

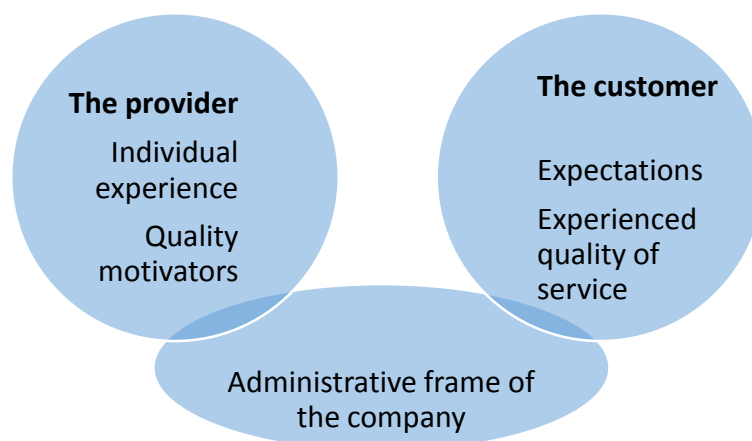


Figure 3. Central aspects of examining the research questions

2 Existing Research Review

The topics regarding quality perceptions and intrinsic motivation patterns have been researched with the range of studies, especially in the field of sociology and social sciences. Plagnol and Scott researched the quality of life and individual perceptions in the turning points in life. Life events seemed to influence on perceptions and the emphasis on issues that matter changed over the life course. Also the gender based correlation was examined, and noted to an impact regarding the perceptions. (Plagnol & Scott 2012, 16-17.)

Intrinsic motivation has been neglected in learning psychology where the focus has involved the behavioural effects of extrinsic rewards (Efklides, Kuhl & Sorrentino 2007, 24). The correlation between intrinsic and extrinsic motivation mechanisms has been studied quite extensively with the means of basic research. Research material from the last twenty years have indicated that the two sources of motivation are not necessarily additive but the extrinsic motivation can undermine the intrinsic motivation. (Ibid., 26.) As the basic research has focused on determining the mechanisms and reasons behind a human behaviour, the field of applied sciences have studied the impacts on relating to different stakeholders and business environments. Cultural background has an effect on quality perceptions, as it was studied through an online shopping service (Al-Nasser, M., Zien Yusoff, R., Islam, R., AlNasser, A. 2013, 81).

Quality attribute related perceptions of front-line employees versus customers were examined in a research by Julien and Tsoni. The research showed a significant difference in perceptions between the two stakeholder parties. (Julien & Tsoni 11, 2013.) As the topic of the research is similar than in this thesis, it is important to note that the employees were given instructions to answer as if they were customers and the mismatch was calculated from those perceptions. So in the process, the employees also evaluated their own performance through the eyes of the customer. This factor was considered to explain the difference in great extent (ibid., 12).

Quality perceptions and motivation sources have been researched quite extensively, with the sound base in basic research and sociology. Also several researches have risen in recent years where the perceptions have been placed into a business environment with a very specific research context. In this thesis, the software professionals are researched as a homogenous group and the results are primarily examined within a context of the organization. This enables examination of the quite generic IT service provider environment and the motivation supportive mechanisms therewithin. Based on the research review, the angle of the thesis is well-suited into the current research base as the topic raises plenty of interest but the exact equivalents are scarce or even absent.

3 Aspects on Quality Perceptions in Providing Software Service

3.1 Introduction

This chapter studies a variety of different quality-related scenarios and defines the key notion of the thesis – **perception**. Although the word has a vast set of definitive studies conducted for - in the field of psychology, physiology and philosophy for example - , it is important to define the correct emphasis of the word for this particular thesis. When referring to perceiving, the subjective nature of perceived experience is emphasized. As perceptions vary and there may be different types of perceptual experiences, the weight in prioritizing those perceptions vary also. It is difficult to evaluate the content that the perceived experiences house (Maund 2003, 6). In the context of the thesis the perceived subject does not exist individually without the perception and therefore the perceptions are evaluated in relation to context in the thesis, the subjective nature of the perception is assumed.

Following chapters help in defining the viewpoint on one's perception about the professional atmosphere that we place ourselves in, and the subjective nature of our work identity.

3.2 Work Motivation

Motivation is an important construct to examine when making observations on human behavior and a reasons that have prompted one's actions. Several motivation theories exist, and with vast range of studies on the subject, incentive theories of motivation have emerged. According to John W. Wright and Roberta V. Wiediger our search for increased levels of stimulation require introducing incentive motivational theories as the older, homeostatic approaches that essentially examine satisfying a basic needs such as hunger are not sufficient. Many behaviors manifest themselves because of the attractive stimuli rather than a need state. (Wright & Wiediger 2007, 8.)

Perspective of viewing the motivational situations as incentive in nature is a suitable for this thesis subject, as the purpose is to examine an IT workers personal, subjective gains of contributing to quality.

Martela and Jarenko note that the idea of the self-deterministic, internally motivated workers is relatively new and was considered as heresy only few decades ago. In the turn of the millennium, a revolutionary era of so called positive psychology emerged and an extensive research effort on human wellbeing was starting to take place. A behavioristic theory called **self-determination theory** by Edward Deci and Richard Ryan was established and accepted by a large psychological science community. The theory steers clearly away from older views portraying humans as puppets merely reacting to external stimulations and rather focuses to examine people as functional beings, active and self-driven. (Martela & Jarenko 2014, 12-13.)

This theory forms a basis on examining the motivation through two fundamental categories: extrinsic and intrinsic motivation. Out of those, the latter is more organic and self-sustaining. Research part of the thesis examines the self-deterministic reasons for persuading good work results, and the correspondence of those views within a group of IT professionals.

Characteristics of Extrinsic and Intrinsic Motivations

Motivational aspects are one of the most emphasized ones in today's enterprises and organizations. Companies recognize the employee motivation as a major factor in business and keep highlighting the efforts. Motivational factors are seen as mandatory to the success of the organization and further, lack of those factors as a blocker for efficient organizational facilities (Nupur & Bharti 2012, 30).

Perhaps one of the most important reasons for companies and researchers to address motivational issues is that there is a lot to be gained: a major part of the workforce in western economies is not committed. In Germany, 82 per cent employees indicated not being committed to their work, with 18 per cent being actively disengaged. (Robbins, Judge & Campbell 2010, 140.)

Table 1. Characteristics of fundamental motivation types (Martela & Jarenko 2014, 14)

Extrinsic motivation	Intrinsic motivation
Reactive	Proactive
External rewards and punishments	Internally driven to act
Narrowing perspective	Broadening perspective
Take shelter from the negative	Pursue the positive
Consumptive	Powering
A person pushes oneself	An activity draws a person
"A carrot and a stick"	"Playtime"

Table 1 condenses the main features of the mentioned motivation types and the actions through which those are manifested. Intrinsically motivated person is

inspired, more productive and driven to proceed without external triggers (ibid., 14-16).

In business world, the importance of motivation to productivity is perhaps the most recognized. This becomes more vital in the field of creative software development where company's success factors are tied to intangible assets, such as employee motivation and dedication. Gagne and Deci note that postulation that there are basic psychological needs feeding the motivation, enable predicting those social contexts that support intrinsic motivation and help facilitate the internalization of extrinsic ones. Deci, Eghrari, Patrick and Leone conducted an experiment that was able to produce three specific factors for enabling greater internalization: a meaningful rationale for the task, acknowledgement that the activity might not be perceived as interesting and an emphasis on choice over control. (Gagne & Deci 2005, 338.)

3.2.1 Towards Internalized Motivation

“The concept of internalized motivation is especially fruitful for businesses, where the targets and working methods tend to come as given.” (Martela & Jarenko 2014, 14).

As intrinsically motivated worker is evidentially self-determined and more productive than an externally regulated reward salient worker, how to pursue motivation change in the workplace? Sansone and Harackiewicz point out that tangible rewards that are made contingent on task results are usually experienced as controlling and tend to undermine intrinsic motivation (Sansone & Harackiewicz 2000, 32). In other words, an incentive tied to a successful project delivery, regarding the project deadline for example, has a high probability to undermine the project participants' intrinsic motivation. Especially so, if reward policy is maintained in a strictly controlled manner. Also the verbal rewards that have a tendency to enhance intrinsic motivation, are likely to have a negative effect if provided within a controlling interpersonal context. According to several research analyses, the context of strong interpersonal control seems to be determinative factor of undermining intrinsic

motivation. Sansone and Harackiewicz note that the contingent tangible rewards can enhance intrinsic motivation if the conditions and the context are carefully considered. (Ibid., 33-35.)

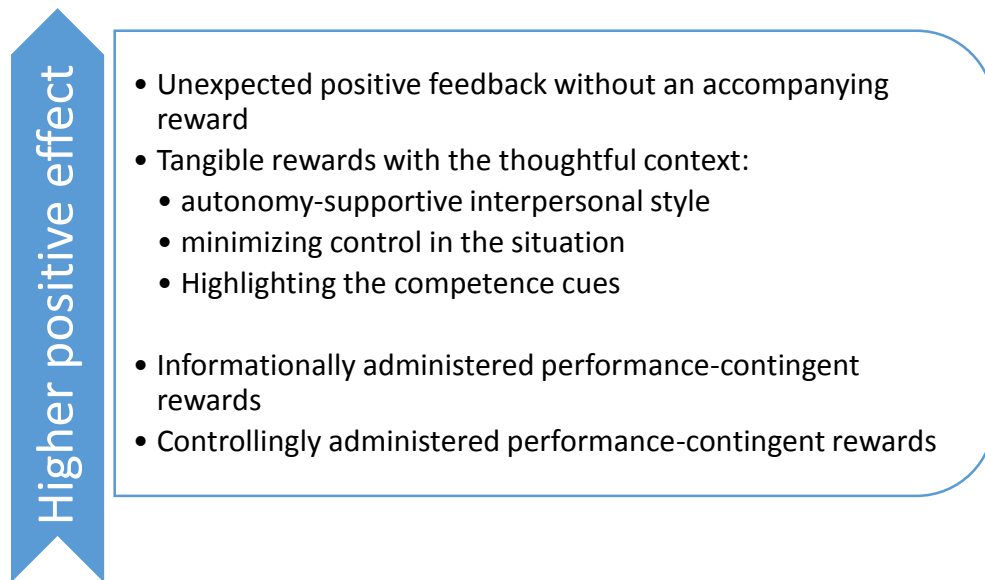


Figure 4. Simplified view on relative efficiency of rewards

Figure 4 lists those aspects that help in building a fruitful context for enhancing the intrinsic motivation through rewards. It is necessary to note, that even those tangible rewards that are administered in a supportive manner, are likely to have less positive effect than spontaneous feedback without an accompanying reward.

After childhood, as social demands and roles begin to obligate, intrinsically motivated people are clearly a minority (Robbins, Judge & Campbell 2010, 140; Ryan & Deci 2000, 60). Outside intrinsic motivation, there are behavior mechanisms that manifest a varying scale of autonomy and a level of regulation. In other words, we as students or workers motivate ourselves towards accomplishments also with several, extrinsically motivated styles. We understand the importance of an activity and the personal gain behind it, and as we internalize the motivational aspect, the process behind the behavior changes from a passive compliance into more conscious and self-perceived (Ryan & Deci 2000, 61).

Table 2 presents the diversity in extrinsically motivated behavior processes and describes practical scenarios on daily situations through which these motivation types could be observed.

Table 2. Human regulatory styles, their associated processes and examples (ibid., 61-65)

Amotivation	Lacking an intention to act, not valuing an activity or its results.
	<ul style="list-style-type: none"> • A student that finds a subject as useless or too difficult and because lacks a personal causation, skips the classes.
External regulation	Least autonomous form of extrinsic motivation. Acts out of compliance to satisfy an external demand.
	<ul style="list-style-type: none"> • An student, in the verge of becoming amotivated, completes a home work assignment to avoid being yelled at by the teacher.
Introjection	Ego involvement, actions to avoid guilt or to attain pride.
	<ul style="list-style-type: none"> • An employee who works in a pressurized atmosphere, continues the work day with an overtime to avoid feelings of guilt or anxiety due to the missed deadline.
Identification	Conscious valuing of the activity.
	<ul style="list-style-type: none"> • A student that memorizes the periodic table because he/she feels it helps in attaining a profession in chemistry which the student values as a life goal.
Integration	The most autonomous form of extrinsic motivation. Assimilation of regulations to oneself through self-examination.
	<ul style="list-style-type: none"> • A teacher that works amidst the school regulations and adapts those conditions as a part of existing values and needs. The teacher values the actions and acts in self-determined manner to complete those further.
Intrinsic motivation	Enjoyment, inherent satisfaction
	<ul style="list-style-type: none"> • A child plays in the pile of sand out of inspiration, because 'it's fun'.

Above table presents the extrinsically motivated behaviors from external regulation to integration. Behaviors that originate from these extrinsic sources, and not considered as inherently interesting. Rather, they require to be prompted externally. Ryan and Deci define three attributes for enhancing the possibility to facilitate internalization of extrinsic motivations: **relatedness**, **competence** and **autonomy**.

When the behavior is externally prompted by a family or other peer group providing belongingness and connectedness, people are more willing to participate in a behavior. This sense of relatedness is endorsed in those schools and workplaces that promote the aspects of respect and care for each other. Competence in respect to presented extrinsic goal helps in adopting the issue and the feelings of efficiency about it. Ryan and Deci suggest that one's perception about being competent is required when trying to adopt a provided goal. Autonomy is required so that the external regulation is integrated and taken as a part of ones values. Although also introjected regulations can provide a satisfaction, the control involved prevents the feelings of self-determination. As noted, the controlling contexts may enable some introjection if competence and relatedness perspectives are supported, but only autonomy supportive contexts generate integrated self-regulation. (Ryan & Deci 2000, 64-65.)

3.2.2 Motivation Through Quality

“The decision to pressure people into delivering a product that doesn't measure up to their own quality standards is almost always a mistake.” (DeMarco & Lister 1999, 20).

DeMarco and Lister (1999, 19) note that there is a tendency to build one's self-esteem – not on quantitative – but on qualitative results. We as workers are not especially keen on producing vast amounts of products, but rather producing an end result that is regarded a high quality one.

According to Miriam Erez (1990, 54) a research measuring both quantity and quality showed results that demonstrated a speed-accuracy tradeoff phenomenon: the accuracy decreases and the speed increases. While this issue may be more documented and studied in industrial professions with mechanical work phases, it is also being observed in the field of information technology where the definition of a completed work may be more complex than a ready physical product. The symptoms similar to the speed-accuracy tradeoff can be examined through such factors as the

feeling of pressure or hurry. DeMarco and Lister (1999, 18) address this point by noting that people under time pressure do not work better, only faster.

3.3 Employee Empowerment

“The best person to be responsible for the job is the person doing the job.” (Belasco & Stayer 1994, 34).

The term empowerment, regarding employees in the work place, is a relatively weakly defined. (Potterfield 1999, 49). Closely related concepts are **job satisfaction** and **job involvement**. Robbins, Judge and Campbell (2010, 63) describe a job satisfaction as a positive feeling about the job resulting from the evaluation of its characteristics. Capelle (2013, 421) relates employees’ feelings of satisfaction with the elements like organization design, supervisor alignment and customer satisfaction. Within a group of employees, factors to enhance the job motivation can include

- congruence of a role perception especially with a supervisor
- communication between employees with corresponding status levels and
- correctly sized work groups. (Robbins, Judge & Campbell 2010, 252.)

There is a cultural aspects to be considered with those factors, though. More collective societies, as found in Asia, may be more prone to group work than societies with capitalistic values and valuing of individual achievement (ibid., 252).

Job involvement relates more to one’s psychological relation towards the work: how they identify themselves with it and how important the perception of one’s performance is to a self-worth (ibid., 253). High job involvement and satisfaction has been found to have a relation with the factors like absenteeism and turnover. (Capelle 2013, 421; Robbins, Judge & Campbell 2010, 63). There are studies that largely involve organizational structures in supporting one’s identity and orientation. Potterfield (1999, 52) notes that the organizational structure is suggested to be a one of the most critical factors influencing on employee empowerment.

