Kristine Turunen

Purchase order process quality improvement in service business function in Finnish branch

Helsinki Metropolia University of Applied Sciences

Master's Degree Programme

In Entrepreneurship and Business Competence

Thesis

14 May, 2018

Author Title Number of Pages Date	Kristine Turunen Purchase order process quality improvement in service business function in Finnish branch 66 pages + 7 appendices 14 May, 2018
Degree	Master of Business Administration
Degree Programme	Entrepreneurship and Business Competence
Specialisation option	
Instructor	Tiina Mikkola, Senior Lecturer

The purpose of this thesis was to find out the ways to improve a target organisation's purchase order process. The problem of the target organisation was a lack of the control over purchases. Also, financial data of the target organisation is not accurate enough and suppliers' invoices often are paid with delay. The target organisation does not use sufficiently purchase orders when ordering services, goods and/or materials which results in the above-mentioned problems. The goal was to organize it so, that the target organisation starts to actively use purchase orders. It means that the number of incoming invoices from suppliers having purchase order number reference on the invoice should increase. The researcher's role was to gather the relevant information from the company, define suitable theoretical framework for the process quality improvement and plan the implementation activities.

The thesis was carried out as an action research. During the research the information was gathered from the group's existing materials, using interviews, participant observation, and inquiries sent to the company's employees.

The theoretical framework consisted of four parts which are process improvement, essential of lean principles, change management and training. TAD process improvement methodology by Nadja and Talib Damij is the basis of this thesis. Kotter change management theory supported to implement the changes in the target organisation and anchor them. Adopting lean principles the company continues to eliminate real problems related to the purchase order process and implements constructive improvements immediately. A training program was planned and designed according to Silberman and Biech approach.

The major finding was that the target organisation's employees were not aware of the importance of the purchase order process and they never received training and tool & instruction were unclear. Therefore employees were not motivated to raise purchase orders and saw it just as a burden. The thesis resulted in improved purchase order process, which includes training materials, modified purchase order request template, local support and supervision. The evaluation of the research study was done by final survey and KPI calculation.

Keywords	Process, process improvement, lean, change management, training, purchase order

Tekijä Otsikko Sivumäärä Aika	Kristine Turunen Ostotilausprosessin laadun parantaminen Palveluliiketoiminnan Suomen yksikössä 66 sivua + 7 liitettä 14.5.2018
Tutkinto	Tradenomi (ylempi AMK)
Koulutusohjelma	Yrittäjyys ja liiketoimintaosaaminen
Suuntautumisvaihtoehto	
Ohjaaja	Tiina Mikkola, lehtori

Tämän opinnäytetyön tarkoituksena oli selvittää tapoja kohdeorganisaation ostotilausprosessin parantamiseksi. Kohdeorganisaation ongelma oli ostojen kontrolloinnin puute. Lisäksi kohdeorganisaation taloudellinen tieto ei ollut riittävän täsmällistä ja toimittajien laskut maksettiin usein myöhässä. Ongelmat syntyivät, koska kohdeorganisaatiossa ei käytetty ostotilauksia asianmukaisesti tilatessaan palveluita, tavaroita ja/tai materiaaleja. Tavoitteena oli kehittää toimintaa siten, että kohdeorganisaatio alkaa aktiivisesti käyttää ostotilauksia. Saapuvista toimittajien laskuista tulisi jatkossa yhä useammin löytyä ostotilauksen numero. Opinnäytetyön tekijän tehtävänä oli kerätä yritykseltä asiaankuuluvat tiedot, määrittää sopivat teoreettiset puitteet prosessin laadun parantamiselle ja suunnitella toteutustoimet.

Opinnäytetyö toteutettiin toimintatutkimuksena. Tutkimuksen aikana kerättiin tietoa konsernin aineistosta ja henkilöstölle tehdyin kyselyin, lisäksi tehtiin haastatteluja ja havainnointia.

Teoreettinen viitekehys koostui neljästä osasta, jotka ovat prosessin parantaminen, olennaiset lean-periaatteet, muutoksenhallinta ja koulutus. Tämän opinnäytetyön pohjana on Nadja ja Talib Damijin kehittämä TAD prosessinparantamismenetelmä. Kotterin muutoksenhallinnan teoriaa käytettiin apuna muutosten toteuttamisessa kohdeorganisaatiossa ja muutosten ankkuroinnissa. Leanin periaatteita soveltaen yhtiö jatkaa hankintaprosessin todellisten ongelmien eliminointia ja toteuttaa rakentavia parannuksia välittömästi. Koulutusohjelma suunniteltiin Silbermanin ja Biechin lähestymistavan mukaisesti.

Merkittävin havainto oli, että kohdeorganisaation työntekijät eivät olleet tietoisia ostotilausprosessin tärkeydestä eivätkä he ollet koskaan saaneet siihen koulutusta. Lisäksi välineet ja ohjeet olivat epäselviä. Tämän vuoksi työntekijät eivät olleet motivoituneita käyttämään ostotilauksia ja näkivät ostotilaukset vain taakaksi. Opinnäytetyö johti parempaan ostotilausprosessiin, johon sisältyi koulutusmateriaalit, muokattu ostotilauspyyntö -lomake sekä prosessin paikallinen tuki ja valvonta. Toimintatutkimuksen onnistumisen arviointi tehtiin lopuksi tutkimuskyselyllä ja KPI-tunnuslukujen laskennalla.

Avainsanat	Prosessi, prosessin parantaminen, lean, muutoksen hallinta, koulutus, ostotilaus

Contents

Definitions and abbreviations 1

1 Introduction 1

1.1 Organisation and background 1
1.2 Starting points for the research 2
1.3 Purchase order – what it is and why businesses use it 3

2 Research design 4

2.1 Problems of the organisation 4
2.2 Research objectives 6
2.3 Scope and limitations 8
2.4 Research questions 8
2.5 Measurements used in research 9
2.6 Research risks 10
2.7 Validity and reliability 12

3 Research methods 13

3.1 Action research 14
3.2 Desk research (secondary research) 15
3.3 Data collection methods 17
3.3.1 E-mail interviews 18
3.3.2 Participant observation 19
3.4 Data analysing methods 21

4 Theoretical framework 23

4.1 Processes and process improvement 24
4.1.1 Definition of the process 24
4.1.2 Definition of the process improvement (PI) 26
4.1.3 TAD process improvement methodology by Nadja and Talib Damij 27
4.2 Lean 29
4.2.1 Lean thinking 29
4.2.2 Lean in office 30
4.2.3 Lean Six Sigma philosophy 31
4.3 Change management 32
4.3.1 Leading change by John P. Kotter, eight-step model 33
4.4 Training 35

4.4.1 Purpose of training 36
4.4.2 Training program 37
4.4.3 Presentation type of the training 38

5 Research implementation 39

5.1 Mapping of the "As-is" process 40
5.1.1 Participant observation 40
5.1.2 E-mail interview – "As-is" process 41
5.1.3 Desk research – "As-is" process 44
5.1.4 Summary of the "As-is" process 45
5.2 Creation of the "To-be" process model 47
5.2.1 E-mail interviews – "To-be" process 47
5.2.2 Desk research – "To-be" process 48
5.2.3 Summary of the "To-be" process 49
5.2.4 Template modification 51
5.2.5 Training 51
5.2.6 Support 53
5.2.7 Supervision 53
5.3 Control of and ongoing improvement of the purchase order process 53
5.4 Change management 54

6 Evaluation of the research study and the proposals for further actions 55

6.1 Final survey 55
6.2 Answers to the research questions and measurements 56
6.2.1 How to stimulate people to use the PO process? 56
6.2.2 How to make the PO process smooth and clear? 57
6.2.3 How to evaluate whether the PO process works properly? 58
6.3 Anticipated risks, validity and reliability 60
6.4 Theoretical frameworks, research methods' applicability and usefulness 61
6.5 Benefit for the target organisation 62
6.6 Conclusions of the research and proposal for further actions 62

References 64

Appendices

Appendix 1. Observation summary (confidential)
Appendix 2. Mapping and coding of e-mail interview – “As-is” process (confidential)
Appendix 3. Mapping and coding of e-mail interview – “To-be” process (confidential)
Appendix 4. Modified requisition note template (confidential)
Appendix 5. Training presentation and materials (confidential)
Appendix 6. Service Finland Team's final survey
Appendix 7. The frequency of replied answers to the final survey questions

Definitions and abbreviations

ASM: Area Service Manager, the stakeholder of the research study

Cost center: is a department within the target organisation to which costs are allocated

Income statement: it is a statement of revenue and expense of the company during a specific time period. The purpose of the income statement is to show whether the company made profit or lost during the reported period of time

Key Performance Indicator (KPI): is a measurable value and type of performance measurement that evaluate the success of the company in particular activity.

PI: Process improvement

Purchase Order (PO): external document issued by buyer to seller usually based on the offer or proposal. Purchase Order is binding document which is created before service and/or goods delivered, i.e. before an invoice is issued (see sub-chapter 1.3).

Purchasing department - the central department of the target organisation based in headquarters. It creates purchase orders for the parent company of the target organisation and its branches, after receiving the request from the requestor.

Requisition Note (RN): it is purchase order request, filled in by local organisation representative who order goods/ materials/ services. RN is in excel template provided by the purchasing department, the format not allowed to change (see sub-chapter 1.3).

Service Order: internal electronical order created in most cases locally (in branch office) in SAP ERP system. It is crucial information when it comes to tracking and analysing service function (business division) activities per location

1 Introduction

"Good order is the foundation of all good things."

Edmund Burke, 1729-1797,
from "Reflection on the Revolution in France"

By delivering products and/or services to customers organisations create value. In order to organize these it needs a process and if organisation wants to perform well then the process must be good and efficient enough.

These days organisations face a period of great change in their markets and operations. We are living in a time of extreme turbulence, accompanied by rapid evolutionary and technological change. Additionally, customers are becoming much more demanding and the competition more cruel and sophisticated. Due to tough competition many organisations have experienced pressure and feel forced for actions. (Oakland 2014, 3.). In the global market of the twenty-first century a good performance with the clear processes is the key strategic driver for business success. Organisations should consistently and continuously adopt a range of improvement initiatives in response to challenges. In order to be competitive organisations need to improve the quality of its products or services, reduce cycle time and costs (Bernardo 2012, 2).

"Brilliant process management is our strategy. We get brilliant results from average people managing brilliant processes. We observe that our competitors often get average (or worse) results from brilliant people managing broken processes."

Katsuaki Watanabe, 1999
CEO of Toyota Motor Corporation

1.1 Organisation and background

The target organisation is the Finnish branch of a big international company. The company operates across the Globe and employs around five (5) thousand people, of which 70 work in the Finnish branch. Company manufactures, develops high-tech solutions, offers wide range of products and services including planning and construction as well as service and maintenance. Its' headquarters are based in Central Europe where the shares are listed on stock exchange. The business is run globally through local subsidiary companies as well as through branches.

The geographical area covered in this research is Finland, where business operates through branch office. The organisation has two main business divisions in Finland which generate revenues: construction project management and service. The scope of this research study is the service business division with around 50 people.

My work and background is in the finance area and therefore the scope of this research study is finance related issues, i.e. data quality and costs saving. No matter what is the business nature of the organisation, the accuracy of financial figures is vital for all businesses. Accurate financial data are important because the management, investors, creditors and external auditors depend on reliable and complete information for assessing the financial health and performance of the company.

1.2 Starting points for the research

I started my research study in October 2016 - half a year after I had joined the target organisation. My role is to support all business functions in Nordic area with finance related matters. As the position was brand new, the job routines were not established and I started my tasks straight away with solving oncoming problems. I received frequently enquiries related to handling of incoming supplier invoices. Additionally inconsistencies in the booking of costs were spotted when reviewing monthly the service performance result. It became obvious that the service function had challenges in respect of financial data quality and costs control. Actual costs were often allocated to a type of costs not in accordance with how they had been budgeted, sometimes actual costs were too high and overspent the cost budget and the target organisation received frequently complaints from suppliers in regards to delaying payments to suppliers. At the same time I noticed that the organisation has in use a purchase order tool, however the target organisation used it only randomly. I am really glad to implement purchase order process quality improvement for service in the target organisation by choosing this problem for my master thesis.

1.3 Purchase order – what it is and why businesses use it

Purchase order is an important tool that organisations should use to ensure costs are stay within budget as planned. Mitshell has noted that it is more difficult and is error sensitive to track expenses without purchase orders. (Mitshell 2017.)

Both a requisition note and a purchase order are forms that document activity, but they have different levels of approval. A requisition note is an internal request for purchase, and it simply documents a request from someone to purchase something. A purchase order approves a request to purchase and initiates that request to a supplier. The purchase order (PO) is a document created when a requisition note is approved internally.

The central purchasing department of the target organisation creates purchase orders for the parent company of the target organisation and its branches, after receiving the request. A requisition note is created and authorised locally and send further to the purchasing department. The purchasing department checks the correctness, approves, signs and sends it over to a supplier for the signature. Every purchase order has a unique identifier which is a key reference number. The PO number links all the purchasing phases together for tracking from receipt and approval of a requisition note to creating a purchase order, to supplier invoice, to delivery and final approval of goods or services received.

In the table 1 there are comparisons of a purchase order against an invoice. It is important to know that purchase order is a binding document (a legal contract between a buyer and a seller as soon as a purchase order is approved by both parties) and it is issued before service and/or goods are ordered. On the other hand an invoice is triggered as a result of the purchase.

Table 1. The comparison purchase order versus invoice

Purchase Order	Invoice
Issued by buyer to seller	Issued by seller to buyer
Used for ordering goods/ materials/ services from supplier	Document shows that payment which is due on goods/ materials/ services sold
Purchase order is generated before invoice	Invoice is generated after purchase order
Defines the contract of sales	Marks the confirmation of sale

2 Research design

This chapter explains **what I** am going to do in my research study in order to correct the situation in the target organisation. Awareness of research methods and research design is vital in successful completion any kind of research study. Research methods focus mainly on data collection and will be further reviewed in chapter 3. Research design provides an overall picture of the research study because it is a plan or general framework about the facets of the research study which help to seek answers to the research questions.

The researcher apart from selection an appropriate method of research study; (qualitative, quantitative or mixed) also decides on a type of study within the frames of the selected method. Creswell has in his studies considered research designs as inquiry types inside of qualitative, quantitative or mixed method approaches proving specific routing for procedures in a research design (Creswell 2014, 11-12.). According to Johnny Saldana & Patricia Leavy & Natasha Beretvas the qualitative research design on certain conditions is best approach since this type of inquiry is advanced and progressive in its process. Selecting the topic, performing the literature review, setting the objective, and generating research questions are usually simultaneous rather than sequential activities. (Saldana et al. 2011, 66.)

2.1 Problems of the organisation

The research problem and questions (see 2.4) are the fundamental core of the scientific research. Determination of the research problem is very important because it describes the meaning of the research study and its objectives (see 2.2). It is manageable and aligned with the methods and the design (see 3).

The problem of the target organisation is lack of the control over purchases. Also, financial data of the target organisation is not accurate enough and suppliers' invoices often are paid with delay. The target organisation does not use sufficiently purchase orders when ordering services, goods and/or materials which results in the abovementioned problems.

The target organisation faced frequently situations when an invoice arrived and there was no purchase order nor contract and the invoiced amount was surprisingly high. Subcontractors may charge the target organisation a too high rate per hour, too many hours and for too many workers, also they may, unexpectedly for the target organisation, invoice for waiting time, bad weather condition and so on. It is difficult and too late to argue about the invoiced amount if there is no purchase order and then the buyer must just accept the invoice and pay it.

Another challenge the target organisation is facing, is a poor financial data quality. For the target organisation, being a branch of global organisation, accounting and procurement tasks are handled from the global headquarters. It means that all invoices from suppliers are posted to SAP ERP group system by the central accounting department and purchase orders are issued by central purchasing department. Invoices without purchase order number as reference are posted to SAP ERP group system manually upon decision of an accountant who is processing the invoices. Accountants are sitting far away from the business and they do not know the specifics of either the local business or the language. It has not been unusual in the target organisation that invoices have been posted inconsistently and sometimes even incorrectly. Similar type of invoices were booked to the different general ledger accounts, to incorrect costs element and have been sent to the wrong workflow approver. It is challenging to analyse financial data when actual costs are booked not aligned with the budget structure and logic. It may bring a wrong and misleading perception of the real financial situation of the organisation and might even lead to wrong decisions.

In addition, invoices without purchase order take much more time to handle from receipt until it is paid, therefore many of them are paid with delay. Invoices without PO consume more time for managers, compared to invoices with PO number, because the invoices without PO number require two workflow approvers, against invoices with PO – which need just one approver. Invoices with PO are paid quicker because they are processed automatically and there is no need for input from accountant.

In regards to the costs control, when accountant from the headquarters is processing invoice without PO, she/he does not know exactly who the qualified approver is for the invoice. Therefore, there is a risk that the invoice might be approved by a wrong approver, when the accountant chooses an incorrect one. Consequently, an invoice can be approved by a person who does not have the required information to check the correctness of the costs behind an invoice. In result, inappropriate costs might be approved and paid accordingly.

2.2 Research objectives

Harry F. Wolcott (2009) gives an advice that writing a one-sentence research objective for a qualitative research study is a tactic that focuses researcher on the central issue and direction of the research study. It is the ultimate why that drives the study forward. For both the research objectives and research questions, qualitative inquiry will most often address how, what, in what ways, and why. Both Wolcott and Saldana et al. have seen the research statement as a single yet substantive and specific sentence that charges the researcher to investigate a facet or process of social life, and how participants or the phenomenon relate to it. (Wolcott 2009 in Saldana et al. 2011, 69-70.)

The objective of this research study is to improve local part of the purchase order process to make it smooth and clear, and receive 100% invoices from subcontractors based on purchase orders. It requires a change to the current situation, thereby securing that the target organisation is actively using purchase orders. It means, that incoming invoices from suppliers should have the relevant purchase order number as reference. Such invoices are posted automatically, avoiding the risk that the accountant from headquarters makes a mistake during manual posting. Also, invoices, especially from subcontractors, will be under proper control. Price, labour and conditions will be agreed upon ordering before service is provided and invoice issued. When invoice is received it is easier to spot overcharged costs, because invoice will be verified against the purchase order. Also, it is simpler to dispute with supplier, if and when needed.

The central purchasing department creates purchase orders for the target organisation when requestor sends a requisition note (RN) i.e. request for PO. The PO requestor is local organisation representative who orders services/ goods/ materials. Therefore he/she knows best what will be ordered, the type of costs, controlling element (cost center or service order) and expected delivery time and place. When a requisition note is signed by two authorized persons, they both check whether costs agree with the budget and authorise the costs “budget” under purchase order. Within this “budget” (i.e. value of purchase order) each invoice with the same purchase order number will require just one approval by PO requestor and each invoice will be posted automatically with the same booking instructions defined in the purchase order. Therefore purchase orders save time for the managers and managers can concentrate on more important tasks. Another benefit from the usage of the purchase orders is faster invoice handing process. There is no risk that accountant from central department books costs incorrectly because each invoice within purchase order number is posted automatically and consistently with the same booking instructions which are defined on the purchase order by requestor. From controlling perspective, it is vital to check at the time when you create purchase order, whether there is a sufficient budget and also, that the actual costs from received invoices are booked to the same type of costs as was budgeted. By using purchase orders, the target organisation is able to spot in advance when costs are about to exceed the budget and can take preventive actions, for example by increasing costs forecast or avoid excessive costs.

It is essential for the target organisation to improve the quality of financial data and establish better control over the costs. This goal is achievable with implementing a proper purchase order process. The purchase order process should be user-friendly, clear, efficient and as simple as possible.

Additionally, by using purchase order process the target organisation would be able to select suppliers, i.e. decrease the number of the current suppliers by choosing the preferred ones. When number of suppliers decrease, the volume per each preferred supplier should increase accordingly and the target organisation can go and negotiate with each preferred supplier better price, conditions, rates and payments terms.

During the research study the researcher needs to find out the reasons why the target organisation did not use purchase orders. Depending on the findings there should be a plan how further to improve the situation. At the beginning of the research study I am mapping and explaining the current process which is used by the target organisation. The next step is to find an optimal solution for a new efficient process, taking into account the complexity of the target organisation being a part of a big international organisation and having lots of interrelated departments involved in the process. I will also investigate whether the other subsidiaries and/or branches of the company have adopted purchase order process. It is easier to implement a ready-made process, if such is available instead of creating a new one from the scratch. It is useful to look and learn of the good and bad experiences of other affiliated companies. The very last step of the research study is the proposed implementation phase and conclusions.

2.3 Scope and limitations

The target organisation is the Finnish branch of a big international company and purchase orders are created centrally by the purchasing department upon requests sent from local team. As a matter of fact, being a branch of a global organisation, it is not possible to change the central process even if it does not work or works improperly. However, it is worth to adapt locally to the central process in efficient, transparent and clear manner to support the local team. Therefore, the first limitation of the scope of this research study is improvement of the purchase order process in the local level – the part of the purchase order process which is handled in Finland. Locally is created a requisition note, which serves as basis for creating the Purchase Order (PO).

The second limitation of the scope is the category of the costs - purchase order process quality improvement for subcontractor costs. It is easier to start improvements step by step in a limited identified scope than try to do overarching improvement in all types of invoices from suppliers. Otherwise implementation would require additional resources and the objective of the research study would be hard to achieve. Improvement will start from subcontractors' invoices. As soon as a good result is reached, further improvements will continue with other purchase invoices (e.g. materials, logistics, crane costs etc.). The last stage of the improvement implementation would cover the other invoices related to business support (e.g. office supplies, rent, services, travels etc.). Last two stages are exempted from this research study.

2.4 Research questions

Research questions help to understand why the research problem (see 2.1) is really chosen as a problem for the study. Also, research questions have to align with a methodology (quantitative, qualitative or mixed) as well as with a specific design that is supported by the methodology. Kananen has remarked that through research questions it is possible to define the nature of the research study, i.e. whether it is qualitative or quantitative or eventually both and that questions of qualitative action research are set in the form of what, how and why. Kananen has concluded that research problem is considered as solved when research questions are answered. (Kananen 2014, 35-38.). Saldana et al. propose that no more than three to five questions in total should guide a research study (Saldana et al. 2011, 71).

The objective of the research study is to make local part of the purchase order process smooth and clear, and thereby receive 100% of invoices from subcontractors with due reference to purchase orders. In order to clarify the objective the following questions were set up:

- How to stimulate people to use the PO process?
- How to make the PO process smooth and clear?
- How to evaluate whether the PO process works properly?

According to Leung the qualitative research purpose is to search answers to the following questions of "how, where, when, who and why" with an aim to create a theory or to disprove an existing theory (Leung 2015, 324). Based on the nature of the above research questions the most appropriate approach for the research study is qualitative. At the end of the research study I will provide answers to the research questions by collecting evidence and producing findings.

2.5 Measurements used in research

The purpose of measurements used in this research study is to verify whether the study was successful or not. Measurements in the process quality improvement allows to present current performance, set the target for future performance, and monitor improvements during the change process. Successful measurements are the vital part of the successful improvement.

In the table 2 there are listed all measurements which were applied while solving the research problem of this thesis work.

The expected result of a successful implementation of purchase order process would be:

- Financial data of the target organisation will be accurate, i.e. costs will be allocated to the correct type of the costs and/or control cost element.
- Better control over the costs charged by suppliers. This can result in savings to the target organisation. When invoice arrives it is always verified with the purchase order value and conditions. Any overcharged costs can be spotted, disputed and rejected before the invoice is paid. Also, invoices will be approved by the correct responsible person who is able to check the correctness of the invoice.

Table 2. Measurements - evaluation of the change during research study

Questions	Measurements	
How to stimulate people to use PO process?	Everyone understands an importance and benefits from using purchase orders (PO). Cteation of PO request (namely requisition note (RN)) is simple and clear. Purchase orders created quickly. -> Time spent on the creation of RN and PO before and after the process improvement can be measured by interview from around 3-5 respondents.	Qualitative measure
How to make PO process smooth and clear?	Everyone knows and understands how PO process works. There is user-friendly tool, sufficient knowledge and user support. -> Can be measured by interview from around 3-5 respondents.	Qualitative measure
How to evaluate whether PO process works properly?	All received invoices from subcomtractors have PO number as a reference. -> Calculation of the percentage (KPI) of number invoices received from suppliers with and without purchase order number. Measure KPI at the beginning of the research study and after its implementation.	Quantitative measure

- The process of handling invoices from suppliers will be more efficient and faster. In result the credit rating of the target organisation will improve, number of inquiries and late payment fees invoices from debt collectors and suppliers will decrease.
- Save time for myself and my colleagues so that we are able to concentrate on other more important tasks and improvements.
- The target organisation will be able to decrease the number of suppliers by selecting the preferred ones. Volumes per preferred supplier will increase, which gives a ground for negotiating better price, delivery and payment terms and other conditions with preferred supplier.

2.6 Research risks

The success of the implementation of the research study depends very much on the individuals involved in the process, their nature and willingness to contribute to the changes. Especially this relates to the senior manager of the Finnish branch - Area Service Manager (ASM). It is not worth even to try implement changes if ASM does not believe in usefulness of the project. His support is crucial for the success in process change.

Another major risk is participant selection. Participant selection in qualitative research is based on participants' capability to provide relevant information to the research questions data. To avoid incorrect or poor data, I will use my assessment based upon the best evidence available and will choose participants who supposed to know and recall enough, and are able to provide precisely responds to the asked questions. Also, I will continue to select participants based on the findings made during the research study.

According to Brink the truth of responses is essential when data is obtained via interviews and questionnaires. The researcher is able to increase the validity of responses in following ways:

- Insure that informants are clear on the research nature. Explain what is studied, why the researcher is there and how he/she will collect data and what he/she will do with it
- Build trust-relationship with the participants and stay in that setting for a long enough period of time
- Interview the same participant on several occasions and make observations more than once
- Compare an obtained results with other collected evidences
- Confirm analysis and findings with respondents
- Keep field notes detailed and accurate
- Show field notes to other person who might see quicker where or how the researcher was misled or coopted.

(Brink 1993, 36.)

It is rather challenging to implement the changes because human nature normally resists any kind of changes and people want to stay in their comfort zone. During implementation phase it is very important to receive support from management. It is important that there is a proper control over the purchase order process even after its implementation. If no discipline and proper control are established people might quickly step back to the old way of doing things.

2.7 Validity and reliability

According to Brink validity and reliability are the most prominent criteria for the evaluation of research and they can make difference between good and poor research. Both aspects can help to ensure that research findings are reliable and trustworthy. This is especially vital in qualitative research where the interpretation of data depends on the researcher's subjectivity as well as research findings might be questioned by other scientists. (Brink 1993, 35.)

Validity in a qualitative research means "appropriateness" of the processes and data. Leung has mentioned that: "Whether the research questions are valid for the desired outcome, the choice of methodology is appropriate for answering the research questions, the design is valid for the methodology, the samplings and data analysis are appropriate, and finally the results and conclusions are valid for the sample and context." (Leung 2015, 324–327.). According to Brink validity in a qualitative research related to the accuracy and truthfulness of "scientific findings". Brink has further noted that a research study should show what is really exists and a valid measure should actually measure what it is supposed to measure. (Brink 1993, 35.)

In Creswell view triangulation relates to when there are different data sources used for examining evidence and for building a "coherent justification" for themes. Creswell was saying: "If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity of the study." (Creswell 2014, 201.)

In order to ensure validity I promise during my research study to provide explanations carefully using different sources of information showing those in references. I will try to be accurate and avoid mistakes. I well document my findings so, that readers are able to see evidences. I will attach appendices regarding research interviews, questionnaires, observations and etc. Making conclusions based on findings I will ask research subjects to confirm those. Because research study is qualitative I will try to be as objective as possible and derive conclusions only from data. I will make questions so, to include everything needed to solve research problem.

Reliability is showing whether the results of study are repeatable and research methods provides consistently or the same result over period of time. According to Willis reliability relates to stability and it means when the research study is stable and results are quite the same next time when the same study is done (Willis 2007, 165). However Leung is stressing that the core of reliability for qualitative research is in consistency which requires to use the same or similar methods in order to obtain the same or similar results each time when use the methods on the same or similar subjects. (Leung 2015, 324-327.)

In order to ensure reliability I promise during my research study to document everything what I do. During the action research I will use different research methods and in the implementation phase I will refer to the theories applied. As the research study is qualitative I will be consistent at the research stage, in translation of data, implementation, in measurements and making conclusions. The threats to research reliability and validity can never be totally eliminated, however I will try my best to eliminate this threat as much as possible.

3 Research methods

The following chapter describes **how** the research study will be completed. The research methods are associated with the research design and consist from data collection and analysis. The decision about research methods are guided by research questions and/or by the nature of the research problem because certain type of problem needs a specific approach.