Rather than traditional pyramid shaped corporation where orders and the direction flows from the top to the employees with strictly defined jobs, workplaces with empowered people seem to be characterized with hierarchically flat organizational structures. Such structure doesn't impose any boundaries for communication, but rather lets it flow in all directions and has a tendency to push responsible actions towards the customer interface. Responsibility is shared and the decision-making is encouraged in all levels of the organizational chain. The core ideology behind the flattened organization and with a shared responsibility of the results in the customer front is that the person actually working on a particular task knows best the challenges and possible opportunities regarding the task. (Ibid., 52-53.)

3.4 Team Collaboration

3.4.1 Relevancy of the Team Context

The thesis has examined peoples' personal psychological preferences and tendencies for the motivation regulation. Those are important factors when inspecting a workplace dynamics. As noted, several studies indicate the importance of those components to one's self-determination, and more quality oriented approach to work. When examining the social and professional work context further, it is self-evident that the concepts of team and team work have to be defined and studied. In business, teams are the primary form of contributing results, and further as Miller (2011, introduction) notes "teams are the beating heart of any successful organization and everyone who works in them." Team efficiency and dynamics have been researched countless times, and categorized based on functions they do or on composition they have: problem-solving teams, self-managed work teams, cross-functional teams and virtual teams (Robbins, Judge & Campbell 2010, 263).

Instead of examining the different formations of teams and analyzing their efficiency factors, the relevant point of view towards teams is the personality endorsing and integrating one. The thesis focuses on the collaborative aspect of the team, and the possible quality gains or losses caused by such integration of personalities.

3.4.2 Team Dynamics

Merriam-Webster (2015) defines the word team in various ways, and possibly also with the most familiar one of team being a group of people working together. This is most arguably the fundamental characteristics of a team, but especially in the business world the team is defined with a more goal-oriented manner. Robbins, Judge and Campbell (2010, 262) describe a team as a generator of positive energy that result in a higher level of performance than a sum of the individual inputs.

When an organization decides to form a team for any pre-determined reason, there is always some power shifting as authorities and different individual perspectives are seeking new channels to flow through. Levi (2001, 7) notes that in such situation the leadership, decision making and work alignment is affected. As noted earlier in the thesis, autonomy of employees and the feelings of empowerment are important factors in producing more self-driven and quality oriented personnel. It is feasible to examine team classifications through those factors: level of empowerment, independency and control.

Table 3 compares the differences through three options for organizing people into work groups: a traditional work group, a traditional team and a self-managing team. It is important to note that the first-mentioned is categorized as “group”, lacking any independency or authority related to the definition of that of a team. Self-managing team, in comparison to the traditional team, is more autonomous and organically interdependent. In other words, the team coordinates itself and uses a team-wide distributed leadership to pursue the target. (Levi 2001, 7-9.)

Table 3. Organizational hierarchy in team formations (ibid., 9)

	Traditional work group	Traditional team	Self-managing team
Power	Part of organization's hierarchy; management controlled	Linked to organization's hierarchy; some shift of power to team	Linked to organization's hierarchy; increased power and independence
Leadership	Manager or supervisor controls	Leader has limited managerial power; selected by organization	Leader is the team's facilitator; selected by the team
Decision making	Authoritarian or consultative	Consultative, democratic, or consensus	Democratic or consensus
Activities or tasks	Independent	Interdependent; coordinated by leader	Interdependent; coordinated by team members

As table 3 presents crucial factors in making the team more autonomous and self-managing, they can be considered as a basic platform rather than a source for teams perceived as successful. Hackman notes that the work teams do not operate in an organizational vacuum. The supportive context of an organization can make a well-designed team to blossom but when neglected, also cripple it. (Hackman 2002, 133.)

Organizational context encapsulating the teams do not guarantee success. When a team has been formed, it faces a determined set of expectations that are used in evaluating the team's success. Based on 15 years of own empirical observations from

different companies and from numerous teams, author notes that the team's success seems to be determined, practically every time, by financial grounds. The term "financial" here means the monetary compensation the company receives when completing the task in time, and possibly receives a bonus. Empirically, such a team is considered to be successful. According to Levi, this completion of a task is a measure of success but rather from the point of project management and not the team. Surely a successful team also completes its task, but the task performance alone doesn't directly translate as a successful team. A team needs to maintain social relations and have an emotional ties with one another that support communication and cohesion. This organic state that the team is in, is not supported by the authority from outside deciding communication methods but by sustainable atmosphere that enables the team to achieve its composition. (Levi 2001, 22-23.) Miller mentions the 3 R principle – rules, rights and respect – to apply also in forming a basis for strong interpersonal relations within a team. Rules include fundamental guidelines such as openness and honesty within a team as well as respect towards a team member. Rights include some perspectives that can be easily overlooked and serve as a good reminder of important autonomy within a team. Some of the rights may include

- the right to be listened to
- the right to say "no"
- the right to disagree
- the right to say what you think and
- the right to be respected. (Miller 2011, 23.)

Levi notes that one aspect of team success relates to individual benefit. Team participation should increase one's skills, whether interpersonal, social or technical, and those improvements should have a sounding board within an organization and be reflected in employee's personal evaluations. (Levi 2001, 22.)

Teams in Projects

"We don't have working hours, just hours." (Viljakainen 2011, 105).

With the quote above, Viljakainen explains the mindset of a today's IT workers he calls as "digicowboys". Viljakainen describes a situation where a main engineer in a

hectic project seems fit to go on a vacation, in the middle of the critical phase of the delivery. He admits that with his entrepreneur background and a work history, it is hard to understand such negligence. This despite the fact that the IT worker, amidst a vacation, provided a solution to a difficult customer issue. Regardless of the seemingly provocative tone, Viljakainen addresses the issue from several points and doesn't accuse the IT workers from moral erosion but rather insists that the issues like the one described have required an adjustment of his own mindset. (Ibid., 102-105.)

The quote in the beginning of the chapter pinpoints an issue that several fixed schedule and fixed content projects struggle with in the IT world. How to motivate a team of quality-prone and self-determined individuals towards project targets that promotes quantitative goals, such as speed and amount of features delivered. It is not always a trivial task to determine a success in a way that binds the team and the project together in a comprehensive manner. Graham and Englund state that there are two interlinked phases, quality planning and quality control that are required in definition of a successful project. Both phases have much to do with the customer and are fundamentally intended for aligning the project with customer expectations and also making sure that the planned course is kept. (Graham & Englund 1997, 72-73.)

Often times, a project manager is viewing the project through the list of requirements that he or she processes further into task packages against the agreed deadline. Among all the social components, competence building and interpersonal bonding, the team has many issues to face as project outlines are formed. Collaboration and collective wisdom of upper management, project manager and the team should be used when setting the project schedule and essential criteria. Graham and Englund (ibid., 77) note that the negotiations of the project deadline will only work if the team members trust the management not to change the deadline without renegotiations. Otherwise, the team autonomy and trust begins to

disintegrate and the team finds itself in a more controlled system where self-determined attitude and creativity mean less.

Another important aspect for a team members in a project is a learning curve ahead. Graham and Englund note that in creative work, the percentage of completed work is usually low at the beginning and builds rapidly towards the deadline. Major portion of the tasks may be completed within the last couple of months in a yearlong project. This occurs because of the nature of the creative work: it has to incubate and form a synthesis with the existing structure. Due to the nature of creative process, designing a believable deadline and keeping away from unidirectional managerial decisions is truly important to the team morale. (Graham & Englund 1997, 78-79.)

3.4.3 Performance Through Discipline

In addition to autonomy supportive organizational context, mutual trust, respect and constructive interpersonal atmosphere, the team is of course evaluated with performance criteria. After all, the team is brought together to achieve a solid performance and in many cases overcome some challenge that hasn't been solved otherwise.

Katzenbach and Smith argue that the most important characteristics of a successful team is discipline. The team can establish a collective decision making consensus with team discipline or go with single-leader approach. Between these discipline approaches, the accountability and goal setting responsibilities shift between the team and a single leader. Especially small groups that want to be versatile in overcoming performance challenges, master the team disciplinary aspects. It is important that the team is able to choose the disciplinary form based on performance situation needed. (Katzenbach & Smith 2001, 41, 44.)

For a team to be able to successfully estimate the needed disciplinary alignment, the performance goals are needed to determine the concept of success. According to

Katzenbach and Smith, outcome-based goal setting helps in determining if the team is in need of team or single-leader discipline. Outcome-based goals help in facilitating group dialogue as in contrast the activity-based goal can make the estimation of needed results difficult. (Ibid., 46.) In other words, carefully thought performance criteria and the correct discipline orientation based on the criteria can help in maintaining the team's focus and purpose without sacrificing the individual accountability. Figure 5 shows the examples of outcome-based goal setting in comparison with activity-based goals. Regarding the first-mentioned, Katzenbach and Smith (ibid., 44) note that it helps in determining the success and should be used as a basis when determining a discipline orientation.

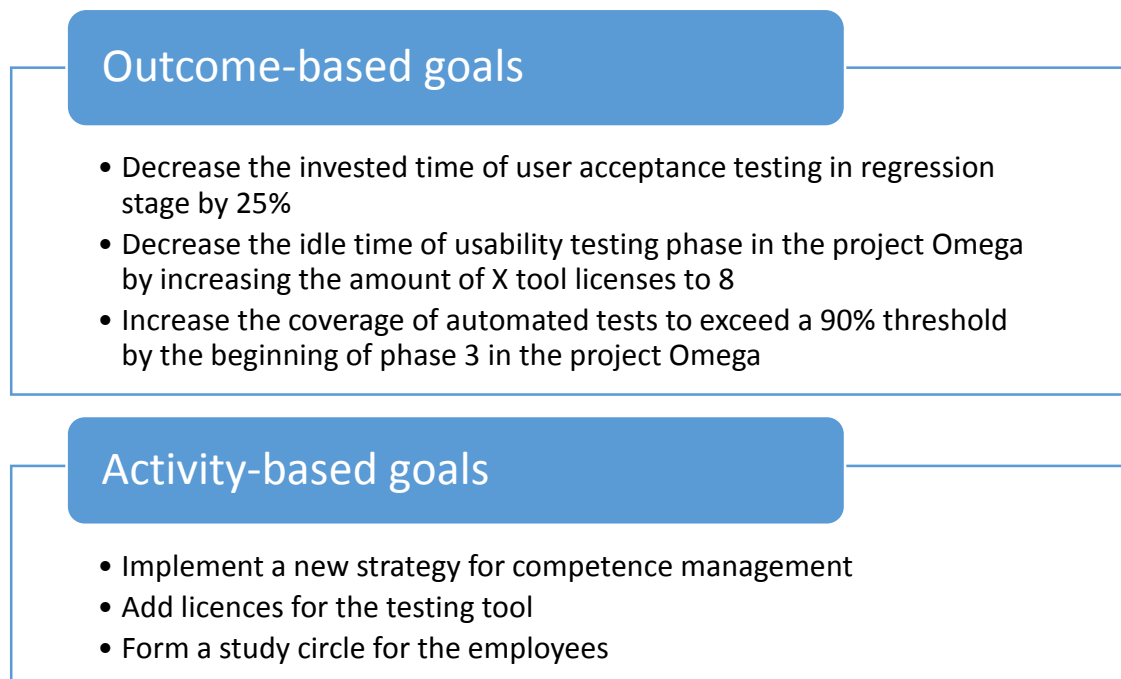


Figure 5. Example of performance goals

3.5 Challenges and Misconceptions When Managing Creative Work

In today's workplace the time pressure, distractions and inefficient meetings seem to be common knowledge. In IT business, people are used to dealing with the amount and quality of information; whether the information at hand is worthy of sharing or the lack of information a good enough reason to interrupt someone's work. With

empirical observations over the years, the line between important and harmful information is considered thin. According to Goetsch and Davis, an information overload and external distractions are among the most common inhibitors of effective communication. These circumstances exist, and have also relation to individual qualities such as listening skills. (Goetsch & Davis 2006, 336-337.) In addition to these everyday challenges, there are different managerial aspects that are built-in into management frame of a project or a service task. This chapter examines these deeply rooted mindsets or habits that are still effectively endorsed when managing creative work and have ramifications to individual and team well-being as well.

Parkinson's Law

Over a half century ago, British author Northcote Parkinson stated that the work expands to fill the time reserved for it. DeMarco and Lister note that even the most incompetent managers tend to cling on Parkinson's Law when managing the people and the attitude. The statement was not a scientific and tested argument, but rather a humoristic slur towards the bureaucratic government workers of the time. (DeMarco & Lister 1999, 25.)

The content of the statement is very well-known in project management and the project manager may find himself or herself following the legacy law when estimating the schedule extremely tight because "otherwise they will just slag off to occupy the whole time." In a functioning and healthy work place, the reasons for people not performing are lack of competence, lack of confidence and lack of affiliation with others concerning the project. Setting a schedule pressure is unlikely to help any of these situations (ibid., 25).

Defensive Management

There are various areas in the IT business that benefit from taking a defensive measures: managers make extra effort to confirm the specifications or discussed schedule milestones to mitigate even smaller risks. Nevertheless, according to DeMarco and Lister the defensive approach against own employee's incompetence is

always a mistake. Once the group of people in charge of implementing a task is chosen, the best approach is to trust them and even allow some mistakes to happen. If the team is kept under surveillance with all external interfaces controlled, no autonomy is achieved. The team will experience that its capabilities are undermined. The only productive freedom for the team is the freedom to make proceedings differently than those of the manager. (DeMarco & Lister 1999, 135.)

Brook's Law

"The expectation of straight-line progress instead of learning-curve progress unwarranted concern. Adding people to solve the nonexistent lateness problem is a well-known folly of project management." (Graham & Englund 1997, 79.)

A quote above describes a quite common situation in software projects where a project is in risk of missing its crucial deadline. This was likely the case also with Fredrick Brooks in 1975 when he as a project manager decided to add more people into project to catch-up on the tasks. This added confusion and was also demotivated the existing team. The conclusion in the form of Brook's law was that adding people to projects already late tend to make them later. (Ibid., 80.)

Fuqua examines the Brook's law further through the Eliyahu Goldratt's theory of constraints. The theory defines a concept of constraints as those factors that actively prevent organizations from reaching their goals. Adding more people is mentioned as a tool for breaking a constraint, in other words improving the system interfacing with the constraint so that the constraining factor loses the effect. Fuqua notes that the aspect is not in conflict with Brook's law as adding more people is merely option when other rules apply. If Brook's law scenario is realized in a project, the constraints are not handled correctly and within time. (Fuqua 2014.)

Matrix of Perceived Rewards

The following unhealthy mechanism is closely tied to organizational atmosphere and to the managerial practices that are endorsed. Brook's law introduced an issue of handling schedule crisis with adding additional people. Graham and Englund note that such functions are supported in many organizations. That is due to a mindset

that the action is considered to be better than no action. The upper management expects the project manager to take action when the project is running late. Even though it's hard to evaluate the actual benefits of the action in an already late project, for example the active measure of increasing people is considered as a "right stuff" to do. In correlation, a project manager providing no action in such situation would be seen as a case of "asleep at the wheel." If the rewards are granted in this manner, it is in the project manager's interests to take an incorrect action. (Graham & Englund 1997, 81-82.) This promotes the atmosphere where actions are taken, possibly even with a great thrive without focusing to consider if the action is a correct one.

Figure 6 illustrates the positive and negative rewards granted by the organization. Positive feedback on taking an action places a bias upon a project manager to perform even an ill-advised operation.