As was identified in the sub-chapter 2.4 the qualitative approach is the most appropriate for solving this thesis research problem and answering to the research questions. Qualitative approach is primarily exploratory research which is used to obtain an understanding of opinions, motivations, and main reasons. It gives deep insights into the problem. According to Saldana et al. qualitative research is an “umbrella term” for a wide selection of methods and approaches for studying of the real social life. The nature of gathered and analyzed data information is primarily nonquantitative, including written materials for example field notes, documents, and interview transcripts, and other materials that people experience about other human in social situations. (Saldana et al. 2011, 3-4.)

The benefits of the qualitative approach compared to the quantitative approach is that the information in qualitative approach is wider and has a deeper insight into the phenomenon, however it is more time consuming. Also, the qualitative approach is more flexible and more structured in a way how is done and in term of communication between the researcher and the participants. Qualitative research must be planned to be sufficiently long enough to gather good data and understand well the situation what is happening.

The following quality research methods are employed in this research study and described in details in this charter:

- Action research (3.1)
- Desk research (secondary research) (3.2)
- Data collection methods (3.3)
- Data analysing methods (3.4)

3.1 Action research

Bryman and Bell has mentioned that action research can widely be defined as an approach in which the researcher and a participant cooperate together in the “diagnosis” of the problem and its’ solving (Bryman & Bell 2007, 427-428).

Action research is performed to reach defined objective not only to observe social life of the participants but really reflecting on practice or working together with participants in order to change their setting and circumstances for the better. In the action research participants’ lives and their social environment are examined critically and diagnostics (via reflexive interviews, observation, journaling, and other data collection methods) are conducted to discover specific problems and issues. According to Saldana et al. solutions and empowerment strategies are then implemented to initiate and hopefully sustain positive change. The researcher serves as a facilitator of the research study and, ideally, works equitably and democratically with the participants since their personal investment, ownership, and stakes in the matter are more likely to generate significant outcomes. (Saldana et al. 2011, 18.)

Ferrance has stated that there are four basic themes within all the definitions of action research and they are: participants’ empowerment; partnership through participation; getting of knowledge and social change. According to Ferrance the below routines in an action research are freely guided through five phases of actions (see also figure 1): (Ferrance 2000, 9.)

1. Identification of the area of problem
2. Data gathering and organisation
3. Data interpretation
4. Action based on evidence
5. Reflection, result evaluation

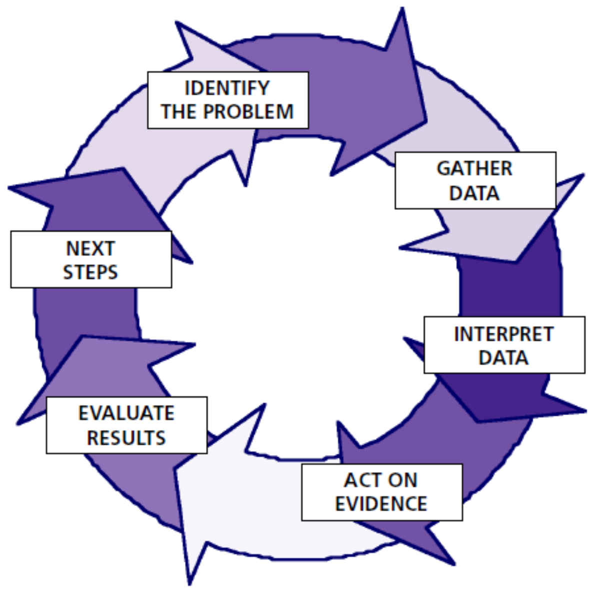


Figure 1. Action research Cycle (Ferrance 2000, 9.)

An action research will be used in the research study from the very beginning stage starting with the information gathering and continued with the current situation analysis. These phases partially overlap. During the process of data collection I will do some conclusions based on the obtained information. In some cases this might lead to the acquisition of additional information. As soon as mappings will be completed, the actual development measures starts. Evaluation of the change of development tasks are the last step in the research study, which also will produce suggestions for improvement for the next round.

3.2 Desk research (secondary research)

There is no point to reinvent the “wheel”, and there are a lot of “wheels” available to the research study. According to Hague &Hague & Morgan a desk research or secondary research is basically involved in collecting data from existing sources without fieldwork and often is considered a low cost technique as compared to field research. The desk researcher is able less-costly and fast gather data from the many sources in order to reply on research objectives. (Hague et al. 2004, 32.)

With desk research I am planning quickly and inexpensively to find variety of sources in order to answer research objectives. I am going to bring together data from many different sources. I am conducting desk research from starting phase of the research because it is very effective, fast, cheap, and most of the basic information can be easily obtained. However desk research might provide only with part of information needed in the research study. Therefore, I will use a mix of desk and primary research by conducting at the beginning with desk research and then continue with interviews and observation.

I am applying two following types of desk research techniques in the research study (see figure 2):

- **Internal desk research** can be considered as one of the most reasonable researches at the starting phase of the research study. A lots of information can be obtained internally within the organisation. It is worth to emphasize at the beginning of the research study how much useful information is sitting in the desks, intranet and on the shelves of the target organisation. This information could be in reports, internal procedures and guidelines or acquired via intranet. These can be reworked to produce a valuable picture. After internal desk research is conducted I can move the search to the wider outside world.

- **External desk research** collects relevant information involves outside the organisational boundaries. These outside resources are described below:
  - **Internet (Online) desk research.** There are lots of data available online in the internet. The main benefit of online database is the speed of finding materials just by typing the key word for searching to match what is available to what is sought. Many databases of articles and reports can be accessed via the internet as well as number of web sites that offer archive materials.
  - **Libraries.** The traditional sources for desk research are libraries. I am going to use student library and e-books.

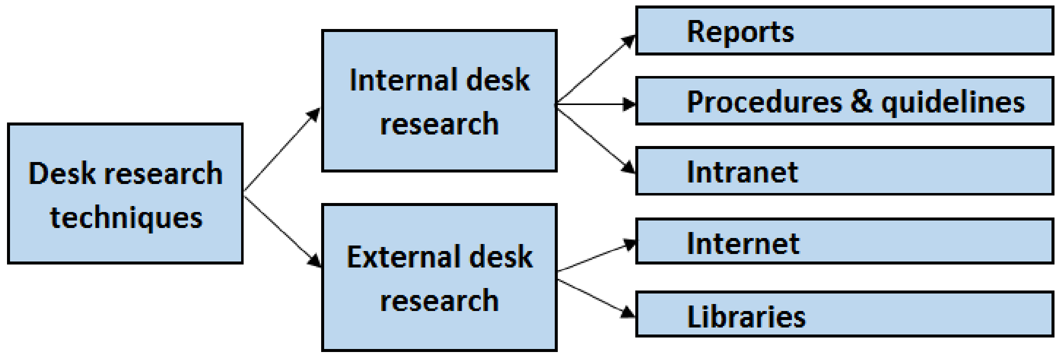


Figure 2. Desk research techniques

According to Hague et al. in order the data search to be efficient a plan is needed and no matter whether it is utilizing online sources or library. Once it is done, data needs to be downloaded into files and recorded, so that accuracy can be retraced and evaluated Information should be collected and also evaluated – its help to make judgements about validity of the data. (Hague et al. 2004, 45.)

3.3 Data collection methods

The collection of sufficient evidence helps to understand the social world around us. This evidence should document the patterns, categories, and meanings created by people. In order to exist in a better world such documentation need to be systematically examined. The data collection method is an effective tool of collecting and documenting the following information like for example an individual's or group's opinions, feelings, attitudes, beliefs, values about their own experiences of social and people lives. (Saldana et al. 2011, 31-32.) In Bryman & Bell's view the qualitative research studies may employ one or more data collection methods and such methods include keeping notes of "subjective impressions", relevant documents collection relating to specific situation , questionnaire surveys, interviews, and written notes of meeting or interviews. (Bryman & Bell 2007, 429.)

The following two data collection methods of acquisition the qualitative data are employed in this research study:

- Interviewing and asking questions (see sub-chapter 3.3.1)
- Observation the organisational setting and the behaviour (see sub-chapter 3.3.2)

Interviewing participants were selected based on the following criteria: personal history, work experience, and person who able best answer the researcher's questions. Participant observation helps to gather a wider range of evidences and perspectives to increase the credibility and trustworthiness of an analysis. There are following types of data generated by these methods: field notes, recordings and transcripts.

I am going to gather various relevant information about how things are currently handled including:

- Current business processes and the data that is used there
- Information flow
- Internal and external data
- Exception handling
- Problems with current process
- Preferable undesirable scenario

3.3.1 E-mail interviews

The most common source of data in qualitative research is obtained through interviews. The person-to-person format of interview is the most prevalent. In qualitative research the approach supposed to be less structured and more flexible compare to quantitative research. Questions in qualitative research are open-ended and emphasis are on greater generality and on interviewees' own perspectives. It is important that questions are asked in such a way that the respondent is able to talk freely. The respondent will not open up, nor describe true feelings, thoughts and intentions if there is no trust to the researcher/interviewer. The interviewer must ask questions in such a way, that respondent/interviewee understands. The use of words in the interview should be meaningful and clear to the respondent. Additionally, it is significant that the interviewer to be a careful listener. (Bryman & Bell 2007, 471-508.)

I am going to use an e-mail interview in the research study to deal with certain range of research study topics such as describing current and desired processes as well as to identify the problem areas which need to be improved. There couple of reasons why I selected e-mail interview, they are: this method is inexpensive; interviewees are located faraway in long distance; and in e-mail interview I do not need to write down interview minutes. According to Steve Mann an e-mail interview allows the interviewee to use more time for response and the quantity of the response therefore is better. It means an e-mail interview can provide more thinking time for the respondent. One of the important benefit of e-mail interview is that it can be offered to larger numbers of research participants, especially in the situations when they are located at a geographical distance. Another advantages are an e-mail interview is not expensive and there is no need for transcription of received data. (Mann 2016, 99.)

There are no constraints on location in an e-mail interview and the participants can be located geographically widely. An exchange using e-mail for qualitative interviews can be rather fast. It is an advantage that the interviewer and interviewee are separated in distance and in time because the exchanges are likely to be with gaps of varying length between them both. Edwards & Holland have seen many advantages of the technique of e-mail interview, such as for example it is producing text, written, no need for transcription, and save time and resources. (Edwards & Holland 2013, 49-50.) Jamie Lewis agrees that a written e-mail responses allow participants more options to think about asked questions, and often stimulate more accurate and justified replies (Lewis 2006, 5 in Edwards & Holland 2013, 49).

Gillman has concluded that for legal as well as ethical reasons respondents need to agree and understand how information which has been acquired during interview is stored and used, and this needs to be made explicit, making clear that there are restrictions on who has access to this information and for what purposes. (Gillham 2005, 13.) Regarding anonymity, I will not identify names of interviewees, just use abbreviation (Respondent A) and type of occupation.

Saldana et al. reminds that whatever techniques and tools are used in qualitative interviews however an importance remain on careful questioning, listening and responding. An interview subject and types of questions should be asked during an interview depends on topic of research study, its objective, and research questions. However offhanded conversation might initiate unexpected insights and area for further investigation (Saldana et al. 2011, 33).

3.3.2 Participant observation

Another common and demanding methods for qualitative data collection is participant observation. According to Guest & Namey & Mitchell, participant observation is the most natural and challenging of qualitative data collection methods. Guest et al. is saying:

“This method connects the researcher to the most basic of human experiences, discovering through immersion and participation the how and why of human behaviour in a particular context.” (Guest et al. 2013, 75.) Nevertheless Saldana et al. specify that: “Participant observation is primarily the researcher’s take on social action, whereas the interview is the participant’s take.” Researcher can obtain additional data using another way of knowing by watching people during their daily live activities, for example from interview. What a participant says to interviewer in an interview about his perspectives, and what actually can be observed him doing in everyday life, may or may not agree. (Saldana et al. 2011, 47.)

I am choosing participant observation method because it provides a chance to learn things that people may not willing to discuss during interview. Additionally, the participant observation facilitates better understand and capture information about current situation within which people interact. Being an employee of the target organisation it is easier and faster for me to become a member of the setting in which the participant observation data is collected or observed the context.

Merriam (1998) suggests that the researcher should always remember the purpose of the research study because it is the most important factor for researcher when he/she determines what should be observed. The starting point of the observation depends on the research questions, but it is not possible to foreseen determine beforehand for where and when to focus or stop action. (Merriam 1998, 97 in the article by Kawulich 2005.) While planning observations I tie those to the research questions and use further as a guide. Accordingly, I will determine at the beginning what is important to include or ignore during observation.

In order to help the researcher to know what to observe, Kathleen and Billie DeWalt suggested the researcher to study (DeWalt Kathleen & DeWalt Billie 2002, 27 in the article by Kawulich 2005.):

- what and why is happening
- separate regular from irregular activities
- look for variation to view the event in its entirety from a variety of viewpoints
- look for the exceptions and/or negative cases
- when behaviours exemplify the theoretical purposes for the observation, seek similar opportunities for observation and plan systematic observations of those events/behaviours.

Guest et al. have noted the challenge for a participant observation is how to systematize and organize a fluid process while being at the same time a participant observer. This means fulfilling the role of researcher while taking notes and asking questions for the purpose to disclose the meaning behind different behaviours, and additionally at the same time to be a player in observed social environment. (Guest et al. 2013, 75.)

Field notes are the key way of collecting the data that is gathered from the participant observations. These field notes include records of what was observed and also include informal conversations with participants. In order to describe the situation as much as possible I am planning to create a set of field notes from conducting observations nearby where my working place is located. As part of this activity, I will note down what is happening including:

- What is happening within the location?
- Ambience, atmosphere, environment
- Physical characteristics of the setting
- How I think this might influence what I am observing and recording

I am going to keep the anonymity of the participants in the prepared through research study documentations, including field notes to prevent their identification. I am going to use just titles of employees and abbreviation (Respondent A etc.).

3.4 Data analysing methods

Data analysis in qualitative research is the process of transmitting written data such as interviews and field notes into findings. The purpose of qualitative data analysis is to understand the bigger picture by using the obtained data in order to describe what their meaning. Qualitative data analysis involves coding of all received data in order to recognise differences and similarities. In the e-mail interviews the basic data is textual and therefore no transcription is required. But there are levels of meaning, latent conventions of expression, which could be extracted: this kind of “reading between the lines” is the province of the technique. The most difficult task is coding derivation and statement allocation (Gillham 2005, 122, 145.).

I will begin the data analysis by careful reading my field notes and e-mail interviews and will make remarks in the side about issues, themes and the key patterns in the data. During data analyse I will use following techniques:

- Coding and describing data

The coding begins as soon as the research interviews have been received and checked. A coding apart from way of organising data, it begins the process of data analysing in more systematic order. The relationships and patterns in data as well as what data is telling is working out during coding process. Additionally, coding includes the identification of issues, similarities, and differences that arise through the participants' activities. With the coding help I should be able to understand the meanings from each participant's point of view. It will be done in the computer by making notes in the side by naming sections of text.