	Late	Not late
Action	+	++
No Action	-	0

Figure 6. Matrix of perceived rewards (Graham & Englund 1997, 82)

Fragmentation of Time

As the previous chapters have addressed hazardous scenarios that are promoted consciously and also subconsciously, the fragmentation of time in a software project can also be examined as an unintended byproduct of a hectic project environment as well as a result of too complex team or project setup. Unlike earlier scenarios,

fragmenting ones work time - with too many human interactions for example - is rarely a target for the management. It is nevertheless a very common situation in the IT business. According to DeMarco and Lister the increased amount of human interactions only lead to spending more time on adjusting the work pace and a mindset according to those interactions. Fragmentation of ones work time into smaller and smaller pieces by adding communicative interfaces ultimately ends up consuming all of the work time. (DeMarco & Lister 1999, 136-137.)

3.6 Conclusion

In the chapter 3, the employees' individual qualities and personal motivation factors were examined as a part of a theory base. Although the IT professionals come with the different backgrounds and motivations, the autonomy and self-determination supportive work context are important factors in forming an employees' perception regarding the meaningfulness of work and self-worth. When belonging to a team, a good interpersonal relations and mutual respect are important supportive elements. The discipline was also examined as a vital component when forming a performance-driven team. In a work place, several challenges within an organizational structure or in the managerial layer exist that can impact to ones' perception of empowerment. This chapter forms a theory base when conducting a research among the IT professionals providing a software service, as illustrated in a figure 7.

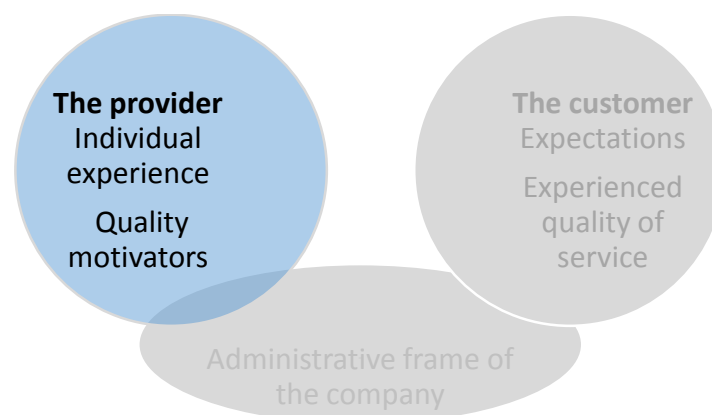


Figure 7. The focus of examined theory base in the chapter 3

4 Customer Relationship

4.1 Introduction

“Creating a customer experience that becomes synonymous with your brand is increasingly recognized as a vital driver of corporate performance.” (Smith & Wheeler 2002, 2).

In this chapter the atmosphere surrounding the customer interface involved in a service relationship is examined. It is important to study the customer expectations as the service chain providing a software product aims on filling those qualitative expectations. The quality experience of the customer is an important evaluation point on service providers' qualitative values. This relationship is examined in the thesis research phase.

4.2 Orientation towards the Customer Perspective

Raab, Ajami, Gargeya and Goddard (2012, 13) claim that the customer orientation is one of the most crucial factors needed to successfully cope with today's highly competitive markets. More fundamentally, Peppers and Rogers note (2004, 3-4) that the customers have always been in the heart of an enterprise's core functions and in today's business world the tools for the masses, such as branding has emerged to differentiate the company's services or products in the eyes of the customer. The brand constitutes as a quality stamp in the eyes of a customer, and encourages to choose a particular product over the competitors and stay committed to it. Even though the aspects of differentiating one's product have evolved from physical attributes such as product durability or assembly-line efficiency into concepts like brand awareness, the goal of any enterprise is to get, keep and grow customers (ibid., 4-5).

Raab and colleagues note that the entirety of company's actions and mindset should be tuned with customer's current and potential needs. To be fully customer oriented, the company structures, technological aspects as well as the hierarchical

levels in personnel are keeping the customer's point of view in mind. (Raab et al. 2012, 15.)

Raab and colleagues refer to the criteria formed by management strategists Haines and McCoy for clarifying the requirements and measures for a company seeking customer orientation (ibid., 15). Table 4 shows the requirements that are considered as essential by Haines and McCoy. When inspecting the requirements in the list, the emphasis on customer involvement and information sharing can be seen. Not only the company structures are adapted to the customer mindset, but also the customer is actively taken as a part of a company culture with formal and informal communication and sharing. Customer orientation is seen as a holistic mindset that involves any aspect of the company's functions, not only the products or services that the customer is expecting and the company makes the direct profit from. It is also worth noticing, that the list includes employee's customer commitment in an individual level.

Table 4. The ten requirements for a customer-oriented company (ibid., 15)

1	Pursue a close relation with the customer.
	<ul style="list-style-type: none"> • Meeting regularly with the customer, seeing, chatting and interacting face-to-face. <p style="text-align: center;">Seek the position of trust, in relation to the customer needs, expectations and wishes.</p>
2	
	<ul style="list-style-type: none"> • Setting a customer-oriented goal for the whole organization to exceed the customer expectations.
3	Follow the satisfaction of the customer regularly.
	<ul style="list-style-type: none"> • A constant flow of information from and to the customer is maintained, negative and positive issues alike are communicated. <p style="text-align: center;">Inspect in a holistic manner the performance areas through which the added value for the customer can be provided.</p>
4	
	<ul style="list-style-type: none"> • In addition to quality and service, the aspects can include for example environment, economy of the performed functions and security issues. <p style="text-align: center;">Take the customer into notice regarding the company decision making, also regarding internal events and plans.</p>
5	
	<ul style="list-style-type: none"> • Involving the customer in different functions prevents the atmosphere where the customer might feel blocked out. <p style="text-align: center;">Allocate every individual in the organization to meet and interact with the customer directly.</p>
6	
	<ul style="list-style-type: none"> • A direct communication with the customer can not be substituted with any other activity. <p style="text-align: center;">Adapt the company processes according to the customer perceptions.</p>
7	
	<ul style="list-style-type: none"> • All the areas of the company are adapted consistently in alignment with the customer. <p style="text-align: center;">Align the company structure according to the market.</p>
8	
	<ul style="list-style-type: none"> • Organization is fitted consistently with the market the company operates with. <p style="text-align: center;">Develop a strategy to recover from customer setbacks and complaints.</p>
9	
	<ul style="list-style-type: none"> • Bad experiences tend to travel fast, the efficient recovery strategy in case of complaints is important. <p style="text-align: center;">Assure a customer friendly mindset among the employees.</p>
10	
	<ul style="list-style-type: none"> • Starting from the employee staffing, a customer oriented attitude is endorsed and demanded.

Regarding an employee orientation, Raab and colleagues refer to the observations made by Homburg and Werner. Although the customer-oriented principles and goals set by the company are a good start, they are not sufficient. The customer

relationship needs to be promoted in an individual level. For this to happen in a fruitful manner, the employees should feel confident with the quality of internal cooperation in the company. A beneficial internal cooperation, and therefore a foundation for a successful customer orientation, can be examined through following supportive questions:

- How well do the different departments of the company collaborate?
- Is the management encouraging and supporting the customer orientation of the employees?
- In what way are the employees given a possibility to involve themselves in company actions? (Raab et al. 2012, 16)

These questions bring out the organizational circumstances that were noticed also earlier in the thesis regarding the personal motivation and team behavior, in other words the autonomy to achieve and the supportive organizational context for it. It is important to note that the means and empowerment to action are provided in the customer interface. This aspect of the employee involvement in influencing customer experience is further emphasized by Smith and Wheeler, who refer to the survey results that found people to be a single most important factor in creating a customer experience that promotes loyalty. People was ranked first even before product and service delivery. (Smith & Wheeler 2002, 101.)

4.3 Understanding the Customer's Expectations

In any business, it is extremely important to understand customers' expectations. In the business of providing software service, the awareness of customers' expectations as a driver behind company's actions is critical. Without understanding the expectations, the provided service or a product can't be designed to meet or exceed those expectations. Satisfied customers receive a service that fulfills their expectations. Johnston and Clark (2008, 108) note that the expectations for the service and the perceptions regarding the received service, are the key components to be understood, managed and utilized in delivering a quality service.

According to Johnston and Clark our expectations tend to exist in a range between predictive expectations of what we believe to be a likely and normative expectations what we believe should happen. In other words, one places to place one's expectations between an ideal situation and a tolerable, likely situation. This range is often called as the zone of tolerance. If the level of performance varies within this zone, the customer is willing to accept it with only marginal impact on the perception of the service. (Ibid., 114-115.)

There are several influences to customer expectations, and in some occasions the customer may not know or be able to communicate exactly what they want but on the other hand may be certain about what is unacceptable. It is important not to let the customer interface and the customer-facing employees to operate on assumptions but to encourage to clarify the real needs and expectations of the customer. (Ibid., 115.) Figure 8 illustrates some of the key influences on customers' expectations.



Figure 8. Influencing customers' expectations (Johnston and Clark 2008, 116)

It is important to notice that the circumstances around the customer expectations are not static but rather constantly changing. Similarly, the customer is operating in a matrix of influences that have different weight in any given time. (Johnston & Clark 2008, 116.) Price has a large influence on expectations, it is something that is easy to compare and tends to affect our zone of tolerance. When investing to a higher price

service or product, the customers' expectations scale accordingly. Previous experience from similar services is an important factor, not necessarily regarding the service provider to be used but any other provider in the business. Marketing campaigns as well as word-of-mouth build the confidence towards the service and amount to higher set of expectations. Word-of-mouth can have even a stronger influence than planned organizational marketing campaign.

As satisfaction of the customer is based on having their expectations met, it might be concluded that the satisfaction is the factor that makes the customers repeatedly use the service. Smith and Wheeler note that this isn't a conclusion to be made, because loyalty doesn't mean satisfaction. An extensive survey results indicate that the majority of customers switching the service have been satisfied with the previous supplier. Being satisfied to a service or a product is not sufficient indication for concluding that the customer would stay loyal. Instead, the companies need to differentiate their business and the organization in the eyes of the customer and build a basis for an emotional engagement that has a unique value to the customer. (Smith & Wheeler 2002, 30-32.)

4.4 Evaluating the Customer Perspective Using a Service Quality Model

As noted in the earlier chapter, understanding the customer expectations is a key element in building a successful customer relationship. How do the customer see the quality of provided service, how they evaluate it and what they expect in the first place? These are the type questions the enterprises in IT business have also been keen to solve. Zeithaml, Parasuraman and Berry have taken efforts to define a model for measuring the customers' perceptions of service quality. Several aspects to this subject examine only the tangible side of service quality, in other words production specifications and manufacturing control. Zeithaml and colleagues introduce a model that constructs a measurable dimensions over the perception of service quality. (Zeithaml, Parasuraman & Berry 1990, 24.) The fundamental idea behind the model is to measure the level of customer expectations as well as the level the customer perceptions, and determine the correspondence of the two measurements. The

difference between an expectation and a perception is considered a mismatch to meet the service quality expectation. The wider the gap between these two measured components is, the more profound is the inability to meet the service quality in the area. The gap may of course result also from exceeding the customer expectations. This approach to examine the customer perceptions and to profile the service quality is referred also as gap model. Johnston and Clark picture the simple idea behind the model as illustrated in a figure 9.

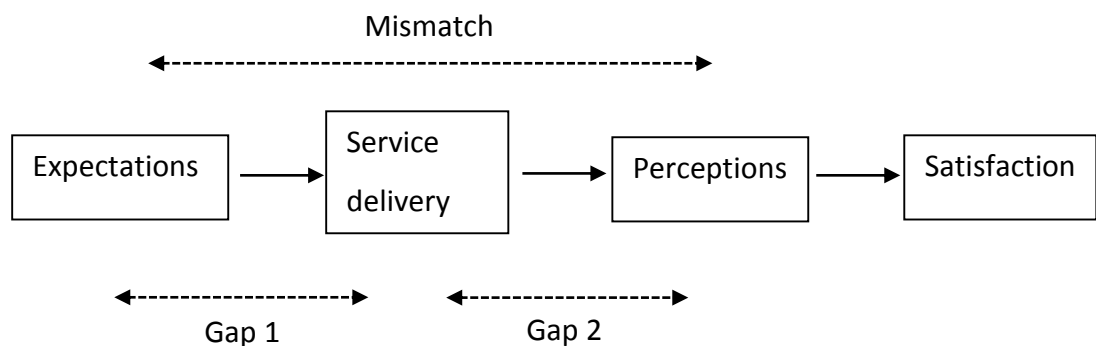


Figure 9. Simplified presentation of gap model (Johnston & Clark 2008, 110)

There are several reasons why the gaps exist. Gap 1 can be a result of insufficient or misunderstood specifications, the customer may also have inappropriate expectations due to communication failure or the customers' expectations are not understood or evaluated correctly to begin with. Gap 2 includes issues in the service delivery. The customer may feel that they have been promised correct things but the delivery activity, which often times may include several manual phases and also complex set of activities, has failed. Johnston and Clark note that the customers' perception of the quality doesn't mean the delivered quality of service, as the perception has always the personal and emotional side that cause us to filter the experiences in certain way. (Ibid., 111.)

Critical view on expectation-perception approach

Although the expectation-perception approach is well founded and provides a feasible, focused output regarding the customer satisfaction, there a few viewpoints that are important to acknowledge. Johnston and Clark note that as the perceptions

are compared against the expectations of a customer, the conclusions relating to service quality have to be considered carefully. Customers' expectations can be especially high, due to over-promising for example, and as a result the service is perceived to be bad. Also, as service expectations tend to raise after good experiences, a subsequent satisfaction findings could show a declining trend even though the quality of service would have remained unchanged. (Johnston & Clark 2008, 111.) In other words, the customer has grown comfortable in certain level of service and the expectations have risen. The same offer level of service may be experienced as a case of reduced quality of service, although it could also be seen as a consistent, unchanged service delivery. When examining the expectation-perception approach, it is also important to note that the satisfaction does not guarantee loyalty. Instead, there are several factors, like differentiation of services, strength of the brand and producing an individual experiences, to be examined when making estimates on a customer loyalty. (Smith & Wheeler 2002, 30-32; Johnston & Clark 2008, 112.)

4.5 Service Quality Dimensions

Expectation to perception comparison provides a widely used and feasible method to study the perceived quality of service. Through various statistical analyses, Zeithaml and colleagues have defined dimensions through which the service quality can be examined. By condensing the original group of dimensions in their study, Zeithaml and colleagues formed five dimensions that capture comprehensively the angles used when examining the perceived service quality. Those dimensions include

- Reliability
- Assurance
- Responsiveness
- Empathy and
- Tangibles. (Zeithaml, Parasuraman & Berry 1990, 26.)

Reliability relates to an ability to deliver the agreed service accurately and within a correct schedule. Responsiveness is seen as being available and actively being there

for the customer. Customer requests are handled promptly and with determination. Assurance relates to the presence of the service provider, how they convey their confidence and knowledge and further carry themselves in the eyes of the customer. When receiving assuring service from the provider, the customer feels safe and trustful. Empathy can be seen as individual attention from the customer perspective. Customers are able to express their specific needs and those needs are addressed with personal attention. Dimension for the tangibles relates to physical appearance of the company's facilities and equipment. (Ibid., 26, 180-186.) For example an insightful presentation letter describing a service or product, or a sales person dressing neatly and according to the company brand can be seen as a factor in tangibles dimension.

According to Zeithaml and colleagues (ibid., 28), the customers estimate reliability as the most important dimension, followed by responsiveness, assurance and empathy. Based on extensive customer survey, tangibles were considered as a least important of the five dimensions. It is important to note that the tangibles may be regarded as a very important factors in some areas of industry. Restaurants and barber shops rely on their neat appearance and clean establishment. This is usually not the case in IT service business where locations and offices are quite standard. Empirical findings support the conclusions made on survey findings of Zeithaml and colleagues to place tangibles last and reliability first in relative importance scale.

4.6 Questioning the Need for Service

It is a common practice in IT services and operations to measure how well the customers' concerns were addressed, if there were increasing amount of issues made and how fast the issues were handled. Typically, the quality of provided service is concluded based on the metrics from reactive actions. How fast and insightfully the customer was serviced regarding a failure in a service or in a product. Service is reactive and the conclusions made concerning the quality of that service are drawn from reactive measures. Price and Jaffe refer to a research that highlighted the perceptions of company CEOs and their customers. 75% of CEOs believed their companies provide "above average" customer service, while 59% of their customers

felt somewhat or extremely upset with their most recent customer service experience. (Price & Jaffe 2008, 12.) This illustrates the gap in perceptions that may exist when there is a misplaced focus on service quality. According to Price and Jaffe it is fundamentally important to consider the need for the service. Many customer service situations are not necessary but rather occur as a result of badly managed customer interface: complex processes, confusing statements and service descriptions. Rather than coping with the customer demand for service the companies should challenge the need for demand (ibid., 30).

Zeithaml, Parasuraman and Berry address a similar effect when they conducted a study regarding five different companies and their service quality perceptions. The study showed that when the customers experience a service problem, their perceptions of service quality are influenced in a negative manner. More significant was the observation that the satisfactory response to a service problem didn't elevate the satisfaction of the customers to a level that existed prior the problem. In other words, regarding the perceived quality of service the companies that prevent service problems altogether are superior in comparison to the companies that manage to handle service problems satisfactorily. (Zeithaml, Parasuraman & Berry 1990, 31.)

4.7 Conclusion

In the chapter 4, the characteristics of the customer experience was examined. It was noted that the customer orientation is actually a holistic situation that the service providing company has to tune itself into. Not only the management but the structure of a company and employees in individual level are encouraged and supported with the customer oriented perspective. The aspect of individual empowerment raises a similar aspect than the support for employees' autonomy in the chapter 3. The empowered employee can be an important factor when differentiating a service in the market and building the brand of individual care. As noted in the chapter 4, the satisfaction itself does not necessarily keep the customer

from changing the service. Figure 10 illustrates the focus in chapter 4 and the addressed point of view in regard of the thesis theme.

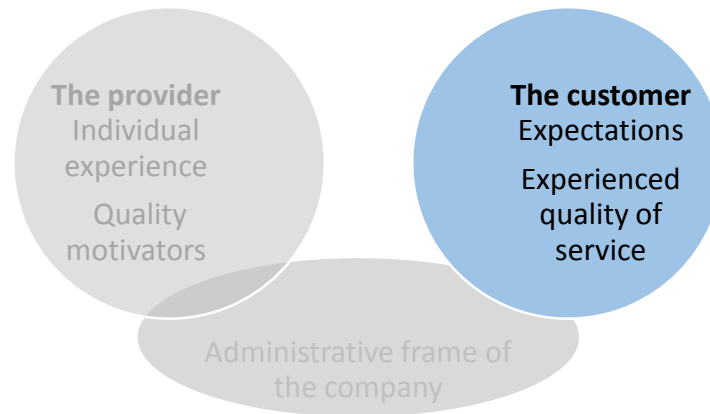


Figure 10. The focus of examined theory base in the chapter 4

5 Administering Quality When Delivering Software

5.1 Introduction

“The people may be made to follow a path of action, but they may not be made to understand it.” (Confucius 551 BC - 479 BC, Chinese philosopher)

A popular saying by the Chinese teacher and philosopher Confucius contains an important notion and also captures the essential characteristics of this thesis’ research questions. If we assume that to be able to successfully convey the quality aspect of the work to the customer one must first understand it, there isn’t much the company management and process definitions can do on their own. Previous chapters have established the nature of quality motivators to be intrinsic and individual and perceptions of quality to be contextual and also sensitive to influences. Still, companies need to be able to harness the creative and even chaotic part of the development work and produce a maximal stream of results for the customer. This chapter examines the characteristics of managing and controlling the

service quality through a process frame. The chapter focuses on the means used in an IT company ITSP subjected in the research part.

5.2 Quality Management through Process Conformity

IT organizations usually rely on some defined quality controlling and managing procedure. Companies may have applied their own specific features into quality management criteria, depending their field of business and customer influence. Despite of varying methods of applying the quality procedures, they usually have some degree of conformity with International Organization for Standardization (ISO) 9001 quality management system (QMS) requirements. ISO 9001 has been taken as an international model regarding the QMS requirements with over million organizations in over 100 countries (Cianfrani & West 2013, 1).

Cianfrani and West note that the role of processes is often misunderstood or misused when organizations ramp up their quality management system. When the system is being developed, many companies rely on their key members to take a responsibility over a portion of the software system. These key persons become the experts of the subsystem they manage and develop, and ultimately they end up being an irreplaceable part of the system. After some years of development, as the complexity grows and possibly some key persons have left the company, the management may come to realize that the system was actually just a group of dedicated people that governed their own segment of the software system. Without cross-functional processes the test of time will be the difficult one. (Ibid., 19.) Withering system may be a result of misunderstanding the important concept of employee empowerment: rather than giving an individual power over the work situation the process frame should be provided within which the employees are free to fulfill their creative capacity (ibid., 19-20).

Through processes the companies aim to manage the system that they operate with. Processes may interact and consist of several sub-processes to form a system that aims on fulfilling the organization's objectives. Cianfrani and West (ibid., 22) note

that companies may fail in getting real results with their guidance activities when process management is not evaluated against the organization's key drivers of performance. This is a complex dilemma as both aspects seem to require understanding first the other. As process management can be an overwhelming aspect, many companies may feel comfortable relying on determined guidance such as ISO 9001:2008 conformity clauses for evaluating the process model.

5.3 Management Frame of the Company ITSP

5.3.1 Project Management Principles

ISO 9000 defines quality management as coordinated activities that an organization directs and controls the quality with. According to Hoyle (2007, 21) the activities are identified as quality planning, quality control, quality improvement and quality assurance. These activities can be found from many project management guides and model descriptions. PMBOK guide, or the Project Management Body of Knowledge, defines the project quality management through three processes that can be also found from Hoyle's activity list: quality planning, quality assurance and quality control (Project Management Body of Knowledge 2004, 11).

PMBOK defines a widely used project management structure that is compatible not only with ISO, but proprietary quality management approaches such as Total Quality Management (TQM), Six Sigma, Failure Mode and Effect Analysis (FMEA), Voice of the Customer (VOC) and many others (ibid., 180). PMBOK structure is practiced also in the company ITSP and therefore forms a structured base for service operation within a company.



Figure 11. Example of process chains' inputs and outputs, simplified illustration (PMBOK 2004, 182)

Figure 11 illustrates the interaction of the project quality management processes through a set of inputs and outputs that link the processes together. A project manager works within a process frame and manages the project towards the defined target. Phases and policies can be numerous as several processes interact with one another. For example, when defining the project scope the project manager may produce a Work Breakdown Structure, or WBS, and a project scope statement. This causes updates to project management plan. When addressing quality management, the project scope management, the project management plan and possibly a changed organizational quality policy are used when forming a quality management

plan and quality metrics for the project. Also quality checklists for controlling a specific phase or component can be defined. These two outputs, quality metrics and checklists, are outputs that have an actual value and are measured and controlled by specific means. (PMBOK 2004, 186-187.) The quality metrics, along with the other quality objectives of the project, are commonly applied in quality assurance and contain such specific criteria as failure rates and service availability. This criteria is controlled further in a process and along with the work performance information, the actions may be taken. Project management process and the organizational process model overall have a systematic approach for defining the outcome.

5.3.2 Operational Work

PMBOK is a project management guide but as in many IT service companies, the company ITSP works also with operational tasks. Those can be described as business sustaining tasks that include maintenance and fault corrections. The objectives of the operational work and the projects are different in nature as while the operational work aims on sustaining the system or a service with an ongoing process, the project aims to reach its target after which it will end. People in both of these activities still face a similar constraints in the daily work as they have the predetermined set of resources and operate with tasks that are planned and controlled. (PMBOK 2004, 6.) In ITSP, the software specialists work in project and in operational work. They usually form an interworking entity as it is imperative that the information sharing regarding the content and schedule is frequent. Also, the developers and testers usually rotate their work tasks between these two categories and by work rotation the work methodology is familiarized further.

5.4 Conclusion

The administrative context of the IT work is often derived from proven quality management systems and usually illustrate work tasks through the dependency matrix in a process frame of the company. The quality management system and the process frame usually tends to have a systematic and even industrial approach towards the IT work. Intangible aspects like creativity incubation and empowerment

are rarely addressed in the quality administrative processes. Figure 12 illustrates the focus in chapter 5 and the domain of the covered topics.

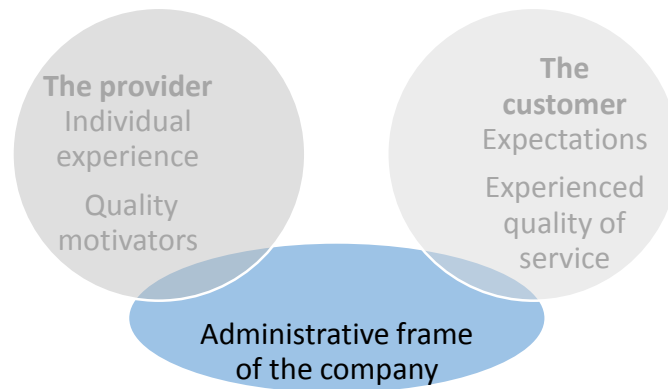


Figure 12. The focus of examined theory base in the chapter 5

6 Implementing the Thesis Research

6.1 Research Context

The research part collected empirical information to be analyzed through quantitative and qualitative methods. Survey phase A was implemented with the survey research on company ITSP's employees. The used survey form contained statements that were lead from the theory basis regarding the level of internalized motivation, team and organizational wellbeing and also drawbacks adopted into the system. Survey phase B was conducted with the customers of ITSP and involved themes like reliability and responsiveness, closely lead from theory basis regarding the customer orientation. The role of the survey phase B is to examine the quality promotive view from the point of the customer and examine the correspondence on individual perceptions of ITSP employees in the role of a service provider. This point of view is addressed in a secondary research question. The overview of the research setting is illustrated in the figure 13. The first research question provides a primary

aspect for the thesis, and supportive questions 2 and 3 complement the aspect by providing a stakeholder view.

Even though the questions number 1 and 2 have a defined theory basis and the research contexts in those are clear, it is controversial if the research part can raise a consistent factors between the two contexts and address the supportive question number 3. The flatness of the organization is a desired quality that the IT service provider can gain from. The individuals behind the provided service face the customer and promote the values of the service provider. Largely due to these individuals, the service is differentiated in the eyes of the customer and that is one of the key elements in achieving customer loyalty. Also from the customer perspective, the personalized service is expected and required as the satisfaction itself may not be enough to tie the customer to the service. Service relations are very delicate to changes and subjected to large amount of influencing factors. Therefore the conclusions regarding the question number 3 are to be drawn cautiously.

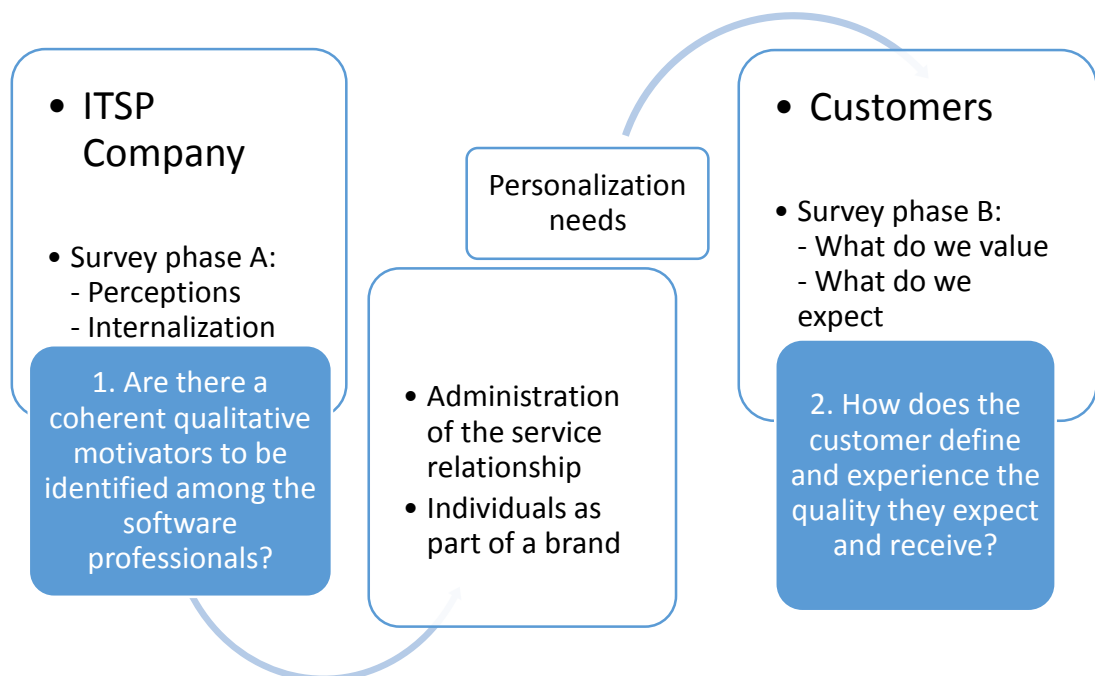


Figure 13. Research questions and the context

6.2 Survey Phase A: Individual Perceptions

6.2.1 Preparations and Principles

Defining the Survey Features

As the survey places in a fast-paced business environment with a limited possibilities to brief the respondents in, the survey characteristics was considered carefully. The targeted team members are located in many culturally different sites and operate with varying office policies. It was fundamental to avoid any ambiguous or culture-bound question setting. The reason for the survey and the intended use of the survey data were explained to the respondents with an email and also discussed openly with in work community beforehand. Anonymity was also explained and the basic structure of the survey. Survey consists mostly of statements that were written in first person. With this, the statements' relatedness to one's subjective perceptions was emphasized. Had the statements been in passive tense, it could have generated more official and process oriented context and possibly lead the respondent to recollect the organizational point of view instead of the one's authentic perception. Each statement aims to address a one specified work related aspect with a punctual sentence. According to Heikkilä (2014, 54-55) the characteristics for the good questions are the unambiguousness and clarity and a good practice is to test the questions with a focus group beforehand. This practice was used in the thesis and the review round was an important measurement regarding clarity of the questions.

The scale of 1 to 10 was chosen for the statements. Among the main reasons for using such a wide scale were the need for higher resolution when examining the answers and also the elimination of default answers. Heikkilä (2014, 52) notes that the option in the middle of the scale representing the neutral "I don't know" type of answers may be too tempting. The scale of 1 to 10 decreases the possibility to choose the default answer. The option "I don't know" was left out, and the questions were set as voluntary. That way the scale remains linear and the results would actually show the skipped questions as an indication of unclear formatting regarding a questions, rather than forcing the respondent to answer without an opinion. As the

scale starts from the value 1, the mean value can be calculated for indicating the strength of given opinions (ibid., 52.) To be able to take advantage of a linear scale, only values 1 and 10 were explained with descriptive text.

Fowler (2002, 94-95) notes that there are disadvantages when using the statements of agree-disagree format. The pre-determined categories usually extract more information than is needed, and the adjustment of gathered information into fewer categories has to be made. Also, labeled option categories are not always explicitly defined and cause confusion. Heikkilä (2014, 51) also notes that the statement answers do not indicate the importance of the answer to the respondent. These issues are addressed in the survey by using a 1 to 10 scale without labeled categories. This minimizes the need for interpretation as the scale is numerical and linear. Also, the mean value of the answers becomes a valid tool for comparing the data. To increase the depth of the measurable themes, the multiple choice questions were added. The questions have an inverse nature when compared to the statements and they map the respondent perceptions through potential challenges. Table 5 summarizes the characteristics of the survey phase A.

Feature	The chosen method
Research type	Quantitative and qualitative (free text)
Distribution	Open link, anonymous collection
Scale	Likert type scale (from 1 to 10) in statements written in first person
Population	Three IT teams, total of 95 IT professionals
Other	Background information set as mandatory, other questions voluntary.
Background variables	Question 2 forms a primary point of view, in addition to nonfiltered data. Questions 1 and 3 are used internally for supplementary purposes.