- Theming

Gillham is saying that: "Theming is a horizontal category or something that exists as a sub-plot within the main narrative, perhaps dealt with as a section or chapter. Abstracting these subsidiary narratives focuses attention on the structure of the overall narrative." (Gillham 2005, 130.) One of the reasons why transcription is such the heavy task is that much of what people say/write in an interview is redundant in the substantive sense. People vary, of course, and to linguists no element of speech is redundant: everything is there for a purpose.

Theming is one of the most fundamental tasks of the qualitative research study but at the same time it is the most mysterious. Concluding theming analysis codes from one or more transcripts are drawn together in order to disclose the findings of qualitative research in a meaningful and consistent way. It is importance to through the theming process because that way the researcher able to make a conclusion.

- Analyse of measure data

The objective of research study (see sub-chapter 2.2) is to increase the number of incoming invoices from suppliers with the reference of the purchase order number on the invoice. The number of invoices with and without reference of the purchase order number should be measured before and after research study started (see sub-chapter 2.5, table 2). It will be done on the monthly basis in the following way:

- Create subcontractor's costs report monthly

- Run through SAP ERP system profit and loss account for service function
- Filter category of the costs which is subcontractor's costs for this research study
- Invoices which have number in the column "purchase order" are processed as requested. Other invoices are posted without purchase order

- Calculate the percentage (KPI) of number invoices received from suppliers with and without purchase order number. Measure KPI at the beginning of the research study and after its implementation.

4 Theoretical framework

The main focus of the thesis is to improve process in an efficient way, i.e. without overlapping tasks, having clear steps and responsibilities and being user-friendly. In order to make implementation achievable and successful the change management theory would support that. The failure is inevitable if management will not commit to the change, therefore their commitment and support is of essence. Due to the human nature usually people are used to reject changes and it takes time and effort until changes are anchored and became as a norm. While improving the process it is useful to adopt some elements and culture from lean process theory which can be used not only in manufacturing but also in the office processes. As soon the new improved process model is set up with the training help, the process can be delivered and explained to the end user. It is important that process users have clear understanding on the process and consequences if they do not follow the process. They should have chance to ask process related questions and receive answers.

The theoretical framework of this thesis work is composed of four theories' parts:

- Process and process improvement (see 4.1)
- Lean (see 4.2)
- Change management (see 4.3)
- Training (see 4.4)

4.1 Processes and process improvement

According to Nadja and Talib Damij (2013, 9) the main purpose of organisation is to create the profit from selling their products and/or services, and at the same time insuring that work is continue or even increase, the quality of outputs improve, and wealth of the organisation increase. However, Oakland (2014, 88) is highlighting that products, services and processes are designed both to add value to customers and to generate profit.

In the recent years the process improvement has become a meaningful action for any type of organisations in order organisation being able to produce more, be competitive and successful. Therefore a significant phase within the process management is its improvement and it is tightly connected with the customer satisfaction (Damij Nadja & Damij Talib 2013, 143.).

4.1.1 Definition of the process

The business process definition by Brady & Monk & Wagner is: “The collection of activities that takes one or more kinds of input and creates an output that is of value to the customer” (Brady et al. 2001 in Damij Nadja & Damij Talib 2013, 18). Robson & Ullah defined a business process as: “A flow of work passing from one person to the next, and for larger processes probably from one department to the next” (Robson & Ullah 1996 in Damij Nadja & Damij Talib 2013, 18). According to Oakland (2014, 12) process is the transformation of a set of inputs into outputs that satisfy customers’ expectations and needs, in the form of services or products. It means, everything company do is a process. There are many processes taking place in each area or function of an organisation.

Most organisational processes involve more than one function or department (King James & King Francis 2014, 132). I share their view. The target organisation is organized into a separate departments, which are called functional areas. Each functional area is specialized in performance of specific type of work. Such works are connected to the work performed within the framework of other functional areas. I means the work starts within a one functional area and is continuing and completing by work performed within other functional areas. The figure 3 illustrates as an example a view of business process within the functional organisation of the company.

Business process is a horizontal process which flows within one or more inter related departments and they are connected with a set of work processes. Company's business process often is complex and split into sub-processes. Specific work activities are linked together into one work process and in result it produce an expected output. An activity is a micro process performed just by one person and it may consist of a number of tasks. A task is a specifically defined scope of work. (Damij Nadja & Damij Talib 2013, 146.)

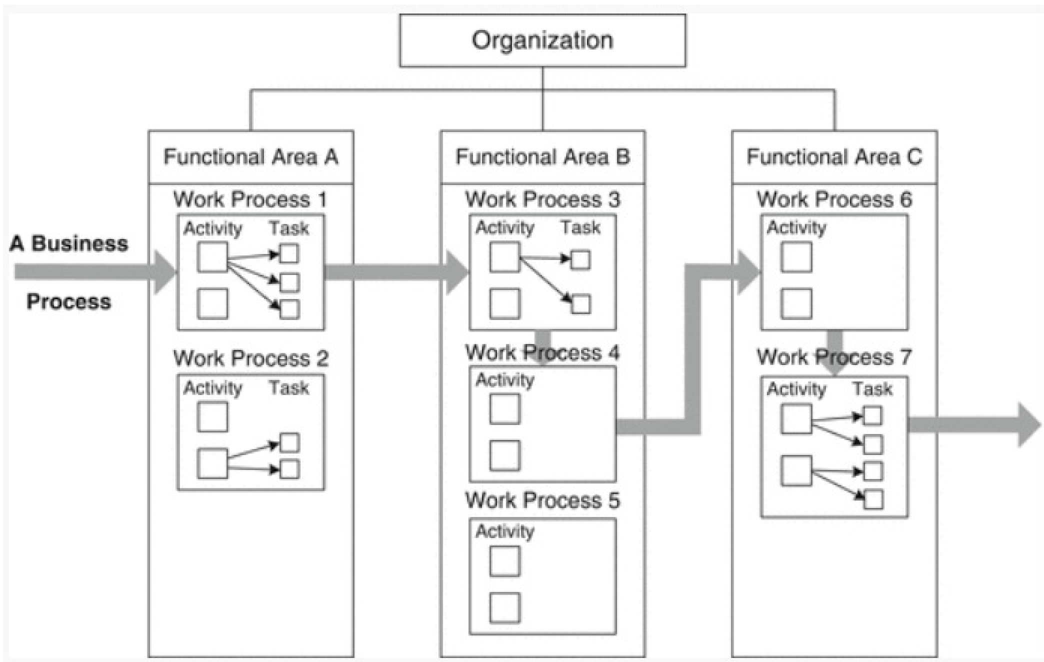


Figure 3. Example of business process view within the functional organisation (Damij Nadja & Damij Talib 2013, 23.)

According to Oakland a performance improvement can be achieved only by improving the processes while involving the people (figure 4). A better vision might be achieved by identifying range of barriers that exist in the area which needs an improvement. Employees should to be trained and they should see how to reallocate their time and energy to studying their processes in teams, searching for roots of problems and eliminating them instead of symptoms. This effort requires a positive and thrusting action from management in order to promote the "right-first-time approach" around the work situations. All most senior management must express that they have serious intentions towards the process. The middle management plays special important role, since they must go to to the staff for whom they are responsible to explain the process. They should ensure that their commitment was communicated. (Oakland 2014, 26-32.)

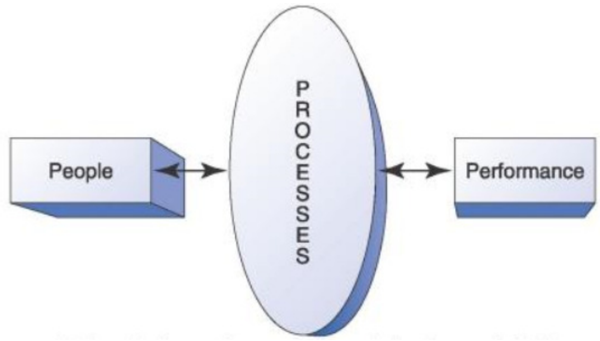


Figure 4. Better performance is achieved through all staff involvement in continuous improvement of processes (Oakland 2014, 26-32.).

4.1.2 Definition of the process improvement (PI)

Markus Pastinen has defined the process improvement as a regular approach by refining the performance of the organisation's processes and activities from time, cost and quality perspectives for satisfying the organisation's stakeholders. The focus of processes is waste of companies' resources and opportunities that the company cannot retrieve due to a low improvement of performance and outcome. (Pastinen 2010, 3, 26.)

The definition of the process improvement by James and Francis King is a systematic approach to rearrange the crucial organisational processes in order to achieve development in improvements. Process improvement is a regular approach to map, focus, measure, and re-establish a significant business process in order be able to eliminate a waste and at the end achieve improvement for that process. Process Improvement is not just a problem-solving approach or another quality improvement method. All functional departments have to be involved in PI approach in order to ensure that the needs of customers and suppliers of the process are supported and correctly reflected. King et al. consider PI as a methodical work requiring a systematic and multidisciplinary approach and that involves breaking down and abandoning the walls between departments, specialties, and parallel activities within an organisation to form cohesive working teams. (King James & King Francis 2014, 45, 132-135.)

Company's big challenge is to improve the performance and get different departments to "talk" to each other when inter-functional information process flows between different business functions. Therefore, it is very difficult to improve when there are no proper inter-functional information processes. (Pastinen 2010, 30.)

4.1.3 TAD process improvement methodology by Nadja and Talib Damij

TAD process improvement methodology according to Nadja and Talib Damij (2013, 144) consists of three phases and they are: “As-is” process model analysis, “To-be” process model creation, and “To-be” process model analysis (see figure 5).

First phase provides a detailed analysis of process performance about what kind of processes are currently in use in the company. This analysis consists of four steps and they are: simulation, process flow, cycle-time efficiency, and process capacity utilization. (Damij Nadja & Damij Talib 2013, 145-146.)

- Simulation is a technique of developing a real process model which reflects the same attributes like in the original process. The real life input data is gathered and used in running this exercise. (Damij Nadja & Damij Talib 2013, 146.)
- Flow process. Flow units are entered into a process from its environment, runs through various activities and obstacles, and exists as an output into the process’s environment (Damij Nadja & Damij Talib 2013, 148).
- Cycle-time efficiency. Usually a flow process goes through a chain of activities during it cycle from the start until the end of a process. Accordingly, the cycle time of a flow process is a time spent on the process activities and on the waiting in different obstacles. (Damij Nadja & Damij Talib 2013, 150.)
- Process capacity is an important tool for measurement of process performance. It is a significant indicator that helps management to make decisions about the business processes improvement. (Damij Nadja & Damij Talib 2013, 151.)

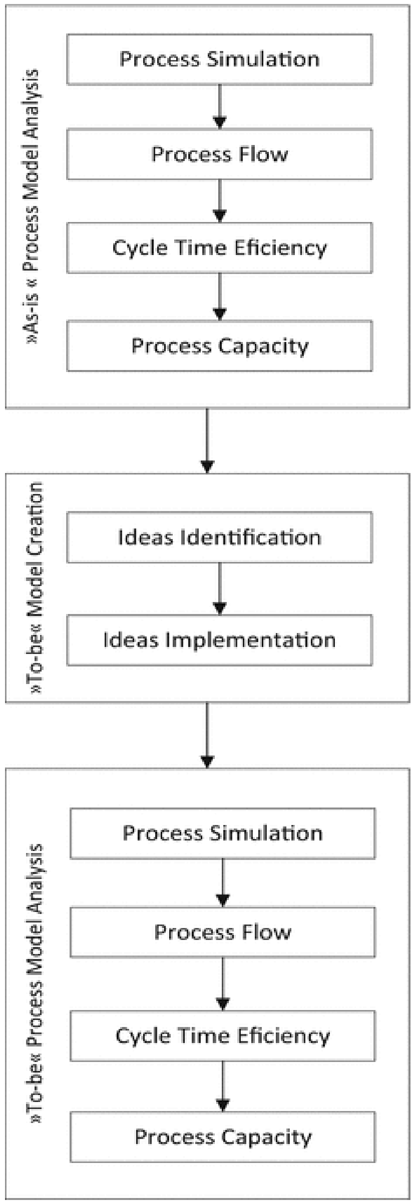


Figure 5. Process improvement (Damij Nadja & Damij Talib 2013, 145)

The second "To-be" Model Creation consists of two following steps: ideas identification and ideas implementation. In order to create an effective "To-be" process model the team of process improvement should gain from concepts of the knowledge management cycle. These concepts help in solving a complex and difficult problem like for example process improvement. (Damij Nadja & Damij Talib 2013, 153.)

- Ideas identification is handled by interviews with knowledgeable and experience staff organized by researcher. The interviewees are selected depending on the identified problems. An experienced employee able to present best evidences to find better way of process improvement. (Damij Nadja & Damij Talib 2013, 154.)

- Ideas implementation step implements received knowledge and proposals collected in the improvement list for developing the "To-be" process model (Damij Nadja & Damij Talib 2013, 157-158).

The third "To-be" Process Model Analysis consists from the same four steps as the steps of the first phase. Hereby, the process starts from running a simulation of the "To-be" process and continues in the same order the three other process performances. They are: process flow; time cycle efficiency; and process capacity. (Damij Nadja & Damij Talib 2013, 159.)

It is important to highlight that the management of the organisation should know and remember that process improvement is an ongoing process, which requires continuous actions in order to keep the organisation's processes competitive and effective. An improved process will lose gained importance as soon as the management of the organisation quit to keep urgency over the process improvement and not continue to monitor the progress of the improved process. The process improvement execution time should be planned in determined and repeated periods of time. (Damij Nadja & Damij Talib 2013, 146.) The change management theory will be looked closely in the sub-chapter 4.3.

4.2 Lean

The key components of lean can be applied to all types of business and processes. One of the good things in lean is that it is easy to understand. Another one attractive thing is that it is not capital intensive. Finally, lean processes and flows are rather simple to design and implement even in case of entire value streams redesign.

4.2.1 Lean thinking

Lean thinking is a philosophy, a method and a set of tools and techniques. Lean thinking lets to set up processes close to the customer in order to eliminate any useless activities that can be considered as waste in the process having no value add to products and/or services. Also, lean thinking reduce costs, lead time and increase quality. (Bernardo

2012, 1.) Lean methodology emphasizes the prevention and elimination of waste of any extra time, labour resources, material or service spent that does not add value to the organisation. With lean's techniques and methods companies are able to reduce costs, achieve faster delivery and shorter lead time.

According to David Mann the most common result from lean implementations is the reinforcement of old habits and ways of thinking. People are used to rely on their old tricks to fool the system and use their old workarounds to solve problems without implemented lean management system. The lean management system includes discipline, daily practices, and tools needed for establishing and up-keeping a persistent and robust process focus. (Mann 2010, 10-11.) Lean thinking methods and tools application must involve all relevant persons in the organization when they are suitably trained. In general the lean concept theories are simple but practical day-to-day work flow application is the difficult part. Day-to-day practical application requires a change to employee's cultural approach, and that a continuous improvement culture, known as Kaizen in Japan, is implemented in the company. (Bernardo 2012, 12.)

4.2.2 Lean in office

Lean is no longer just for manufacturing, its management approaches can spread and sustain lean in the office business processes similar way as in manufacturing. Lean tools and principles can be useful and effective in various office processes and lean management can be applied as transparently as in manufacturing. (Mann 2010, 141.)

According to David Mann the good first step to show the waste is the mapping of process value stream. The challenges for an office lean success in the company value streams are usually originating from complex organisational and political atmosphere of cross-functional office process. Mann has noted that business process often does not appear on the organisation chart and the processes have rarely identifiable, accountable ownership or dedicated resources and budgets. According to Mann's observations cross-functional business processes are typically lacking from their own measures. Actually, improvement in an end-to-end business process may have negative impact on the measures of separate departments, which are in scope for optimizing performance or functional measures. For all these reasons Mann has concluded that many times improvements in cross-functional environment will not fully succeed but improvements collide with internal boundaries and competing preferences between the departments involved in the enterprise value stream and on which performance the value stream is dependent upon. When preferences of the related departments are elsewhere, the value stream project will not succeed. (Mann 2010, 115-117.)

Lean conversion requires fundamental changes in profoundly established habits and way of thinking. Lean conversion project is not likely to meet expectations unless there is persistent leaders and effective leadership. Leadership and leaders' determination and consistency over time is key to succeed in transformation batch to lean. Leader's behaviour being inspiring, charismatic, or emotionally impactful is more important than his or her personality. The lean approach in regard to people management is called the respect-for-human system. (Mann 2010, 137.)

4.2.3 Lean Six Sigma philosophy

Lean projects usually focus on crucial operational problems such as for example initiatives to decrease setup times or resource balancing. Without the benefit of innovative analysis tools lean projects supposed to last a short period of time. However using Six Sigma advanced problem-solving tools projects last longer. Six Sigma projects are suitable for complex problems and they can involve any type of processes. Lean Six Sigma takes advantage of the positive features of both approaches and it speeds up the improvement process, creates the flow and eliminates inconstancy from processes. (Bernardo 2012, 18.)

According to Peter Pande, Robert Neuman and Roland Cavanaugh the fuel of the Six Sigma system is knowledge about the customer and effective measures of performance. The engine of Six Sigma's propel is compound from three basic strategies (see figure 6) and all of them refer to processes of the organisation. Most of Six Sigma projects relates to process improvement efforts. Six Sigma incorporates and brings together both improvement and design/redesign as important, additional strategies for steady success. In the design/redesign stage the aim is to replace the process with a new and better one instead of just fix it. Nowadays there is no company that would likely to stay on top for long period of time if it does not rethink regularly at least some of main processes. (Pande et al. 2014, 19-40.)

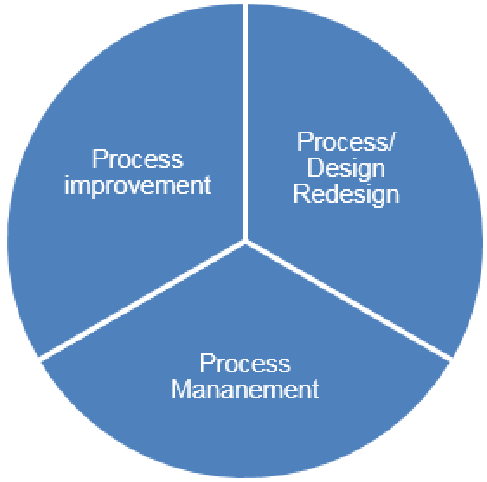


Figure 6. Three Six Sigma strategies (Pande et al. 2014, 29)

One from of approaches is Kaizen model use for continuous improvement of business processes. The Lean Six Sigma philosophy is at the head of Kaizen model. The main aim of Kaizen model is to involve people to improve processes, products and services. By using Kaisen model an organisation can reduce the natural resistance to change. (Bernardo 2012, 8.)

According to Nikoletti Bernando the change needs to be initiated from the top. Senior managers should create a sense of urgency and communicate clear vision to everyone, through their daily work and tasks. Employees must change their way of thinking by accepting associated with continuous improvement their challenge. (Bernardo 2012, 13.)

4.3 Change management

It is clear that any improvements in the process require a change. Therefore, I would like to introduce some key elements of change management theory. We are living in dynamic business environment where organisational changes and methods of addressing them are very common. Bengat & Odenyo & Rotich have noted that in order to survive and succeed well in the highly competitive, continuously and rapidly developing business environment the successful change management is vital to any type of organisations. According to Bengat et al. the success in the way how business manage changes depends largely on the nature of business, the type of change and what kind of people involved. Also, it is dependents on how well the organisation and people understand the required need for the change and the process involved in the change. (Bengat et al. 2015, 2, 12.)

Change management is a continuous process that consume time, expertise, involvement and efforts to run and implement those in real life. Kotter (1996) emphasizes that organisations need to change all the time in order to compete and be successful especially now in rapidly growing world of globalisation, which tendency will even increase in the future. Kotter argues that the change management requires the involvement of people or staff of the company and may also result in these people being affected by the changes too.

From my own experience I know that organisation and employees usually feel changes challenging. In such situations current change management models provide instructions for the processes and as such guide leaders to carry out change. This is helpful because change is difficult to implement and manage.

4.3.1 Leading change by John P. Kotter, eight-step model

Kotter (1996) emphasizes that organisations need to change all the time in order to compete and be successful especially now in rapidly growing world of globalisation, which tendency will even increase in the future. According to Kotter leadership and management are two different things which you cannot mix. Management is the ability to deal with difficulties (with short-term planning, setting strategy, controlling performance, solving daily problems), but leadership (establishing long-term planning, setting new vision, inspiring people to act in order to achieve target, making changes) is associated with a change. Kotter is saying that while improving the quality of leadership, companies need to remember that a strong leadership combined with weak management is no better than a weak leadership with strong management. The more changes an organisation implements, the greater is the pressure on leadership. Kotter argues that all eight steps must be followed and if some of the steps are missed, the implementation of the change loses its worth.

- 1. Establishing a Sense of Urgency

The 1st step is to make an action plan and initiate the required changes. From the beginning the process should be accepted by the related parties by agreeing to step out from their “comfort zone” in order to implement required changes. Kotter suggests in order to succeed and a change implementation to be successful, the 75 percent of a organisation's management should to “buy into” the change. (Kotter 1996, 35-51.) It means management should support and believe in the change initiative.

- 2. Creating the Guiding Coalition

In order to convince personnel that a change is necessary a strong support from the management of the organisation is of essence. The managing change need to be lead. To lead change means to bring together team and influential people whose power comes from job title, status, expertise and/or political importance. The “change coalition” needs to work as a team since its creation, and it continue to build urgency and momentum around the need for change. (Kotter 1996, 51-67.)

- 3. Developing a Vision and Strategy

A clear vision help everyone from the team to understand why they need to do something. When people see and understand what the organisation is going to achieve, then the given directions tend to make more sense. (Kotter 1996, 67-85.)

- 4. Communicating the Change Vision

This step exhorts to communicate the new vision in hour-by-hour activities, frequently, powerfully, anywhere and everywhere. Talk about the vision at every occasion you get. Use the vision daily while solving problems and making decisions. People will remember the vision and respond to it when organisation keep it fresh on everyone's mind. Also, it is important to “walk the talk”. The guiding coalition itself must demonstrate the kind of behaviour that they want from others. (Kotter 1996, 85-101.)

- 5. Empowering Broad-Based Action

In this step the senior leadership and the “Guiding coalition” together mitigate and remove obstacles that do not support changes. This should empower people to execute the vision, assisting the change move forward. (Kotter 1996, 101-117.)

- 6. Generating Short-Term Wins

Creation of short-term targets and not just long-term once. Nothing motivates more than success. Each from the smaller targets must be achievable and quick wins received within 6 to 18 months. The “Guiding coalition” should work hard to achieve these targets. Each produced "win" will further motivate the entire staff. (Kotter 1996, 117-131.)

- 7. Consolidating Gains and Producing More Change

Kotter argues that many projects of change fail due to the reason that victory is announced too early. The real change must be run deep. Quick wins are just the beginning of ongoing change process. It is just part of achievements of what needs to be done to reach full initiated change. Each single achieved success during the change process provides an opportunity to review on the past what went right and wrong, and identify area of improvements. (Kotter 1996, 131-145.)

- 8. Anchoring New Approaches in the Culture

The 8th step by Kotter is a vital activity which anchors the achieved changes into the organisation culture. The values behind the vision should be shown in day-to-day work because the corporate culture often is determined by what gets done. Also, it is important that the "Guiding coalition" and leaders continue to support the change. In case if organisation management stop their support, the situation might turn back from the beginning. (Kotter 1996, 145-159.)

Current globalized economy creates opportunities and hazards for everyone. Organisations need to be proactive in profound improvements in order merely to survive apart from compete and prosper. Organisations have pressure to minimize costs, improve the quality of their products and services, search for new opportunities for growth, and increase productivity. (Kotter 1996, 3-4.) According to Kotter the managing change is important and during the transformation process can easily lose the control without having a competent management. For most organisations the much bigger challenge is how to lead the change. Only leadership is able to motivate staff to produce needed actions in order to change the people's behaviour. Only leadership is able to get changes stick by anchoring those in the very culture of an organisation. (Kotter 1996, 145-159.)

4.4 Training

Human performance can be enhanced by help of training. Silberman & Biech have stated that when person is lacking skills or knowledge to perform a job, that gap can be bridged by providing the appropriate guidance or training. (Silberman & Biech 2015, 1.) Blanchard & Thacker emphasised that training provides people with skills and knowledge to perform their job in more effective way. This allows employees to meet job requirements and makes them ready to meet inevitable changes in their jobs. (Blanchard & Thacker 2010, 4.) According to Buckley & Caple, the training should be planned and systematic effort to be taken to modify or develop knowledge or skills via learning experience in order to achieve good performance at work (Buckley & Caple 2007, 5).

4.4.1 Purpose of training

There are a lots of reasons why need to train and develop employees. It is necessary that any new employee knows the way how to perform his/her work and also other employees skills need to be kept up-to-date. Improvement of employees work performance is the main purpose of employees training, see figure 7 below.

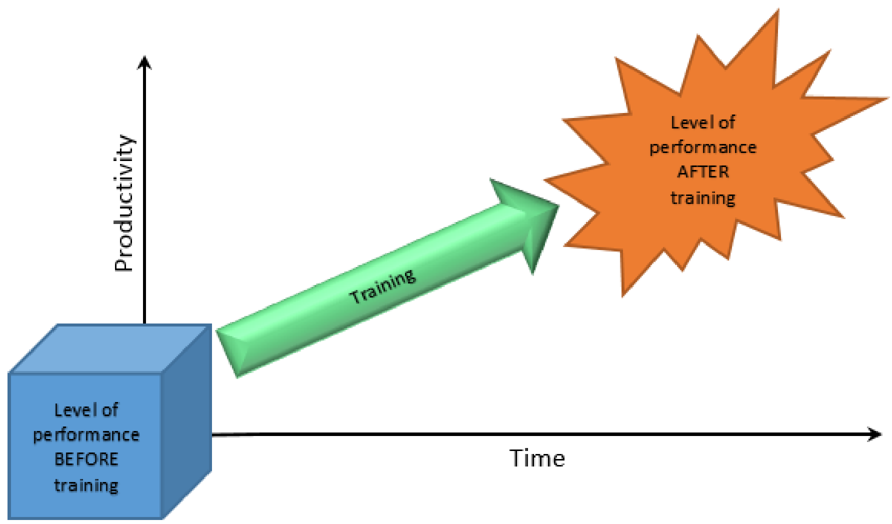


Figure 7. The purpose of training is to improve the performance

According to Pollock & Jefferson & Wick it is important that trainings are well planned and executed in order to ensure (Pollock et al. 2015, 6-7.):

Consistency – ensuring that the same approach is taught and employees follow company values and policies in consistent manner.

Efficiency – usually training in groups is more efficient than training each individually. Especially training can be necessary to get new staff quickly to become productive with job-specific knowledge and skills.

Quality – higher quality can be created by creation of employees-experts with knowledge of instructions and procedures than relying solely on informal learning.

Awareness - people do not know what they do not know. It means employees may not know that they need information which is available or easy achievable.

4.4.2 Training program

According to Silberman and Biech the training is not always the right solution to solve an existing problem within an organisation. Indeed, the root cause of the problem is not always a lack of knowledge or skill. (Silberman & Biech 2015, 20.) Silberman and Biech further refer that according to Gilbert (1996) the problems in organisation might be because of some from following reasons:

- Lack of feedback, uncertain performance expectations and unclear tasks
- Lack of tools to complete the work and shortage in resources
- Lack of motivation in result of having poor or not at all incentive scheme
- Mismatch or gap between skills which have employee and those required for the job
- Lack of security, volatility at work

Thereby, it is worth to determine whether training will help to solve problems before starting to develop a training program. Silberman & Biech have described that an assessment process of this involves at least three of the following steps (Silberman & Biech 2015, 20.):

1. **Pinpoint the problem** - detect main concerns, interview related parties, and identify concerned parties.
2. **Confirm the problem** – interview concerned parties, evaluation of the consequences of the problem on the organisation.
3. **Seek solutions** - identify alternative actions and arrange consensus on an action plan.

In the view of Silberman & Biech (2015, 15-17.) the following steps should be used as a general guide while designing an active training program (see table 3):

Table 3. Eight steps of design an active training program Silberman & Biech (2015, 15-17.)