Table 5. Summary of the survey form characteristics

Qualitative information collected with the survey is examined when interpreting the validity of the results and inspecting how the context is understood among the respondents. Heikkilä (2014, 15) mentions that the sample in qualitative research is often limited and the research data is collected with a less structured manner. In this survey the qualitative information is collected using the same sample and the same distribution method. In other words, the collected qualitative data is closely tied down with the context of the survey and aims on maintaining the cohesion with the survey context. As respondents are asked to mention any topic that may enhance or undermine their work motivation, the free text answers may or may not correlate with the collected quantitative data. After the survey, a loosely structured group interview is held for retrospective purposes and in evaluation if the survey was experienced as a valid and descriptive regarding one's work environment. The theme of the thesis is very well suited also to be inspected through the qualitative data. That is due to the nature of qualitative research: it assumes, being a part of interpretive research, that the reality is socially constructed and without a single, explicitly determinable reality (Merriam 2014, 9.)

Reviewing the Survey

As the theme of the thesis contains several point of views that are not straightforward and require reflection, it was necessary to include an important prerequisite of careful reviewing. The survey was reviewed by a small group of selected professionals: ITSP quality manager who is not named in the thesis, Head of Software development Jaana Lemetti from Valve and Jyrki Kallinen who has a vast experience in various IT and technology marketing related posts from companies such as Microsoft, Nokia and Rovio. Valid notes relating to usability and readability were raised during the review rounds. Also the ambiguity concerning the statements were addressed. The topics raised in the review contained following points:

- Could the topics be covered with a smaller set of questions?
- Is the background information sufficient and understandable?
- Are the relevant terms explained in an understandable manner?
- Are there issues that would keep the participants from answering the survey?

Review phase proved to be a useful checkpoint regarding validity and relatedness. The reviewers were not introduced to the topic of the thesis in depth. This was a purposeful choice as the reviewers' analysis on the theory basis would have produced conscious and interpreted views. Then the input regarding the usability of the form would have been given in context. Instead, the reviewers acted as actual participants whose answers and comments would reveal the possible validity or relevancy issues behind the questions. Several misconceptions or insufficient definitions were revealed about the form due to this testing phase, and as a result the survey form was further processed regarding clarity and usability.

The survey form was condensed into its final form by examining the validity of each question or statement. The set of 20 statements and 3 multiple choice questions form a 2-5 question entities that are lead from the themes examined in the theory base.

Organizational Context

Survey phase A interviewees consisted of IT professionals of ITSP that are working in the customer teams to provide a software service for the customers. The survey was implemented using three customer teams, each proving their own service product for their customer. The decision to use three different customer teams as participants was made because of the two primary reasons. Firstly, the circumstances in proving a software service change rapidly as the team may have a particularly challenging phase under work and the time resources are scarce. Using three individually operating customer teams mitigate the risk of the high nonresponse rate. Secondly, using the survey data for comparing the conditions between the teams is likely to produce a valuable information for the teams to use and go through in their retrospective processes. The teams work within the same organizational guidance and consist of specialists and managers performing similar functions in a service relationship. As the research theme in the survey phase A is to collect the information on subjective perceptions of an IT professional, and not for gathering metrics of the particular service used, the research context applied to all

included teams uniformly. Differences between the teams are addressed when examining the results, for example when referring to reliability issues. Still, it is important to note that the main scope in phase A is to collect and analyze the information relating to IT professionals' perceptions and that analysis serves the most meaningful purpose if done using the sample as a whole. The figure 14 summarizes the respondents in the survey phase A.

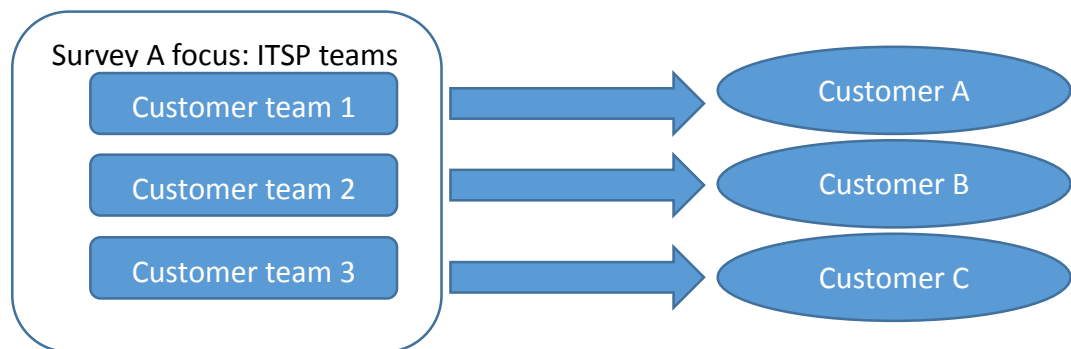


Figure 14. The target scope of the survey phase A

Question Formatting and Interpretation

The format of the statements used in the survey are largely conducted from the SERVQUAL instrument for measuring the service quality perceptions, defined by Zeithaml and colleagues. The statements are clearly defined and aim on addressing a single aspect at the time, usually written from a first person perspective. Numeric scale is used to indicate the respondents' level of consent over the stated issue (Zeithaml, Parasuraman & Berry 1990, 202-205.) Examining the results through the categories has a close analogue to the dimensions defined by Zeithaml and colleagues (*ibid.*, 176.) Following table 6 describes the theory context that the survey data is primarily examined against.

Category	Question/statement number
Background variable	1, 2, 3
A. Individual: autonomy, competence	6, 7, 8, 16
B. Individual: job involvement	4, 10, 13, 20
C. Individual: job satisfaction	12, 14, 22, 23
D. Individual: flatness of organization	11, 15, 17, 26
E. Team: relatedness, respect	5, 9, 18, 21
F. Challenges	19, 24, 25
Supplementary qualitative data	27, 28

Table 6. Theory context categories

The background information includes the team division but the results are mostly interpreted as a whole. The team specific information may be further applied in the future for the internal review by ITSP Company. Also the background question number 3 regarding the work experience within the company has more to do with the benefits of internal reviewing than the theory base. The question 3 was added after the discussions with ITSP, and it provides an angle for the internal analysis of ITSP. Therefore question 3 has no role in analysis and is not addressed in the theory base.

Background variable included in the question 2 forms an important point of view when examining the survey data. The question 2 defines the primary work role of the respondent using two categories, a specialist and a manager. This has importance when examining aspects like congruence of a role perception (Robbins, Judge & Campbell 2010, 252), flatness of organization (Potterfield 1999, 52) and perceptions on autonomy (Ryan & Deci 2000, 64-65).

6.2.2 Result Analysis

Conducting the survey yielded 46 responses, as the survey was sent to total of 102 receivers. Out of those receivers, 9-10 people were actively impeded to take the survey due to being out of the office. When regarding the impediments and including the receivers with a feasible opportunity to take the survey, the calculated response rate is 50%. This response can be conceived as a good result as the survey was conducted with the whole population, including also employees with an especially hurried schedule. The whole population was used to avoid the possible bias relating to the prescreened population (Heikkilä 2014, 31-32).

The responses were mostly received from the customer teams 1 and 2, while customer team 3 produced only 11% ($n = 5$) of the responses. This may be result of a challenging situation the team 3 faced at the time of the survey. These varying conditions in the delivery cycle were the reason to include several teams. Out of the all respondents, two chose the option 'Other' in the role defining question number 2. Mean values for that group are not calculated separately, but included into calculations regarding the whole sample. Appendix A shows the grouped survey results in whole. The tables in this chapter include also cross-referenced data that is extracted based on the background variables.

Individual perceptions relating to autonomy and competence (category A)

Survey question	Mean value (specialist, n = 29)	Mean value (manager, n = 15)	Mean value (All, n = 46)
6. I usually take the work task by my own choice.	6,07	7,00	6,46
7. I feel that my team's targets are reachable.	7,28	7,6	7,43
8. I have participated in setting my team's targets.	5,66	7,2	6,26
16. I am able to focus when I need to.	6,76	7,33	6,98
Category A (total)	6,44	7,28	6,78

Table 7. Category A results of the survey phase A

Table 7 shows the calculated mean values of the numerical answers given by the respondents. None of the respondents that submitted the results chose to skip questions, although that was an option as the questions weren't defined as mandatory. This implies that the questions were understandable enough for the respondent to make an informed choice.

Questions 6 and 16 relate to the perceptions of autonomy when performing the work, as the respondents estimate their ability to determine the personal relationship towards the work. In other words, questions relate to the ability to control one's personal work space. Mean values stay relatively low and place in the lower end of the survey scale with figures under seven. When changing the perspective and examining the team from personal aspect, the confidence increases and the answers rate higher with the question 7. This could indicate that the perceived lack of autonomy has more to do with the control over one's work rather

than meaningful rationale of the task. Both aspect were mentioned in the theory base as a substantial factors in internalizing the motivation (Gagne & Deci 2005, 338).

Managers rate consistently higher mean values when compared to the specialists. Effects of using the role based grouping as a background variable produced the most significant impact on mean values in the question 8. When asked if the respondent has participated in setting the targets for the team, the specialists rate distinctly lower values than managers. When using the variance analysis ANOVA to examine the level of differences between groups, the variance in question 8 produced significant ($0,01 < p \leq 0,05$) correlation towards the role selection. When role has significance when setting the team's targets, it may indicate effects to self-determination among the specialists as the perception of one's involvement regarding an important area of the work is frail. If the hierarchical steps exist, it may steer away from the perception of shared responsibility and flat organizational structure. Hierarchically flat organization seems to be one of the characteristics of a work place with empowered people (Potterfield 1999, 53.)

Individual Perceptions Relating to Job Involvement (Category B)

Survey question	Mean value (specialist, n = 29)	Mean value (manager, n = 15)	Mean value (All, n = 46)
4. I feel that my tasks are meaningful to me.	7,28	8,00	7,54
10. I have sufficient competence to handle my tasks.	8,07 *	8,47	8,22 *
13. I feel that my work input is important in reaching the team's targets.	7,76	8,60	8,04
20. I know the quality targets of my project.	7,38	8,20	7,7
Category B (total)	7,62	8,32	7,88

Table 8. Category B results of the survey phase A

* The sample take is 28, and the whole sample in the question is 45.

The job involvement received relatively high rating, as shown in table 8. Own work contribution was seen as meaningful and important in reaching the targets. Especially high mean value was received with the question 10 when evaluating how the respondents see their competence level. The results regarding the job involvement support the notion made regarding the autonomy, that the tasks and the meaningful rationale behind them are experienced as a positive driver. The questions in this category are loosely coupled on the aspects how respondents relate to work atmosphere and how valuable they see their own work. The aspects have a relation to job involvement (Robbins, Judge & Campbell, 252.)

Respondents who considered their work role as a management related, rated again consistently higher mean values. When examining the differences in role based mean values against the theory base, the consistently higher rates could be explained with the higher perception of autonomy regarding the work role. Involvement in decision making may help in coping with the controlling context. This is important as the control involved prevents the feelings of self-determination (Ryan & Deci 2000, 64-65).

Individual Perceptions Relating to Job Satisfaction (category C)

Survey question	Mean value (specialist, n = 29)	Mean value (manager, n = 15)	Mean value (All, n = 46)
12. I receive a holistic feedback concerning my work performance.	5,1	6,27	5,61
14. Our project team or a work group has the right amount of people to achieve the target(s).	5,18 *	6,27	5,51 *
22. My role is clear to me, to my supervisor and to my peers.	7,21	8,13	7,57
23. I often feel pressured in a way that is affecting my performance.	5,31	3,86 **	4,91 **
Category C (total)	***	***	***

Table 9. Category C results of the survey phase A

* The sample take is 28, and the whole sample in the question is 45.

** The manager sample take is 14, and the whole sample in the question is 44.

*** The group mean values are not calculated due to inverted scale in question 23.

The category C questions relate to job satisfaction and also have a close relation to category A and B questions. The questions in the category address the work context and how the work community supports and responds to individual needs. The responses rate significantly lower than in the first two categories. The question 12 relates to the aspect where the respondent evaluate how their work performances are seen by the stakeholders. Holistic view of one's work is more likely to cover also qualitative and individual aspects. Qualitative work results tend to be more rewarding than quantitative (DeMarco and Lister 1999, 19). The mean value is relatively low, as shown in table 9.

Question 14 regarded the functional team size and included a claim that the current team setup has the right amount of people. Question 22 addressed the perception of one's role and it is seen by the peers. Both questions relate to job satisfaction, congruence on the role and correctly sized work group are factors in building a work motivation (Robbins, Judge & Campbell, 252). The statement regarding correctly sized work groups received low score. The statement didn't suggest if the team was too small or too big so the perception it being mismatched can originate from either aspect. It can be depicted that the groups are mostly experienced as too big. Larger groups are associated with lower satisfaction rates as the interaction within a group gets more complicated and the members have more difficulties to identify with the group results (ibid., 253). Nevertheless, such conclusion is speculative.

Question 23 has an inverted scale when considering the favorable working conditions. A higher score indicates the higher level of consent towards the claim that the significant pressure is often present. The answers were distributed along the scale and although the mean value stayed relatively low, results indicated the pressure as a major issue to a portion of respondents. With ANOVA comparison, the feelings of pressure was tested to have a significant correlation ($0,01 < p \leq 0,05$) with the role. Specialists experienced the pressure as a more effective factor than managers.

Individual Perceptions Relating to the Flatness of Organization (Category D)

Survey question	Mean value (specialist, n = 29)	Mean value (manager, n = 15)	Mean value (All, n = 46)
11. I feel that the chain of command from me to the customer is too long.	5,00	3,13	4,5
15. I feel that my team shares the responsibility over the results in the eyes of the customer.	7,28	7,57 *	7,38
17. In my team, I feel encouraged to collaborate with the customer.	5,32 **	8,6	6,47
26. Out of the following options, which would be the most important sign of excellent work performance for you?	Not applicable (see figure 15)	Not applicable (see figure 15)	Not applicable (see figure 15)
Category D (total)	***	***	***

Table 10. Category D results of the survey phase A

* The manager sample take is 14, and the whole sample in the question is 45.

** The sample take is 28, and the whole sample in the question is 45.

*** The group mean values are not calculated due to inverted scale in question 11.

Table 10 features the flatness of organization and the controlling contexts that have been addressed several times in the thesis. The question set in category D examined

the controlling aspects further. Ease of accessing the customer is the theme is questions 11 and 17, where the former used an inverted scale regarding the rating of autonomy supportive context. Through the variance analysis, the question 11 showed significant correlation ($0,01 < p \leq 0,05$) and the question 17 extremely significant correlation ($p \leq 0,001$) with the role groups. The perceptions on sharing responsibilities are more uniform and have more consent than the individual encouragement that the respondent experiences.

This question set is paired with the multiple choice question number 26 to inspect the validity of the customer aspect. The customer acknowledgement is perceived as the most significant sign of approval out of the provided options. 'None of the above' was selected three times. In two answers the one's own perception was mentioned as the most important signal and in one answer the end-user. The customer acknowledgement was appreciated consistently between the role groups, as specialists rated it first in 37,9% of the answers and with managers the percentage was 46,7%. Based on these combined results, the customer acknowledgement is valued regardless of the role but the encouragement for the customer collaboration is not consistent. This may be perceived as motivationally discouraging when an important interface is perceived as difficult to reach. The figure 15 shows the answer distribution in the question 26.