1. Assess the Need for Training and the Participants
The first step in designing an active training program is to determine what training need exists and to find out as much as possible about the participants who will be affected

2. Set General Learning Goals
Identify potential learning goals for participants and describe their needs

3. Specify Objectives.
Get specific about the kinds of learning you want the participants to experience and the results you want to achieve. Each general learning goal will have one or more objectives that, when met, will signal accomplishment of that goal

4. Design Training Activities
At this stage, it's sufficient to generate the broad outline (method and format) of all the possible activities you think will be necessary for each objective in your program

5. Sequence Training Activities
Play with the order of possible activities until you obtain a sequence that has a good mixture

6. Start Detailed Planning
Now begin working on the details, specifying how to conduct each activity in your overall design

7. Revise Design Details
Mentally walk through and revise details of the overall design, visualizing the participants' experience

8. Evaluate the Total Result
Examine the program to see if it has the eight characteristics of an active training program. Obtain feedback from participants, evaluate participant performance, and then modify the design for the next time around

4.4.3 Presentation type of the training

The most efficient and cheapest method of transferring information for the group of people is a presentation type format. Most of the training environments are using actively that standard tool. Silberman & Biech have however remarked that tool such as PowerPoint presentation is used to visually highlight key points from the presentation but will never support in real learning because presentation put trainings' participant in a passive listener position. At the same time, a presentation is still an important tool in an active training program when the trainer want to involve participants and increase understanding and retention via participatory techniques. (Silberman & Biech 2005, 75.)

As any other training activity a presentation has to be carefully planned and designed. Even though a well-designed presentation can be good and effective training method, need to avoid overreliance on presenting because it leads to boredom. Also, limited learning and lack of involvement of the participants must be avoided. Even when participants have not enough prior knowledge of the training subject there are eight alternatives to presentations according to Silberman & Biech that can be used. These methods are: case study, demonstration, inquiry by group, guided teaching, search for information, group's study, learning by jigsaw, study tournament (Silberman & Biech 2015, 103).

According to Wallwork it is fundamental to ask your audience questions during training session. The trainer need to be absolutely sure that participants understand questions. There is a risk that participants can be extremely tired from listening when the only one person is talking a trainer. In that case no any questions are asked during training initiative. (Wallwork 2014, 148.)

5 Research implementation

In order to solve the problem of the research study and answer the research questions I created the following implementation plan:

- Mapping of the current process ("As-is") (5.1)
  - Participant observation (3.3.2)
  - E-mail interview (3.3.1)
  - Desk research (3.2)

- Creation of the new ideal process model ("To-be") (5.2)
  - E-mail interview (3.3.1)
  - Desk research (3.2)

- Implementation of the new process (5.3)
  - Template modification

  - Training (4.4)
  - Support
  - Supervision

- Change management (5.4)

- Evaluation of the new process (6.1)
  - Measures (2.5)
  - Survey (3.3)

Further on in this chapter I will describe in detail each step of the implementation plan.

5.1 Mapping of the “As-is” process

5.1.1 Participant observation

Participant observation has been used in this research study as a tool for collecting data about people and process. One of the reasons for choosing participant observation is that many aspects in some situations are only visible to insiders, but at the time my research study started, I was already an “insider” of the target organisation being and continuing to be, as an employee. Getting another role in the target organisation as a researcher I was quickly able to get "inside" the observed viewpoints and information. That way I enjoyed the privilege accorded to participants for observing certain kinds of situations. Guest et al. have validly pointed out that most of the teams and organisations have things that outsiders are simply not allowed to do, or see and know, and therefore it is not possible to collect data if you are not inside as a participant (Guest et al. 2013, 80).

Initial field notes are written as researcher documentation of the participant observation. It can be developed from live observation and be quickly composed, in handwritten jottings of what the researcher’s senses take in, how bodies move in space, and occasional rich quotes of what participants say. Taking field notes on a laptop computer as research observations certainly makes the documentation and analytic processes easier and faster to complete. (Saldana et al. 2011, 50-53.)

The participation observation in this research study was held during the period starting from September 2016 and lasted until January 2017. I have observed the organisational setting and behaviour of the employees of the target organisation, their moods, motivations, issues and queries. I observed actively, while completing my own daily work and solving different problems which arise from the purchase order process. I took notes and asked questions that were designed to cover the meaning behind the actual behaviour. The following findings were made during the participant observation:

- The PO process is time consuming, slow and unclear;
- Local team does not get available PO related support, neither locally nor centrally. There is no one to whom people can raise questions or issues;
- No one received either training or written guidance about the PO process;
- Employees do not understand the PO processing and do not see the benefit from using it;
- Colleagues from the central purchasing department do not have clear process either. Similar situations might be dealt differently, it depends on the individual who handle the process;
- The central PO process is faulty - it does not control the costs properly as it should;
- RNs filled by a local team have poor quality, which causes problems for the purchasing department, with result that POs were issued with delay.

The appendix 1 includes a summary of the observations.

5.1.2 E-mail interview – “As-is” process

According to Edwards & Holland for the busy researcher and participant, the e-mail interview offers considerable flexibility about timing and interview. The researcher can run several interviews at the same time, and both researcher and participant have enough time to reply on the responses. (Edwards & Holland 2013, 49.) Gillham states that e-mail interview has two over-riding advantages, namely the speed and flexibility of the form. Gillham has further noted that in terms of the interviewer/interviewee relationship, e-mail makes it possible to post and receive enquiries and responses outside office hours and in a variety of locations (at work, at home, in hybrid home/work spaces like hotels, airports and Internet cafés). (Gillham 2005, 111.)

Researcher investigates which persons are most likely to be able provide with proper answers and responses to research inquiries. Based on that researcher selects appropriate for interviews persons. Researcher should take into consideration whose perspectives which best represent the diverse view of the social and cultural matters. (Saldana at el. 2011, 33.)

Taking into account that selected participants for interview are based on different locations far away one from another, the e-mail technic was chosen for the interviews for mapping “As-is” and “To-be” processes. Another advantage of using an e-mail interviews - it is cheaper compared to face-to-face interviews, because there are no associated travelling costs. Additionally, it is more convenient for the interviewer to have time to formulate the questions, and for the interviewee – to answer the questions at his/her own convenience without noise disturbance, due to independence of place and time. Also, it is less time consuming when notes are not needed and the answers easier to structure for further analysis.

At the beginning of the implementation I identified the group for e-mail interviews and selected the potential interviewees. The group is based on those employees from the target organisation who have an experiences on purchase order process and therefore are able to provide information about the process. From the total team of five employees who are involved in the local PO process, I selected the following group of four for interviews:

- 1 x local operational manager / Finnish branch
- 2 x service coordinators / Finnish branch
- 1 x accounting assistant / Finnish branch

I have interviewed an accounting assistant although she is not a member of the service team and she does not raise requisition notes. However the accounting assistant has been with the target organisation over two years and been involved in solving different type of problems related to purchase orders. In my opinion her experience and knowledge is helpful when collecting information about “As-is” process. I have not interviewed one from two local operational managers neither area service manager. The reason is – they are both joined the target organisation only at the beginning of year 2017. So, they do not know how the “As-is” PO process worked.

I have approached the interviewees by e-mail and received responses from three of them. After receiving and checking all responses I entered them into computer and coded, themed and analysed the material. Bill Gillham proposes to use "cascade" approach for theming the interviews: from representing the whole interview in full into an edited format; to identify themes within it; to carry out a stage structure analysis by identifying substantive statements and deleting "padding" and repetition. (Gillham 2005, 130.) The coding started from the identification of topics, issues, similarities, and differences that were revealed through participants' narratives (appendix 2).

The following questions were asked during e-mail interviews:

- Do you understand what the Purchase Order (PO) is and why the target organisation is using it?
- Do you see benefits or burdens from the PO process? Can you please explain your opinion?
- According to internal statistic there are very low numbers of POs raised in Finland. What causes small demand for POs in your opinion?
- Do you know how the PO process is working in your organisation?
- Do you have manual/instruction which explains how raise the PO?
- How you would describe PO process. Is PO process clear and easy?
- Are your tasks in regards to the PO creation process clear to you?
- Did you receive the PO process training?
- Do you have proper tool for raising PO request?
- Do you know whom you can raise issues related to the PO process if you have such?

The following approach has been followed during the coding process:

- All interviews' questions were linked to nine chosen categories of topics/issues;
- Each interviewee's answer was analysed and the key from the answer was allocated accordingly to the relevant category;
- All collected key answers were analysed per each category and accordingly one common opinion was presented.

In the table 4 you can see the outcome from e-mail interviews about "As-is" process.

Table 4. Outcome from e-mail interview about “As-is” process

Outcomes from e-mail interview
• Interviewees do not fully understand the purpose of why the group is using the PO process • According to statistics in Finland, before 2017 very few purchase orders were raised. The reason behind was that interviewees never have been informed about the need for POs, neither they have seen any benefits from using POs • Interviewees do not see the whole picture of the process and they do not know how the purchase order process is working in the target organisation. • Interviewees do not have clear guidance or manual how to raise purchase order. • The PO process does not look easy, it looks unclear, time consuming and is burdensome. • For some interviewees their role in the PO process is clear and for others it is not • Interviewees didn’t receive any PO related trainings • PO request i.e. requisition note is created in excel template which is unclear and confusing • Interviewees do not know with whom they can raise issues about purchase order if and when such arise. Even their manager do not know

5.1.3 Desk research – “As-is” process

Desk research provides information that costs almost nothing and surround us sitting under our noses on our desks. Before go for external sources for desk research, it is worth to emphasize how much useful data often sitting on the desks and on the shelves of the very entities that are looking for that data. (Hague et al. 2004, 32-33.)

Before and during the research study, I as researcher, have been reviewing the related literature in the research field and topic of inquiry. At other times, literature may offer something different from what the researcher has observed in participants. According to Saldana et al. most important is the opportunity for researcher’s work to build on and expand the findings of others, or to approach a previously studied phenomenon from a new perspective. (Saldana at el. 2011, 61.)

The desk research was conducted as the starting phase of the research study. It was mainly performed by sitting at a desk and collecting data from existing resources, hence it was quite quick and cheap research technique. I have searched for available internal documents related to purchase order process and found couple of them in the intranet. They are: Accounting Workshop e-Purchase, Requisition (e-BANF) (dated 20.4.2014);

Requisition Approval Authorities in USA group entity (dated 8.9.2017); Finance training for LOMs (dated 19.4.2016); Transmission of requisition to Global Procurement (dated 4.1.2016); Transmission of requisition to Central Purchasing (dated 24.10.2010); Procurement (dated 5.4.2016); Workflow implementation (dated 28.10.2014); Requisition Note (dated 7.5.2015). After analysing these documents I concluded that they are rather vague and complicated for the reader to read through and understand. Purchase order related internal instructions are made for the distribution to the all group organisations and for different functions. However, not all entities follow the same process and many things listed on the instructions are not relevant to the target organisation or do not apply to the local process of the target organisation. For example, in headquarters there is x-flow invoice approval process and e-banf tool is used for purchase order requests and it is described in the group instruction. Nevertheless, branches including my target organisation still have in place old workflow system for invoice approval and excel is used as a tool for purchase order requests. Therefore, for purchase order requestors with different levels of background, it is not easy to apply in practice valid group purchase order instruction.

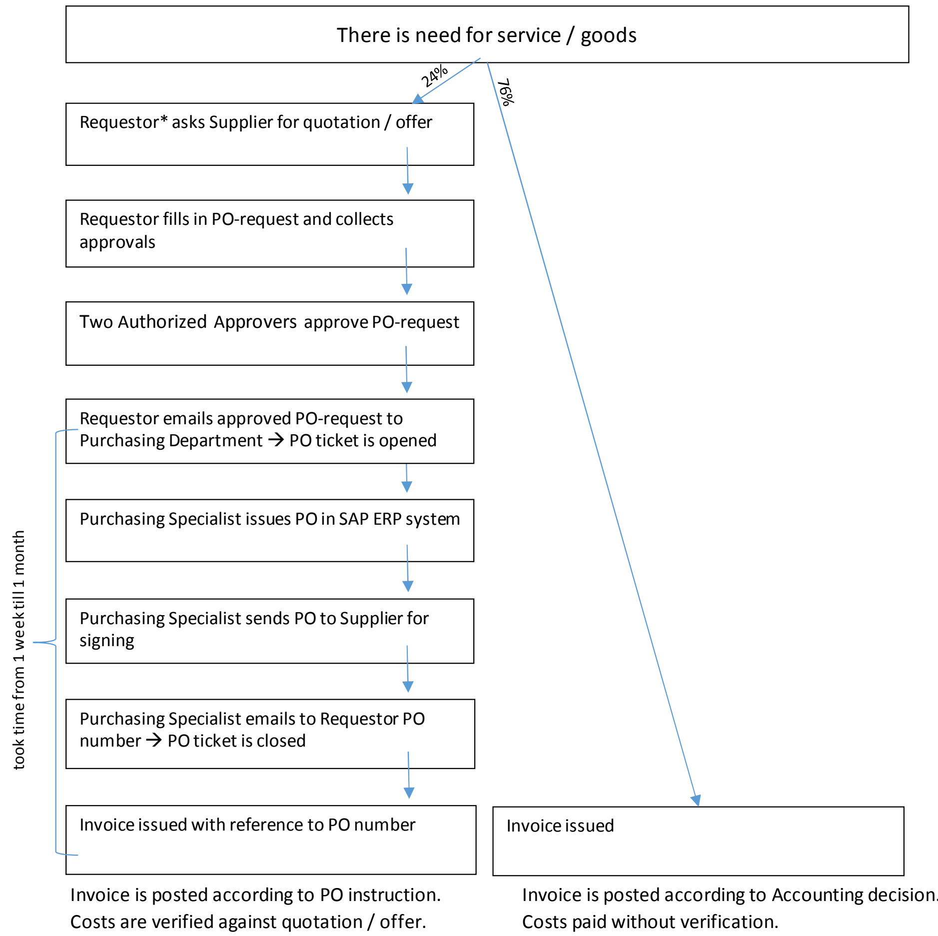
5.1.4 Summary of the “As-is” process

Summarizing the information collected and analysed through e-mail interviews, participant observation and desk research I came to the conclusion that existing “As-is” process in the target organisation, before my research study started was as shown in the table 5.

An e-mail interview about “As-is” process has highlighted following problems with the purchase order process:

- People do not understand what the PO is and why the group is using it
- People do not see the benefits from using the PO, just burden
- The PO process is unclear, consuming much time, not automated
- There is no instruction/guideline available for how to raise PO
- There is no proper tool for raising purchase order request. Template is in excel which is unclear and confusing
- Employees (current and new) never received training
- Employees do not have support regarding to whom they can raise issues related to PO

Table 5. Target organisations' existing "As-is" process



* Requestor in Service division usually is Coordinator or Local Operational Manager

The participant observation acknowledged the same problems that were discovered during an interview and in addition two other problems exist:

- The central PO process is faulty - it does not control the costs properly;
- RN filled by local team is poor quality. That caused problems to the purchasing department and in result POs were issued with delay.

The findings show that POs issued by the purchasing department have been delayed, sometimes from one week to 1 month to create it. The reason was the poor quality of a requisition notes in excel template. When RN is incorrect, either with mistakes or some information missing, it takes time for the purchasing department team to investigate. Therefore such requisition notes stayed on the desk in the purchasing department waiting for further check and clarification.