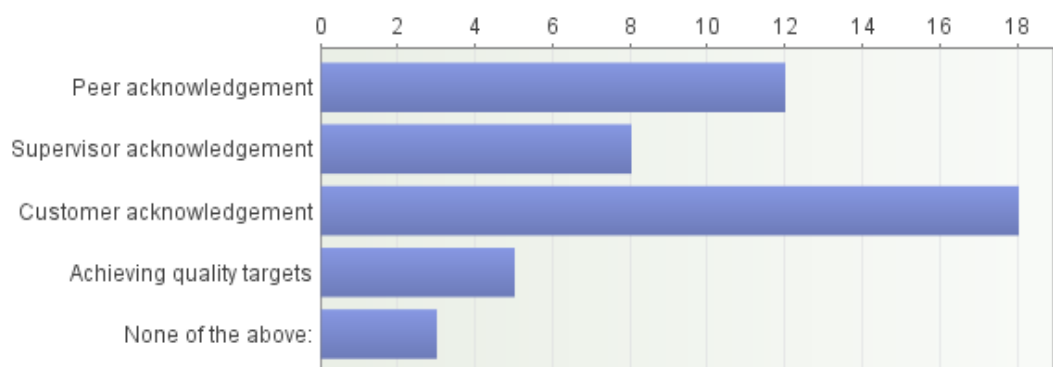


Figure 15. The most important sign of success, question 26 (n = 46)

Individual perceptions relating to relatedness and respect (category E)

Survey question	Mean value (specialist, n = 29)	Mean value (manager, n = 15)	Mean value (All, n = 46)
5. I feel that my personal way of working is supported within a team.	8,07	8,60	8,26
9. I feel trusted and cared for by my peers.	8,17	9,00	8,46
18. In my team, I am able to disagree.	8,14	8,40	8,20
21. Team participation improves my skills.	7,93	7,87	7,93
Category E (total)	8,08	8,47	8,21

Table 11. Category E results of the survey phase A

Table 11 exhibits the category E questions that involved aspects like relatedness towards the team members and the possibility to follow one's own work habits. These aspects help in building more internalized motivation (Ryan & Deci 2000, 64-65). Scores in this category were high overall. The questions regarded very basic issues relating to one's wellbeing, those aspects that can be considered as elemental for us to function in the workplace. Trust, relatedness, freedom to speak one's mind are requirements to build on when structuring an empowering organizational context. Within a performing team, these aspects received relatively good results. Question 21 was related to the team participation and whether it is perceived as meaningful. If the team has too many people so that the social interactions become cluttered or the team is involved with heavily controlled context, the respondent may feel that belonging to the team doesn't benefit and may even be harmful. Such

indication is not shown in the results as the team participation was mostly appreciated.

Individual Perceptions Regarding Challenging Situations (Category F)

Category F question set related to challenging scenarios where the specific interfering conditions were mapped. Majority of the statements in the survey offered a positive claim that the results indicated only the level of consent towards the claim. The questions in category F provided an inversion to this and the respondents indicated their alignment against challenges.

The question 19 surveyed the experiences regarding the work pressure and how it distributes along the project or a work phase. Perhaps unsurprisingly, 69,6% (n = 46) gave the rating of 8 or above. Mean value was 7,98. When the pressure buildup towards the deadline is anticipated, the actions to correct them may be anticipated as well. This could indicate that the project or work place, not necessarily plans, but prepares to make the last minute actions to save the delivery. While this is quite common situation in IT companies of the world, it may also create atmosphere where the hasty actions are silently approved. This already existing consensus about the pressure accumulation may neglect such aspects as the learning curve and the true reasons behind the schedule problem.

Question 24 options	Three the most impacting	The one with the most impact
Distractions, interruptions	25	12
Inefficient meetings	14	2
Unrealistic timetables	19	8
Lack of power over the work	3	0
Communication breakdowns	16	8
Not knowing what the customer wants	12	2
Unrealistic expectations regarding competence	0	0
Vague guidances	7	2
Information overload	5	0
Uncontrolled way of working	12	4
None of the above	7	7
Total	120	45

Table 12. Frustrations of daily work, question 24 (n = 46)

Table 12 shows the answer distribution regarding the frustrating factors in a daily work. Many types of disturbances were marked by the respondents and every alternative received support except the competence related perspective. This is in align with the responses in the previous categories where respondents have indicated confidence in their competence and in their ability to work. To get the clearer view on the most critical disturbances, the respondents were asked to mark the single most effective reason separately. These answers are indicated in the right side column of the table 12.

Goetsch & Davis (2006, 336-337) mentioned the distractions to be one of the most common obstacles in the way of effective communication. Distractions and communication breakdowns were among the top frustrations regarding daily work, accompanied by unrealistic timetables. Interruptions and distractions can have a close relation with the communication breakdowns, as failing to setup the efficient communication and the entity of knowledge management, the interruptions are more likely. In the complex and diverse project, setting up the knowledge management and communication patterns are even more vital as the increased amount of interfaces generate the increased amount of interruptions. When the interactions keep on increasing, the work time is consumed on adjusting to the pace of those interactions (DeMarco & Lister 1999, 136-137).

Setting the timetables and the target criteria should be a team effort. Team autonomy and trust begins to dissolve if the negotiations within the team are overlooked or are lacking a genuine mandate. Graham and Englund (1997, 77) note that making changes to the target criteria should also be a group effort. Often times the schedule changes are a result of the changed requirements, priorities or delivery conditions in the customer side. If these changes are agreed without the validation from the team, it will erode the autonomy and professional identity. Also, if the timetable is set with a straightforward effort calculation and by minimizing the “idle time”, it is likely to overlook the nature of creative process and follow the outdated productivity claims such as Parkinson’s Law.

The choice “none of the above” was selected seven times. The reasons included noisy open office environment, changing requirements and interfering company level decisions.

Question 25 options	Actions taken	Single most beneficial	Single most ineffective
No action	0	0	14
Overtime permissions	38	5	5
Adding more people	26	1	18
Adjusting work shifts (for example to maximize testing time or equipment)	13	1	3
Re-negotiating the deliverable content	36	17	1
Re-negotiating the delivery schedule	37	19	1
None of the above	1	2	0
Total	151	45	42

Table 13. Corrective measures in question 25 (n = 45)

Question 25 provided a scenario where project or a work phase was in danger of missing its deadline and the respondents were asked to mark the corrective actions taken. With the question setup, the purpose was to collect the quantitative data on the most common practices and to evaluate how the respondents perceive those practices. Table 13 summarizes the results. Renegotiations of delivery content or schedule were rated as the most beneficial actions with the large margin. This supports the notion by Demarco and Lister (1999, 19) that the work is experienced primarily through qualitative criteria. Content and schedule are quantitative measures and by redefining those the required creative focus could be achieved. In contrast, adding more people was considered as the most ineffective when estimated by the rate of single selections. As noted previously regarding the statement number 14, larger groups are associated with lower satisfaction rates and tend to undermine autonomy and one's ability to identify with the results. It is

understandable that adding more people is generally seen as ineffective or harmful. The action has also little to do with the creativity supportive context.

Taking no action was perceived as ineffective and was selected 14 times. Mechanism of perceived awards can be interpreted to associate with the results as taking any action is seen more effective than taking no action (Graham & Englund 1997, 81-82). The matrix of perceived awards influence mostly to project managers and those that consider themselves as accountable of the end results. Accountable managers may be tempted to take any action because taking no action will be considered as a failure by the upper management. 64,2% of the managers rated 'no action' as the most ineffective, where only 18,5% of the specialists chose this option.

Supplementary Qualitative Data

The survey included two open questions that collected free-text answers on the positive and negative perceptions regarding the work place and the effects on personal development. Through the free-text answers, the range of reasons behind the answers are examined. Heikkilä (2014, 15) notes that the qualitative research usually aims on answering the "why" questions and is suitable methodology for improving operations and solving social issues. As in many cases the target population is very limited and pre-screened, this survey collected the qualitative data using the whole sample group. This enables more statistical approach but also may potentially reveal less than intensive, interactive discussions.

The supplementary qualitative data supported the quantitative analysis. Meaningful rationale of the tasks, and a challenging but not overwhelming nature of them, was experienced as motivating. The significance of the task itself was noted by many respondents and indicate consistency with the category B results that the task itself and the controlling context in which the task is placed are separate issues and need to be examined separately. An interesting and challenging task may be experienced as motivational, but the positive effect could be lost if the assignment is placed in a

context with a near impossible deadline or the task is imposed in a controlling manner. This would undermine two of the three important factors mentioned by Ryan and Deci that are needed in building an internalized motivation, competence and autonomy (Ryan & Deci 2000, 64-65).

Importance of customer presence was strongly present in the free-text answers. Close cooperation with the customer, succeeding in helping them and especially receiving acknowledgement on successful results were the frequently noted aspects. This emphasizes the quantitative results where the customer acknowledgement was regarded as the most valuable. The customer orientation is a valuable asset as the most important factor in creating the customer loyalty are the people (Smith & Wheeler 2002, 101). When the service provider is customer oriented in a personal level, the circumstances for enhancing the customer satisfaction by individual differentiation are present and ready for utilization.

As the customer interface is experienced as a key element for the motivation, it is understandable that many frustrations are seen to reflect with it. Last minute or uninformed changes to the content, badly managed delivery scope and micro-management were among the aspects that were experienced as demotivational. Unrealistic targets and specifications was largely seen as a management issue and as a failure to identify the characteristics of the creative work. Following quotes summarize the frustrations that were experienced:

(Sales/marketing)... have no responsibility for their actions. Combined with upper management not giving enough developers is making the situation even worse. Making impossible possible has limits even in our team. That is bad for motivation, morale and work.

Bad managed delivery scope that leads to unrealistic expectations on the customer side and overtime/mess on our side.

The feeling of the efforts and achievements turning into waste as things are being changed by decisions made elsewhere, what has been sold to the customer, the resourcing and priority changes made, etc.

These experiences of the controlling layer over the meaningful tasks may be the one of the primary reasons why the specialists rated consistently lower rates on autonomy related topics.

6.2.3 Group Discussion

After the survey was conducted, an open discussion was held with a selected participants. With a casual group discussion, the experiences regarding the survey were shared. The purpose was to ensure that the questions were understood and that they served the intended idea.

The questions were found easy to answer and the participants estimated that they were able to give their opinions without difficulties. The questions were voluntary but very few chose to skip a question. This indicates that the questions were interpreted with ease. Background for the survey was explained in an email beforehand, and didn't raise any follow-up questions. The feedback was encouraging as the participants were seemingly confident in giving their answers. Comments indicated that the respondents were able to relate with the topics of the survey. The possibility to address the challenging parts of the work was appreciated. While an underlying bias might exist in a face to face discussion to give an encouraging feedback, the discussion indicated that the survey was clear to the respondents and didn't include ambiguous concepts to cloud the judgement and validity.

6.3 Survey Phase B: the Customer Perspective

6.3.1 Preparations and Principles

As a supplementary aspect, the customer perspective was surveyed in the second phase of the research part. The purpose of the research part was to gather information regarding those factors that are meaningful to the customer.

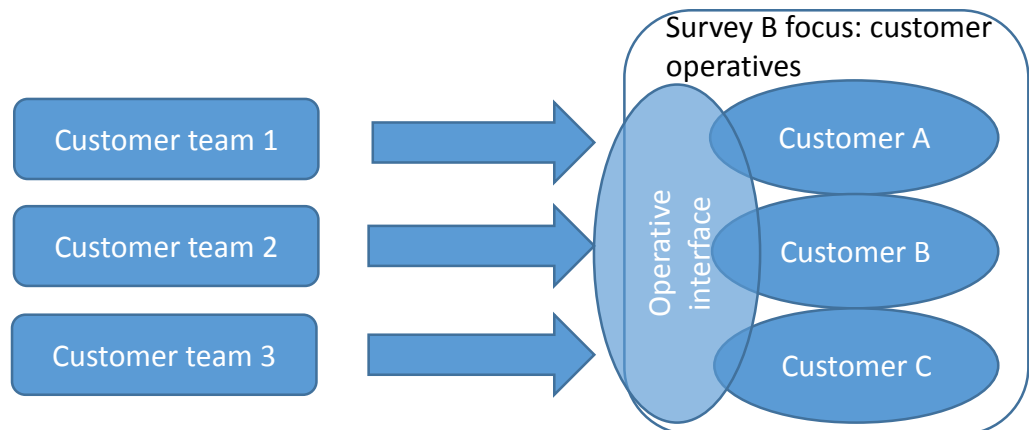


Figure 16. The target scope of the survey phase B

Figure 16 illustrates the area in the software service relationship where the survey phase B was targeted. After the discussions with the account managers and operational managers in ITSP Company, the operative personnel from the customer companies were selected to participate in a survey. Within many customers, the operative actions are joined to be coordinated through an accountable person. The aim was to target the correct operative professionals who have a qualitative experience and is engaged in frequent collaboration with the service provider. Operative personnel may be regarded as the counterpart for the service provider's experts and the relationship is usually tight as the continuous dialog is required in a service relationship.

The survey was implemented partly online by collecting the open free-text comments and notes. By allowing to post a written comment the customers' hectic role was considered and the aim was to allow the respondents some flexibility over time. The answers were examined using the service quality dimensions as a guideline. The dimensions involve the critical aspects such as service reliability, responsiveness and empathy (Zeithaml, Parasuraman & Berry 1990, 180-186).

In addition to the survey comments, the qualitative data was collected with the free discussions and participant observation. These methods were chosen to complement the qualitative data and the more casual nature is suitable for the hectic customer interface. Interviews and observation provide the best opportunities for examining the processes like decision making as one, statistical method could end up providing the results in a fragmented and mechanical manner (Gummesson 2000, 35).

It is important to note that the sample in the research phase B is small. The request was sent to 19 respondents, six answers were received. Further, the results were complemented with the observations but it is clear that no statistical conclusions can be made. This was not the goal behind the research phase, but rather to collect the experiences that the customer is willing to communicate when having a service relationship. This information provides a supplementary perspective on the qualitative environment where the software professionals live and express themselves. As the survey A revealed the importance of the customer interface, it is appropriate to take a view also from the customer perspective.

6.3.2 Result Analysis

The survey provided the aspects relating to reliability but also to closeness and “being there for the customer”. These factors are important not only when differentiating the service but also when examining how the individuals are perceived in the customer interface. A cohesion with the mentality of service providing professionals is a key aspect as it serves the purpose of answering primary research question.

Service reliability was valued and also regarded as something mandatory. This is understandable and corresponds with the notes from Zeithaml and colleagues that the reliability is considered as the most important service dimension (Zeithaml, Parasuraman & Berry 1990, 26). Reliability wasn't overly emphasized in answers but

regarded as a circumstance that is needed to function. ITSP received high regards on reliability and was considered a factor that the customer can count on.

Openness was indicated as a key point by the customers. This creates trust in a relationship and is associated with the empathy dimension (ibid., 176). Openness was considered to manifest itself in situations where an error or unplanned situation has occurred. Willingness to take responsibility in case of the challenge promotes trust. To measure the level of confidence regarding this aspect, the discussions were supplemented with the statements:

I trust ITSP to solve the incidents.

I feel safe when collaborating with ITSP.

On a scale of 1 to 10, the statements received mean values of 9,3 and 8,8, respectively.

In a group discussion with the customer, the importance of presence was emphasized. It was evident that the customer feels safe when there is an active presence and an effective communication to provide transparency over the operations. The customer encouraged to engage in many levels and hoped to hear opinions and ideas frequently from specialists across the range. This aspect has also been present when observing the customer interface as a participant. The most direct route of communication is likely to enhance transparency and may also promote values like personalized service. Observations support strongly the notion that the people are a primary asset for promoting trust and individual care. A holistic employee involvement is found to be a crucial factor in developing a customer loyalty (Smith & Wheeler 2002, 101).

7 Conclusions and Actions

7.1 Primary Findings and Synthesis

The research phase succeeded in collecting the valid data regarding the software professional's perceptions. Based on the amount of received qualitative data and open discussions, the research topics were proven to be relevant and contained valid topics. Unambiguous nature of the survey and measurable scale benefitted in extracting comparable data.

It is necessary to address the survey questions to conclude and summarize the findings. The first and primary research question defined the focus over an intrinsic nature of the qualitative work:

Are there a coherent qualitative motivators to be identified among the software professionals?

The research results indicate that software professionals are rather unanimous in their opinions on motivation nurturing work context. The results defined the software professionals as a group of people who consider the meaningful rationale of the task as an important factor and thrive on mutual support and relatedness with the closest peers. Autonomy is demanded in a work and the controlling context, for example inability to influence on a changed schedule, can strongly demote one's role. A perception regarding the autonomy and control is quite sensitive on role changes, and a manager tends to experience the work context as less controllable. Some of the most common management tools, such as adding more people into a team or allowing overtime work, are poorly condoned within a team. Specialists are a group of professionals who hold the creativity and empowering atmosphere in high regard. Viewing the project results through single deadline date can undermine the inventive nature of their work. Therefore the changes in a work phase should be considered carefully and by involving every team member in the decision making.

Supplementary questions introduced the customer interface and the importance of customer involvement:

How does the customer define and experience the quality they expect and receive?

While the reliability and availability are the fundamental qualities of the service from the customer's perspective, those may not be the aspects that make the difference between the services for the customer. Timely and frequent communication and a personalized service are the factors that a customer may not be able to always require but value greatly. Openness and closeness in all fronts of the relationship are the tools that convey the sense of care and personalized availability. People are the means of differentiation and customers want an individual service from the people they trust. This addresses the second supplementary question:

Is there a consistency between experienced quality of a doer (provider), the structural project management layer and a customer (receiver)?

Customer acknowledgement was experienced as the single most important sign of a successful task. The flat organization structure also sets the expectation that the whole organization is aligned towards the customer. As the customer also values the personalized service, the ability to provide a successful service is greatly associated with the organization's capabilities to offer a fluent, non-hierarchical customer interface. While the answers between the two conducted surveys cannot be aligned directly, the results indicate that the creativity, openness and presence are valued high in both sides of the service relationship.

7.2 Limitations

The research part relied deeply into the theory base and aimed on extracting the information on the perceptions of the individuals working with the IT software service. The cultural background was not examined, although Robbins, Judge and Campbell suggest that the cultural circumstances can impact on evaluation of the work results (Robbins, Judge and Campbell 2010, 252). Cultural factor was excluded from the survey mainly to assure the anonymity of the participants. Also the lack of relevant theory material affected to the decision. Including cultural factors could

have affected to the coverage of the examined themes and would have compromised the comprehensive approach towards the main theme of the thesis. Also variations resulting due to gender were not included into the thesis scope, mainly because of the same reasons as with the cultural factors.

Employment time within the company was included to the survey as a background variable, but was not used in results analysis. The resolution of the information is quite limited and didn't provide an addition value to the thesis theme. Also, the anonymity of the responses might have been needlessly compromised. With the participants' consent, the information may provide insights when used internally in the employer company.

Had the sample of survey respondents been larger, the role based division could have included more categories. Even though the role specific views were not the main topic of the thesis, the distinctions between the categories might have given an interesting additional information regarding the controlling context and the flatness of organizations. Due to the comprehensive nature of the research, surveys were not implemented in other IT companies. However, consultative open discussions and reviews were held to assure validity and objectivity.

7.3 Propositions of Improvement Actions

7.3.1 Preface

As the character of the thesis relates to intangible assets of the company, such as the flatness of organization or supportive context in projects, the needed actions are necessarily not the straight forward functions that just need implementing. Some of the autonomy and empowerment limiting practices are incorporated into the company silently and without consideration. As found earlier, the questionable actions in project management, for example, may have been adopted passively and because the organization is perceived to expect an action. In such situations, the issues to be addressed usually lay in the cultural side of the organization and are

solved with an open dialog. Openness and involvement of every member in general are the mind sets that go long way in unravelling the controlling context. However, the survey results indicated areas that clearly are in need of consistent improvement actions.

7.3.2 Information Architecture

Unavailable or inconsistent information can have a massive effect on one's motivation. It imposes an active limitation or even an obstacle to achieve quality results. As the information is usually managed by some responsible counterpart, others may experience the information unavailability as a part of a controlling context when there is no transparency on how the information changes and is distributed. This was indicated in the research results and was the source of great frustration. Kauhanen-Simanainen notes that the information and data content has several dimensions that need to be understood. As the amount of information grows, the relations between contexts grow also. The information architecture forms a structural entity for the data content so that the content, the data elements within and the mutual relations are available for the users. In other words, the information architecture provides a space where information stakeholders meet. (Kauhanen-Simanainen 2003, 21.)

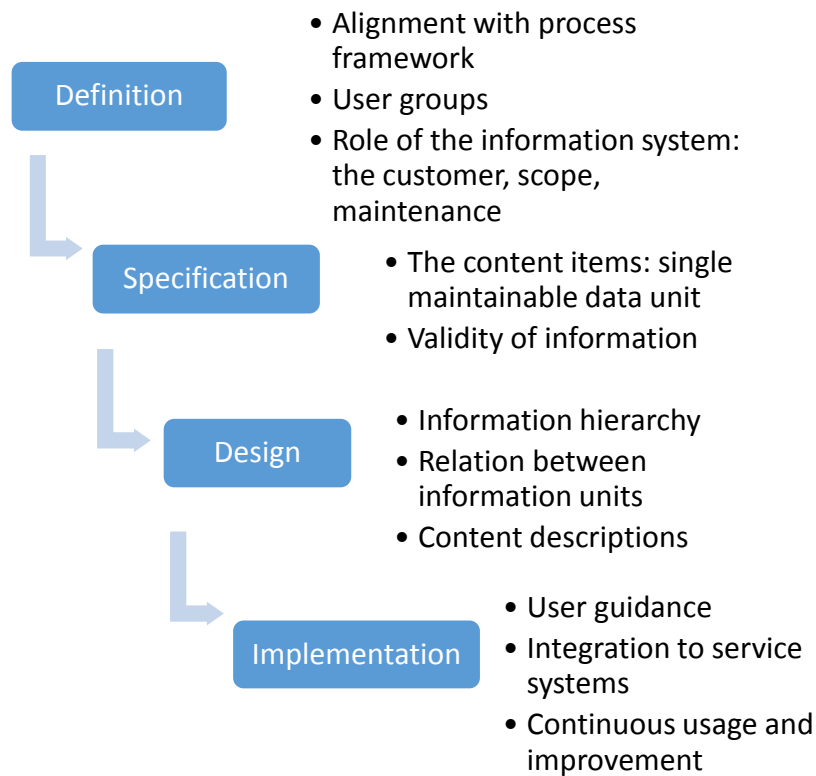


Figure 17. Phased model for creating maintainable information architecture

Figure 17 presents a phased structure for developing a consistent and holistic information architecture. As constructing an information system that supports the context and relations between the data is not a trivial or minor task, it has to be started by defining the role of the information and by analysing how the information serves the vital business processes. As the information is aligned towards the organizations' goals, the modelling of hierarchical structures and relation between the information units is done. Kauhanen-Simanainen (2003, 134) notes that the information architecture is not the same as user interface, but the user interface should reflect the fundamental principles of the information architecture. This is important. In a hectic service relationship, the information changes in fast pace and is accessed frequently. Having a clear and consistent hierarchy is mandatory, and the user interface needs to support the chosen solution. Kauhanen-Simanainen refers to Rosenfield and Morville who consider a well-designed hierarchy to be a corner stone of almost every successful information architecture (*ibid.*, 98).

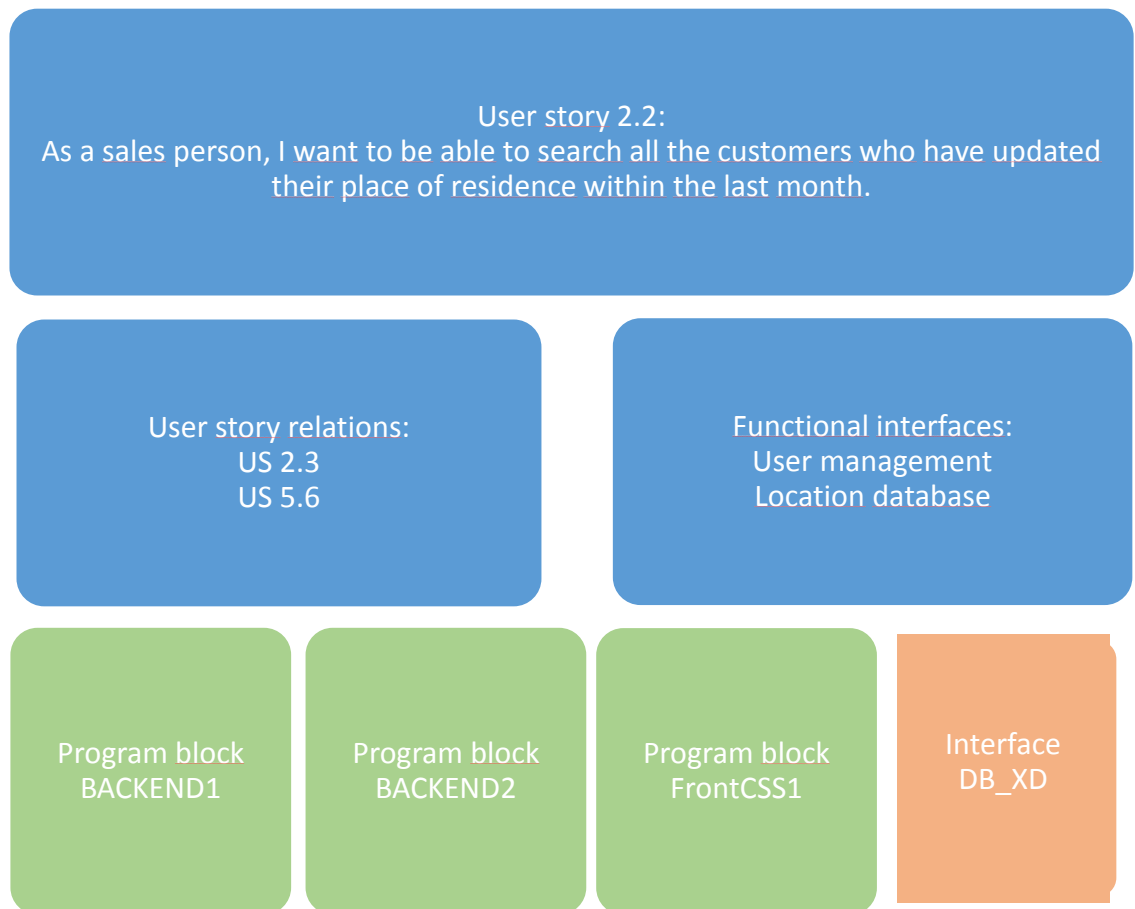


Figure 18. Dependencies between data units and functional context

After discussions with the teams and information users in ITSP Company, the need for developing a defined information system is recognized. With a consistent information management and architecture, the substance is more distributed and the system is promoting a self-determined way of working as users do not have to climb up in organization's hierarchical ladders for finding out if the specifications and plans are still valid and to be trusted. This requires determining the information interfaces. Figure 18 presents an example on how the information is examined from different functional angles. Perspectives on the managed information need to serve the service and business purposes: software component specification provides not only the technical content but a relation to user stories and interfaces also.

7.3.3 Communication

In addition to information availability and usability, the importance of communication efficiency was emphasized in the theory base and also in research results. After discussions with the ITSP Company and the team members, it became evident that the communicational issues have many forms. The communication breakdowns can basically occupy the whole work day when only partial information is received with an ill-timed manner and the work is then disrupted by unscheduled interaction that could have been prevented if the communication goals would have been considered holistically in the first place. A meaningful communication has plenty to do with self-determined and empowered employees who feel that the information sharing and the responsibility doesn't include hierarchical steps in organization. As Levi (2001, 22-23) noted, the communication methods are not supported by the authority but by the sustainable atmosphere. Communication ability is a must in an organization, as it is greatly valued in the customer interface also. Raab, Ajami, Gargeya and Goddard (2012, 15) note that the organization wide orientation towards the customer is a must as there is no substitute for the direct communication.

According to Janhonen (2010, 78), the control of the valuable information is not with the team but with the supervisors. This setup where the management acts like an informational gatekeepers, may pose difficulties towards the organizational development and prevent the possibilities for the team members to build their information reserve.

It is advisable to support the team's autonomy in creating their own communication mechanisms. This requires the information ownership within the team. Even though the business demands and changes are communicated through the management, the team holds the substance to validate the required changes. The responsibility for reviewing the changes is taken in the eyes of the customer, and the dialog is taken towards the customer and not towards the management. The customer must be aware of the team's dedicated throughput and of the consequences that may be

resulted if the changes to the agreed content are made. These consequences are rationalized by the team's substance.

Enhancing the communication is a challenging task but the need is clear. Although several aspects exist, the approach for supporting the individual and team empowering context should be chosen. Dialogs within the teams are a starting point, with the following topics to address:

- Information ownership. The team forms a suitable approach for managing the maintainability and validity of information.
- Communication patterns are defined and agreed with the customer. The changes are welcomed and the effects are rationalized by the information managed by the team.
- The team decides the communication methods between peers.
- The team communicates the results between stakeholders and manages the information architecture.

7.3.4 Generating Awareness in an Organization

The thesis included several topics that do not require actions in a traditional sense, but awareness instead. The results hinted of the evidence that the nature of creative work is not fully appreciated in the IT world of today. The autonomy supportive context is more present in managers' role than with the specialists. Also, the results implied that the traditional means for administrating the work phase are still widely used and not necessarily supported by the team members. Those means would include adding more people into an overrun project or supporting overtime work without discussing the validity and appropriate expedient of the imposed action.

The results showed that the professionals in IT get motivated through the task rationale and by being able to express their views and substance. This includes being able to see the end results and to have their say regarding the important targets. This is a management challenge. If the team and individuals are not included into the

decision making in the early phases, the corrective actions during the work phase are likely to increase the controlling context. The targets were not validated within a team. It is extremely important for the organizations to consider their structure in a larger scale and support a dialogical atmosphere in all phases. This should occupy a considerable portion of time used on management trainings. The actions are never made only in respect of a deadline or a saved cost, but in respect of a whole supportive context of a company.

8 Closing Words

The work process of the thesis was instructive and also quite laborious at times. That was anticipated as the topic of the thesis was not straight-forward but required reflection. The examined theory base was rather vast as the perceived experiences required multiple angles and arguments. The process and the results showed that the conservative work management ideologies and controlling, defensive compositions have not yet been overcome in the field of IT.

Supporting autonomy and internalization of the work related motivation do not necessarily require direct actions. Actually, actions should be considered carefully. They have a tendency to promote a controlling context and undermine employee motivation if executed carelessly. In the field of IT, the constraints and pressuring factors come in many forms and implementing single-sided actions have an increased probability of adding one controlling restriction more.

The target of the thesis was to examine the areas that the software professionals identify their qualitative perceptions with and receive motivational encouragement from. The customer perspective was examined only in a supplementary manner, and provides an excellent field for further studies for future. As the results in this thesis may be examined from the organizational point of view and for creating an employee empowering work contexts, the following studies may further focus on the business perspective with more comprehensive customer research. Stronger focus on the

customer could have revealed interesting correlations across the service interface, but could have also compromised the chosen primary research theme. However, focusing more on the customer interface has a great potential for further studies.

It was noted with delight that the thesis theme was embraced by the employer company and sparked discussions. As the topics in the thesis are of generic nature, the research results may benefit future thesis writers and enthusiasts to conduct comparative studies. Based on the discussions with the colleagues representing companies of the same field, the interest in employees' wellbeing and for productive empowerment is rising. This thesis dedicated time to claim attention for this important, but often overlooked, part of brainwork.