5.2 Creation of the "To-be" process model

In the "To-be" process model, the idea is to give proposals, arguments and creative ideas from the previous "As-is" process model. The aim is to design the new or improved process in order to understand if the flow is feasible or fluid. The PI team should find ways to eliminate the waste found in the "As-is" process in redesigning the process "To-be". (Bernardo 2012, 63, 68.)

5.2.1 E-mail interviews – "To-be" process

In similar way as in article 5.1.2. I have approached interviewees by asking questions and their feedback about desired process improvements in order to get various views and alternative ways of how to make the process more efficient and user-friendly.
I selected a group of four employees:

- 2x local operational managers / Finnish branch
- 2x service coordinators / Finnish branch

The selected interviewees are somewhat different from those participating in the "As-is" process interview due to employee rotation – some employees joined the target organisation during this research study and some others left. Those employees who had recently joined the company I didn't ask about the "As-is" process but only "To-be" process. Only three employees of four have provided me the responses.

Following questions I asked from the interviewees:

- What would you change in the existing current PO process?
- What would make the PO process easier for you?
- What kind of tools would you prefer to have for the PO process?
- Would you like to receive a PO training?
- What kind of support you wish to receive with regard to the PO process?
- Any other comments/remarks from you side regarding the PO process quality improvement?

Field research usually involves interviews and arrangement of questionnaires in the sample. The particular questionnaires and responses are usually not interested must or just a little. What is required is an accumulation of the whole sample and grouping within that sample. This larger picture can be obtained by further data analysis. (Hague et al. 2004, 13.) After receiving and checking all responses, I entered them into computer, and coded, themed and analysed them in a similar way like in the sub-chapter 5.1.2. (see appendix 3).

The following approach have been taken during the coding and theming process:

- All interview questions were linked to seven categories of topics/issues which were defined after reading the interview answers;
- The key of each interview answer was allocated accordingly to the relevant category;
- All collected key answers were analysed per each category and the required process improvements were presented.

The following proposals were received with regard to improving of the purchase order process:

- Automate the PO process. Implement electronic e-banf tool
- Arrange training
- Make the central PO process faster and more clear
- Nominate one person as responsible for the PO process in the target organisation and that person should create all RNs
- Move the central part of PO process from headquarters to region/country. That means making the PO process fully local, similar to what is common in Sweden
- Prepare written instructions
- Provide local support

5.2.2 Desk research – “To-be” process

In the same way, like in the sub-chapter 5.1.3, I searched in the intranet for available process procedures materials from other group entities. I have also been reading good process practises available in literature and internet.

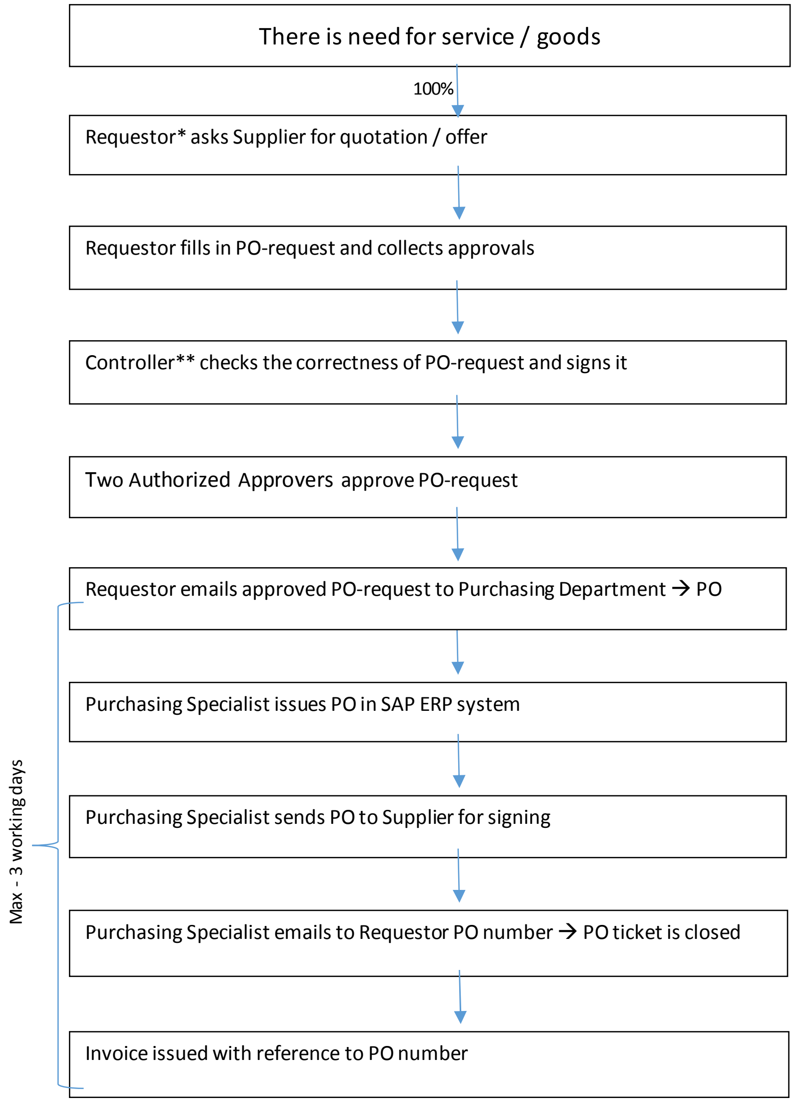
I have received the written procedure of the purchase order process from the Swedish group entity and found this material knowledgeable and useful. After reviewing it and comparing with the Finnish target organisation “As-is” process, I noticed their differences which arise from the different legal structure of the organisations. The Swedish organisation is a subsidiary, while the target organisation is a branch. In Sweden the POs are issued locally by the Swedish team, but the POs for the Finnish branch are issued centrally by colleagues from the headquarters. The lack of communication, feedback and transparency over the central group process makes the existing PO process in the target organisation unclear, time consuming and sometimes inefficient. Contrary to the target organisation, the Swedish organisation has more flexibility, as the internal communication is much easier when the process is handled locally, and face-to-face contacts with the direct feedback make the process clear, faster and more efficient. I have learned and adopted from the Swedish entity the way, how to handle invoices and the POs for those situations where the total invoiced amount exceeds the value of the PO. However, in Sweden this part of the process works fast and smoothly, but in the Finnish branch, being part of the central group process, it is time consuming and “bureaucratic”.

5.2.3 Summary of the “To-be” process

Summarizing the information collected and analysed through e-mail interviews and the desk research the following actions have been adopted in order to improve the PO process:

- New additional step in the local process → RN quality control: controller (my new role) checks the correctness of the PO-request and signs it confirming the correctness (see table 6);
- RN template in excel has been modified: inclusion of embedded dropdown menu and adoption of instructions with explanations (see 5.2.4);
- PO training: newly organized, with training materials providing guidance in the local process (see 5.2.5);
- Available local support: I became available as the support for local team in any PO related matters and issues (see 5.2.6);
- Supervision: managers expressed urgency over the PO process (see 5.2.7)

Table 6. Target organisations' preferred "To-be" process



Invoice is posted according to PO instruction.
Costs are verified against quotation / offer.

* Requestor in Service division usually is Coordinator or Local Operational Manager
** Controller is local Finance responsible (my role)

In order to improve the quality of RNs and eliminate the problem related to delay in the issuance of the POs, I implemented an additional step in the "To-be" process which is the check of the requisition note for correctness. I started to review, check and sign all RNs from the target before they sent to the purchasing department.

5.2.4 Template modification

As mentioned before, during this research study the findings defined in 5.1 show that the quality of the requisition notes, as filled by local team, was poor. Another step towards improving RN's quality, was to modify the RN's excel template. The template has been created by the purchasing department, and there are an instruction of how to fill and use it. However, the instructions seem rather complicated and they are not user-friendly, because the purpose of the template is to have usability in different types of businesses within the group. The template form itself is not allowed to undergo changes, it must retain its original look. In Sweden, for example, they have created their own requisition note template, which allows them to issue POs themselves locally. Therefore, for our target organisation, in order to eliminate mistakes and simplify the filling of the template, I modified the template form in such a way that the printout looks the same as the original, but I created a drop-down menu in template areas where possible, and highlighted with different colours the areas where a drop-down menu is available and where the requisitioner needs to type his/her text. In the template's side margin I added a guidance for what to fill in there. Additionally I created four sheets in the template destined for: PO exceptions, limits of authorities, new vendor form and explanation about general ledger accounts. From the drop-down menu the user can find following information: group entity name & code, general ledger accounts, cost elements and the vendor's number & name. New RN template was presented at the PO training occasion and it was included as part of the training materials. In the appendix 4 is seen the modified RN template.

5.2.5 Training

The "As-is" interview (sub-chapter 5.1.1) revealed that the employees of the target organisation had never received PO training and the process looks for them unclear. It also became apparent that they are not motivated to raise purchase orders, because they did not understand the purpose and the benefit of the purchase orders. Additionally people complained that the purchase order request (requisition note) template is unclear and confusing.

The first request for organising the training I received from the target organisation's service function team in September 2016. But at that time the process was unclear for me also. Revising the documents I referred to in the sub-chapters 5.1.3 & 5.2.2 and collecting information during the participant observation and the interviews, I collected the basic data for training materials.

I organized a meeting with the purchasing department in headquarters for the Finnish team in July 2017 where I took part personally as well. During those two days meeting, I learned more about the PO process, and process improvements as well as further co-operation were also discussed then. I have to admit that the PO process for branches as such, do not exist in the group, which means that in some situations there is no straightforward approach, and things might be managed in different ways. I designed an ownership, and interpreted the process for branches in consistent, logical and simplest way. I have tested my approach in cooperation with service colleagues and from headquarters and after that I have described it on the training materials as the required process.

Training materials (see appendix 5) were presented in the power point format and the structure of the training presentation was as follows:

- Current picture
- Purpose and benefits of using PO
- Process of issuing PO
- Exceptions from PO
- Request for PO → Requisition Note
    - How to fill RN for general purchases
    - RN for subcontractors
    - Request for Framework PO
    - How to increase the value of PO
    - Things can always be changed in PO
    - Things cannot be changed at all since PO created
    - Things cannot be changed after reception of the goods, after the invoice is posted on PO
- How to buy assets
- How to review PO from SAP (different transactions)

Employees had possibility to evaluate the training in the final survey.

5.2.6 Support

Since I was rather active in the target organisation around purchase order related matters, the Finnish branch employees started to contact me when they needed help or support. At the end of each organised training session I mentioned that I am available for any PO related support to local team. Hence people know they are really contacting me regularly.

5.2.7 Supervision

In the spring 2017, a Nordic senior management initiated on a monthly basis, the quality call in Nordic area between with the local managers. The target of the quality call was to increase the number of invoices from subcontractors posted to purchase order. During the call local managers needed to provide explanations regarding cases where invoices were posted to SAP ERP system without the corresponding purchase order. Nordic management clearly wanted to communicate that none of the invoices from subcontractors is allowed to be posted without the purchase order number. As basis for the quality call was an excel file - the list of posted subcontractors invoices with posting information including purchase order information. The data was extracted from SAP ERP system, and a controller from the headquarters distributed it monthly across Nordic area. During the call all subcontractor invoices were reviewed and further actions agreed. For example, actions like arrange a reposting for a wrong posting, or initiating purchase orders for certain subcontractors.

Referring to the Kotter’s change management theory (1996), monthly quality call initiated by senior management, created for the target organisation a sense of urgency around the need for change. Supervision helped to improve the purchase order process without doubt.

5.3 Control of and ongoing improvement of the purchase order process

According to the Kotter’s change management theory (1996) the very last eighth step is a critical one - to anchor the changes. The failure to implement lasting change frequently occurs because senior leaders underestimate the difficulty of changing an organisation's culture. The target organisation must to continue keeping the purchase order process under proper control, and review KPIs of purchase orders on the regular basis.

Local part of purchase order process is continuously undergoing improvements. Adopting proper principles, we are now trying in Finland to eliminate existing problems and to implement constructive improvements.

Together with the area service manager we are monthly going through subcontractors' invoices, and in case of non-existence of purchase order numbers, I am addressing e-mails to the concerned employee in charge, highlighting the problem and asking for necessary action in order to avoid similar problem happening again in future.

5.4 Change management

The eight-step model of leading change, by John P. Kotter, proposes the implementation of the change in the PO process as follows:

- 1. Establishing a Sense of Urgency

100% of senior management of the target organisation have accepted to implement the required change by accepting the target of increasing the use of POs to full 100 %, and establishing follow-up calls.

- 2. Creating the Guiding Coalition

With the support of the senior management, I adopted the task to convince the personnel that change is necessary. I was to provide the training, to explain the purpose of the PO process and to give support. Additionally, senior management insisted that the PO topic is a priority for the organisation.

- 3. Developing Vision and Strategy

The vision was set up already by the step 1, when the management team accepted the PO usage to attain the target of 100 %. Additionally, during training sessions I have explained the advantages that the target organisation received from using the PO process. And indeed, examples of real life proved the benefits gained from using POs.

- 4. Communicating the Change in Vision

This step was not applied in full, since change in vision was communicated monthly through the follow up calls, and otherwise occasionally, when a topic came up and was relevant.

- 5. Empowering Broad-based Action

Unfortunately senior management was unable to offer an electronic solution for the requisition note tool. However, increase in transparency and clarity of the process either mitigated the action or removed some of the obstacles that did not support changes.

- 6. Generating Short-term Wins

Distribution of the KPIs across the service team, and highlighting the improvements was a short-term win situation for the initiatives. Also recommendations by the senior management encouraged the local team to persist and continue the implementation of the change.

- 7. Consolidating Gains and Producing More Change

The PO process is still not fully clear for the target organisation. As soon as new situations arise, the process is updated as necessary and communicated to the team. The changes in the process are ongoing, and the target organisation tries to automate as much as possible.

- 8. Anchoring New Approaches in the Culture

Regular follow up, supervision and meetings will help to anchor the changes

6 Evaluation of the research study and the proposals for further actions

6.1 Final survey

The success of the research study was evaluated based on the survey result and the calculated KPI. The research study was based on the purchase order process quality improvement for service function, and the final survey was made among the four team members of the service function. The purpose of the survey was to find out the experiences and feelings of the service function team about the changes made during year 2017. The target of the research study was to stimulate people to use the purchase order process and improve its quality, making the process more clear and user-friendly. By using purchase orders the target organisation improves the quality of its financial data and cost control. It has even the capability to cut costs, especially as regards the subcontractors. The survey questions can be seen in the appendix 6.