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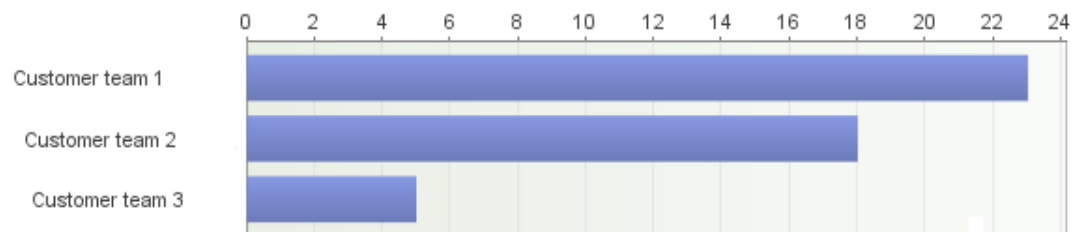
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10 Appendices

10.1 Appendix A: Survey A results

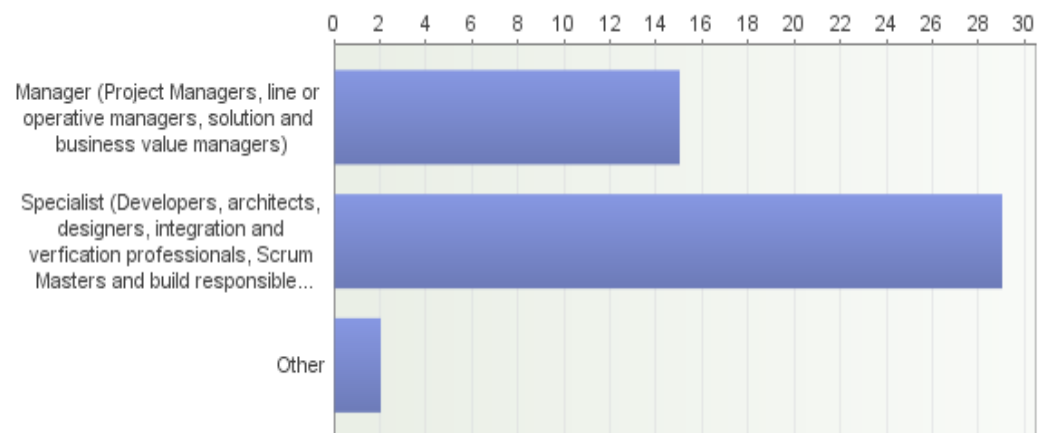
1. Select the customer team you belong in:

Sample (n): 46



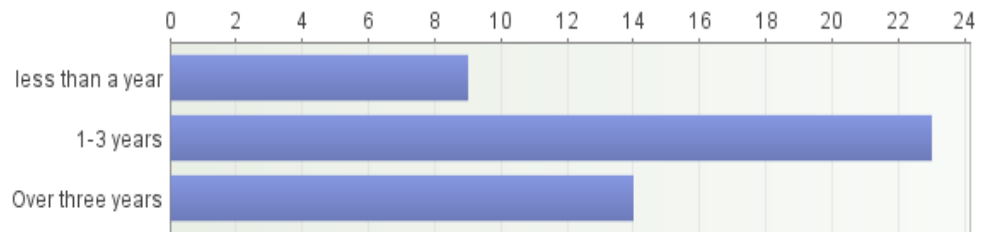
2. Select which category best describes your current role and post in the team:

Sample (n): 46



3. I have worked for the company for

Sample (n): 46



4. I feel that my tasks are meaningful to me.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	1	3	2	6	5	14	11	4	Totally agree	46	7,54

5. I feel that my personal way of working is supported within a team.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	0	0	0	3	9	11	19	4	Totally agree	46	8,26

6. I usually take the work task by my own choice.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	1	4	3	0	4	9	6	10	7	2	Totally agree	46	6,46

7. I feel that my team's targets are reachable.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	1	1	4	5	10	14	7	4	Totally agree	46	7,43

8. I have participated in setting my team's targets.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	1	2	6	2	4	6	10	8	3	4	Totally agree	46	6,26

9. I feel trusted and cared for by my peers.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	1	0	0	1	9	8	17	10	Totally agree	46	8,46

10. I have sufficient competence to handle my tasks.

Sample (n): 45

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	0	0	2	2	7	14	13	7	Totally agree	45	8,22

11. I feel that the chain of command from me to the customer is too long.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	6	7	8	3	7	3	4	4	2	2	Totally agree	46	4,5

12. I receive a holistic feedback concerning my work performance.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	3	2	4	11	2	4	6	9	3	2	Totally agree	46	5,61

13. I feel that my work input is important in reaching the team's targets.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	0	1	2	3	7	14	13	6	Totally agree	46	8,04

14. Our project team or a work group has the right amount of people to achieve the target(s).

Sample (n): 45

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	2	1	9	5	4	8	5	5	6	0	Totally agree	45	5,51

15. I feel that my team shares the responsibility over the results in the eyes of the customer.

Sample (n): 45

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	2	3	5	1	7	14	8	5	Totally agree	45	7,38

16. I am able to focus when I need to.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	1	4	2	4	3	5	17	10	0	Totally agree	46	6,98

17. In my team, I feel encouraged to collaborate with the customer.

Sample (n): 45

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	3	2	3	2	6	2	9	7	4	7	Totally agree	45	6,47

18. In my team, I am able to disagree.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	1	0	0	1	0	3	8	9	14	10	Totally agree	46	8,2

19. The schedule pressure in my team increases towards the deadline.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	1	0	3	2	8	15	9	8	Totally agree	46	7,98

20. I know the quality targets of my project.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	1	3	1	1	4	6	11	10	9	Totally agree	46	7,7

21. Team participation improves my skills.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	0	1	2	6	5	13	14	5	Totally agree	46	7,93

22. My role is clear to me, to my supervisor and to my peers.

Sample (n): 46

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	0	0	3	3	2	1	8	13	9	7	Totally agree	46	7,57

23. I often feel pressured in a way that is affecting my performance.

Sample (n): 44

	1	2	3	4	5	6	7	8	9	10		Total	Mean
Totally disagree	1	7	8	6	5	5	4	5	0	3	Totally agree	44	4,91

24. Select those issues that frustrate you in daily work.

Sample (n): 46

	Three the most impacting	The one with the most impact	Total	Mean
Distractions, interruptions	25	12	37	1,32
Inefficient meetings	14	2	16	1,13
Unrealistic timetables	19	8	27	1,3
Lack of power over the work	3	0	3	1
Communication breakdowns	16	8	24	1,33
Not knowing what the customer wants	12	2	14	1,14
Unrealistic expectations regarding competence	0	0	0	
Vague guidances	7	2	9	1,22
Information overload	5	0	5	1
Uncontrolled way of working	12	4	16	1,25
None of the above	7	7	14	1,5
Total	120	45	165	1,22

Open comments: Three the most impacting

- Team level work and improvement efforts taking hits from company level decisions (for example the most experienced developers taken to RND).
- open floor plan with sounds
- Non-motivated peers
- Changing requirements, unclear solution sometimes (current situation is better than earlier)
- Frequently changing requirements
- Lack of documentation

Open comments: The one with the most impact

- Team level work and improvement efforts taking hits from company level decisions (for example the most experienced developers taken to RND).

- open floor plan with sounds
- noise
- Changing requirements, unclear solution sometimes (current situation is better than earlier)
- Complex systems
- Frequently changing requirements

25. Consider the following scenario. A project or a work phase has a deadline that is approaching quickly and based on a progress so far it will almost certainly be missed. The situation is noted and actions are taken within the team. What are the corrective measures taken? Out of those, which do you consider to be the most beneficial and which the most damaging?

Sample (n): 45

	Actions taken	Single most beneficial	Single most ineffective	Total	Mean
No action	0	0	14	14	3
Overtime permissions	38	5	5	48	1,31
Adding more people	26	1	18	45	1,82
Adjusting work shifts (f.ex. to maximize testing time or equipment)	13	1	3	17	1,41
Renegotiating the deliverable content	36	17	1	54	1,35
Renegotiating the delivery schedule	37	19	1	57	1,37
None of the above	1	2	0	3	1,67
Total	151	45	42	238	1,7

Open comments: Actions taken

- Depending on project any of or multiple options would be good (bigger or smaller issue, how big part of release, content of whole release)

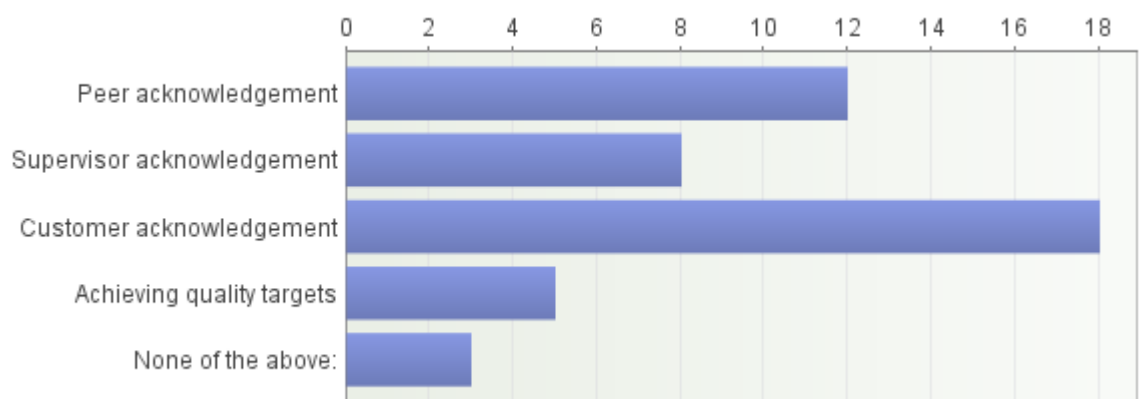
Open comments: Single most beneficial

- Deploy when done

- Depending on project any of or multiple options would be good (bigger or smaller issue, how big part of release, content of whole release)

26. Out of the following options, which would be the most important sign of excellent work performance for you? Please select only one.

Sample (n): 46



Open comments: None of the above:

- own gut feeling
- I am proud feel happy of the work and achievements I've done
- Positive end-user feedback

27. Please describe those circumstances in the workplace that you consider as POSITIVE to your motivation and personal development.

Sample (n): 33

- Meaningful tasks make me motivated. I like tasks which include communication with other people.
- Training provided by the employee, e.g. participation to seminars. Direct interaction with the end users.
- In general all those numerous moments when we have achieved a goal with the team, for example each deployment with various new features and bug fixes, but also process and other improvements we have implemented together.

I especially enjoy the post-deployment work, during which we have ensured the system to behave nicely for our customer and end-users by noticing, fixing, verifying, deploying and doing needed customer communication already before the shops or customer care have opened. I'm really proud of how we have managed those situations.

- Positive feedback, Challenging but not overwhelming tasks, Enough time to do the work well
- I feel that the single most positive thing that can happen is the event of true interaction, f.e. conversation where we share the same goal, debate on the issue, give arguments, give criticism, focus on good feedback and continuing with some sort of common agreement that this is what WE should do to achieve this specific thing.
- Flexibility what comes to working time
- Flexibility what comes to work/tasks itself -> Possibility to organize the work by yourself quite well
- Good team work
- You can take responsibility of your own work and trust that team mates do the same
- Good communication within the team
- Possibility to work in quiet environment. Training days or paid leave days to participate seminars/ meetings or other events outside office.
For example Projektiyhdistys Ry's or ITIL Finland's meetings.

New work tasks and technical environments.

- WAH possibility
- Free coffee and nuts.
- I feel motivated when I can help others to do better work. I also get motivated when I can concentrate on a bigger development task without interruptions.
- The possibility to design new software, possibly using new methods.
- *I learn
- *I can see that my own and my team actions lead to better success
- *Co-operation with collageous
- *Feeling that my work is valuable
- Development discussions with Supervisor, acknowledging the work performance. Sharing knowledge within team.
- cooperation on something cool
- Fast development environment. Quality code. Good atmosphere and friendly co-workers.
- customer understanding the work we do, customer understanding the impact of choices made, results recognized by customer, agreed actions considered and taken into use in several teams and changes are resulting better way of working & possibility to keep agreed scope and schedules
- Succeeding in meeting customer requirements and having supervisor/project manager notice it
- Own desk, freedom to take breaks, green plants, ability to watch outside of the window. Pretty peaceful office. Closet for personal stuff. Enough bright workplace. Good chair.
- Helpful and pleasant co workers.
- Good team atmosphere, interesting and challenging work content, development possibilities in the long term.
- Solving complex tasks, learning new technology that seems to be the future. Using Python and Django.
- Possibility to work closely to the customer and help the customer to reach their targets. Support of peers and especially motivated peers.
- Respect for everyone's work in the team and company
- Good team spirit
- Common values
- Equality and equity
- Team, working alone, interesting job tasks
- My opinion is that recognition of a job well done and positive feedback from customer motivates the most. And of course some bonuses to paycheck.
- Good team and team spirit. Co-operation and support work well.

- Superior's interest & respect for it
- Freedom and responsibility in ones own work.
- Great motivated team, good team spirit. Team that works well together and also takes individuals into account.
- We have excellent battle tested team.
- Good atmosphere within the team

28. Please describe those circumstances in the workplace that you consider as NEGATIVE to your motivation and personal development.

Sample (n): 31

- Very minor and silly UI problems which customer reports with top priority.
- The feeling of the efforts and achievements turning into waste as things are being changed by decisions made elsewhere, what has been sold to the customer, the resourcing and priority changes made, etc
- Unclear targets and requirements, Lack of time to do things properly
- People taking shortcuts when solving problems or just being lazy regarding holistic quality, f.e. jumping into conclusion without a thought.
Me: There is this thing X, that I think there might be a problem, because it might be that it confuses the user.
Person 2: Hmm, I don't think so. It's quite clear.
Me: Actually, the whole thing is vague. I think users' point of view should be taken at least into consideration.
Person 2: I think that's just extra work. User knows how it works. We shouldn't focus on that at all.
Me: Yes, I guess you know how users are. You haven't seen any of them, though.
- - Cross-team politics in the company are sometimes mystische -> Fight for resources, for what?
- Open office's noise every day. Increasing bureaucracy.
- noicy workplace
- Not enough privacy and silence.
- The most un motivating tasks are repetitive or mundane tasks, which anyone could do. I get unmotivated by distractions/disturbations as well. I also get unmotivated when I see my peers do poor work and/or are not exited about their work.
- Badly planned projects where I have to rewrite somebody else's code because it is simply not doing what it is supposed to, while being pressured by unrealistic deadlines. Also, being asked to estimate the time it way take complete a task when I have no way of giving a good estimation.
- *Sometimes is hard to find balance between constructive work and development actions.
*In some cases lack of knowledge
- Inefficient meetings, lack of functional knowledge.
- time pressure
- Managers when they try to manage things without actually understanding work.
- Not going along with agreed actions, customer making last minute changes to release content, soloing persons in team.
- Having multiple important tasks ongoing simultaneously.
- Moving people in field of view, they cause breaks. When people talk and you are not part of the discussion, it's noise to you.

Therefore individual rooms would be perfect solution, since we tend to use electronic messaging although contact is is less than 5m from you.

- Unrealistic requirements from management.
- Micro-mgmt, vision not brought to the practical actions, architecture decision ruling over business requirements. Bad managed delivery scope that leads to unrealistic expectations on

the customer side and overtime/mess on our side.

- Not being able to choose some of the technology being used. Not being able to influence technology decisions done by service team. Service team imposing too many unnecessary restrictions that have nothing to do with real security and just make working more difficult.
- Not committed team. It is not motivating at all to have huge amount of follow up or baby sitting for each and every task to get them done when working with senior IT-professionals. Luckily this is not very typical scenario.
- Competing against each other in the team or company
- Unrealistic expectations about timetables. Over load of work.
- - Incompetent management
- - Habit of ignoring employees who are talented and work hard over the people who yell and require the most
- Boring and easy job tasks.
If somebody thinks that I don't do good job
- Personal issues within the team, dispensable negative comments from the supervisor, unreasonable tracking of working hours
- Sales/marketing sold a huge feature with completely unrealistic and impossible timetable - and they have no responsibility for their actions. Combined with upper management not giving enough developers is making the situation even worse. Making impossible possible has limits even in our team. That is bad for motivation, morale and work.
- Lack of change management (communication)
- Finger pointing and attacking attitudes in constructive discussions.
- Company level lack of communication on meaningful topics and small actions that could make a big difference on employee satisfaction and motivation. (e.g. well-being/sport events not kept, e.g. spring awakening)
- Company's internal politics and clashes. Rationale behind big technology choices which affect long to the future is completely missing.