The survey was made based on the statements, out of which the respondents were asked to choose their view, using a scale from 1 to 5, namely: 5 - I completely agree, 4

- I partially agree, 3 - I do not agree nor disagree, 2 - I partially disagree, 1 - I have completely different opinion. In relation to all questions, the respondents had the possibility to provide open, personal answers, which were then analysed on general level. Half of the respondents provided open answers.

The research study was evaluated in accordance with predefined measures as mentioned in the sub-chapter 2.5, table 2. Statistics on received answers to the final survey questions can be seen in the appendix 7.

6.2 Answers to the research questions and measurements

6.2.1 How to stimulate people to use the PO process?

People can be encouraged to use the process, when they understand the purpose of the process. Otherwise they might think that it is just a waste of their time, and just a bureaucratic burden. Apart from merely understanding the process, it must be clear and user-friendly. Everyone who uses the process, should have access to the proper tool, possess sufficient knowledge, and have available support when needed. Another important stimulation for using the process, is the control and the urgency as expressed by senior management.

The survey questions from 1 to 5 referred to the research question “How to stimulate people to use the PO process?” with an average response rate of 4,25. In the figure 8, there is a breakdown of the responses. The target was to get people start actively using purchase orders in their daily work. Before the process improvement, it took from one week to one month to create a purchase order. However, after process had been improved, it took only 1-3 days to create a purchase order. When a requisition note is filled correctly – the purchasing department can release its purchase order faster, without delays.

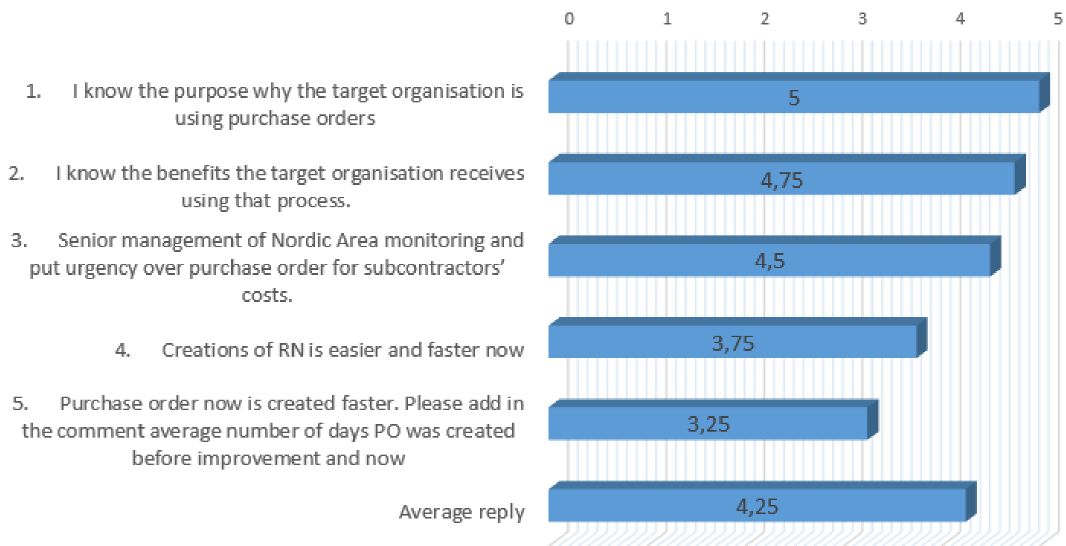


Figure 8. Questions from the final survey related to the research study question “How to stimulate people to use the PO process?”

From the survey result it can be seen that people are still not happy with the modified requisition note template. It is better than the previous one, but it is not the perfect solution. E-mail interviews highlighted, that the local team is expecting electronic RN solution. To work with the template in excel is old fashion.

6.2.2 How to make the PO process smooth and clear?

The process is smooth and clear when its users are satisfied with it and there is a good performance result of the process for the target organisation. By qualifying users as satisfied, I mean that they are able to proceed with their tasks fast, accurately and with ease. People should have beforehand everything that they need for the process – proper tools, training and the possibility to get answers, if and when they encounter any difficult situations.

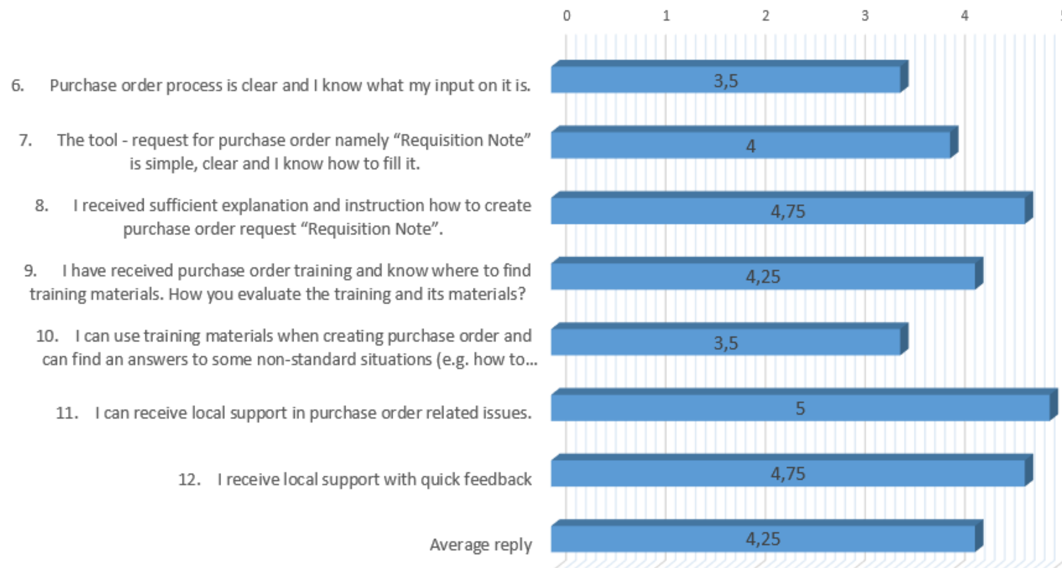


Figure 9. Questions from the final survey related to the research study question "How to make the PO process smooth and clear?"

The survey questions from number 6 to 12 referred to the research question of "How to make the PO process smooth and clear?" with an average response rate of 4,25. In figure 9, there is a breakdown in the responses. The target was to improve the quality of the purchase order process and make it as easy and user-friendly as possible.

From the survey result can be seen that people are still struggling with filling the requisition notes in the excel template. Even though they have received clear guidance and training, this clearly is an inefficient way of working. Especially collection of signatures is a time consuming task.

6.2.3 How to evaluate whether the PO process works properly?

The actual KPI achievement was used in the evaluation and measurement of the research question "How to evaluate whether the PO process works properly?" If the evaluation is positive, the PO process works properly. The desired result was to achieve that all invoices from subcontractors have the required purchase order number as reference. A comparison of the results between situations before and after the improvement, proves whether there has been progress in the improved PO process. The calculation of the percentage (KPI) of the number of invoices received from subcontractors, either with or without the purchase order number, has been done at the beginning of the research study and after its implementation. The report mentioned in section 5.2.7 above, was used as a basis for the calculation.

Table 7. Result presentation: KPI measurements

	Year 2016		Year 2017	
	Number of invoices with PO	Number of invoices missing PO	Number of invoices with PO	Number of invoices missing PO
Full Year	39	124	457	76
	23,9%	76,1%	85,7%	14,3%
JANUARY	1	8	4	27
	11,1%	88,9%	12,9%	87,1%
FEBRUARY	-	6	13	24
	-	100,0%	35,1%	64,9%
MARCH	-	7	20	5
	-	100,0%	80,0%	20,0%
APRIL	2	7	21	4
	22,2%	77,8%	84,0%	16,0%
MAY	-	12	92	3
	-	100,0%	96,8%	3,2%
JUNE	6	7	25	3
	46,2%	53,8%	89,3%	10,7%
JULY	3	6	20	4
	33,3%	66,7%	83,3%	16,7%
AUGUST	2	12	53	1
	14,3%	85,7%	98,1%	1,9%
SEPTEMBER	2	14	51	-
	12,5%	87,5%	100,0%	-
OCTOBER	1	10	49	-
	9,1%	90,9%	100,0%	-
NOVEMBER	3	19	42	-
	13,6%	86,4%	100,0%	-
DECEMBER	19	16	67	5
	54,3%	45,7%	93,1%	6,9%

Taking into account that the quantity of the received invoices was tripled in 2017 in comparison with 2016, an improvement in the PO process contributed to the target organisation's data accuracy and better cost control. From table 7 can be seen that the target organisation has improved significantly in 2017, from an average of 24% of subcontractors' invoices in 2016, to 86% in 2017. In the last quarter of 2017 the KPI was close to 100%, which is an excellent result.

6.3 Anticipated risks, validity and reliability

The nature of qualitative research methods do not suit for calculations of statistics of validity. Therefore the same research results should be obtained through differing methods which are better fit to human subject matters. During research the researcher should deal with vast of factors that cause risks to the validity and reliability of their findings. The plan and implementation tactics of research study must to include actions to avoid or eliminate validity and reliability risks. (Brink 1993, 35.)

In order to increase validity of the research study I have applied the following tactics:

- I made sure that interviewees were clear about the nature and purpose of the research study
- I built a trustful relationship with the observation participants and interviewees, and I was present in the target organisation during full period of the research study
- I interviewed some of the same interviewees on several occasions and made observations over the time more than once
- I compared the results obtained with various evidences
- I used my judgement, based upon the best available evidence, to choose subjects who knowledgeable enough
- I kept accurate and detailed field notes
- I did the coding and theming accurately and electronically

According to Creswell the researcher can develops a deep understanding of the phenomenon under the research study by spending prolonged time in the field. Researcher is able then to convey detail about the people and site that provide credibility to the narrative account. As more experience the researcher has with participants in their settings, the more accurate and valid will be the findings. (Creswell 2014, 202.)

The objective of the research study was to improve the local part of the purchase order process in order to make it smooth and clear, and receive 100% of invoices from subcontractors with the purchase order number as reference. It required a change to the current situation, thereby securing that the target organisation is actively using purchase orders. Part of the information about the current process was collected through participant observation. Being an employee of the target organisation it was easier and faster for me to become a member of the setting in which the participant observation data was collected. Another part of the information about the current vs. desired processes was collected from the target organisation's intranet. Hence the information was obtained from the intranet, it can be acquired from there again, whenever want and it remains there roughly the same. E-mail interviews and participant observation were analysed reliably and carefully. The research study succeeded in answering the research questions and in measuring the right things. From my point of view the research can be considered valid.

I have to admit here, that if the target organisation – with its service team - would be larger, a greater number of interviewers should have been selected and the result of the research study could probably have deviated from the result actually obtained.

Also face-to-face interview, instead of e-mail interview, probably would provide deeper information and it might differ from the now obtained result. However, in case of the present research study it would have been too costly, due to different locations, and also too time consuming to have face-to-face interviews.

6.4 Theoretical frameworks, research methods' applicability and usefulness

The theoretical framework was applied in practice and it provided good support for solving the research problems and answering the research questions. The theoretical framework of the research study was divided into four subsectors: process improvement, lean method, change management and training. The basis of the TAD process improvement methodology by Nadja and Talib Damij, was applied together with lean principles, while mapping the current process and creating the new one. It should be noted that the process was not created as new from the scratch, but the old process was reviewed and reworked in clearer and simpler way. The participant observation, together with "As-is" e-mail interview, showed that the PO process and its purpose is unclear for the users, and there is lack of support, no user-friendly tool and vague guidance. These findings were the background for the training initiative. The training program was designed by using the Silberman and Biech's eight steps in designing the training program. Kotter's change management theory was applied in the implementation of change in the research study.

The research study was conducted as action research where researcher and participants successfully cooperated together. An action research fits well to the subject of the research study and helps well to find answers to the research questions.

6.5 Benefit for the target organisation

The target organisation benefited from the successful implementation of the purchase order process in different ways. The quality of financial data has improved and is now more accurate than before, as bigger volume of costs are now allocated consistently to the correct accounts and cost elements. Also the costs from subcontractors are under stricter control since prices and conditions are agreed before ordering the service, and as a result the target organisation is able to produce savings. Once the organisation is actively using purchase orders, the target organisation is prepared to initiate a decrease in the number of suppliers, by selecting the preferred ones. When volumes per preferred supplier will increase, it gives grounds for negotiating better price/volume discount, delivery and payment terms and other conditions with a preferred supplier. The change has resulted also in the sense that handling of subcontractor invoices requires less time of the managers, when just one approver is required instead of two. Accordingly, invoice approval process in the target organisation is faster and the number of subcontractor invoices paid within the payment term has increased. This, in turn, has decreased time spent on the handling of payment reminders, as well as reduced related debt collection costs and overdue interests.

6.6 Conclusions of the research and proposal for further actions

Referring to the results of the research study shown in the sub-chapter 6.2, I am satisfied with the overall result. The objective of the research study has been reached and research questions have been answered to. The research study topic was useful and important for the target organisation and the target organisation benefited from the successful implementation of the improved purchase order process.

I have proposed the following further actions with regards to the PO process continuing improvements:

- It is essential to move PO-request process from excel template to an automated solution. The mother company of the target organisation has already used two years a RN tool called e-banf. It would save the resources of the target organisation and reduce time spent in raising of purchase orders. Also, the target organisation would get better transparency over the PO process by being able to trace the status of PO in progress

- Move the part of the purchase order process which is handled in headquarters to the local. The research study discovered that there is lack of communication between purchasing department and the local team. The team in the purchasing department does not have enough resources and is not capable to increase the number of purchase orders according to the target organisation's needs.

- The target organisation needs to continue sustaining the urgency over the purchase order process. Managers and employees need to continue monitoring the purchase order KPI. I propose to set purchase orders KPI as an individual or a team target to keep them in focus. Otherwise people might quickly switch to the old way of doing business.

- I propose to expand the purchase order process and make it applicable also for other costs than those of subcontractors. The target organisation would very likely benefit from a better control over the purchases, and as a result could even decrease the purchase costs. It is easy and fast to handle incoming invoices which include, as reference, the PO number. Such invoices are posted to the SAP ERP system automatically according to the PO instructions. All invoices with reference to one PO number are posted in the same consistent manner. There is no risk that the accountant would make a mistake by choosing a wrong general ledger account, cost center or project code or service order number, as all invoices are posted to the same responsible person's workflow for approval.

References

Bengat, Joseph & Odenyo, Mary & Rotich, Jacob 2015. Organisational change and resistance dilemmas's resolution approaches and mechanisms. International Journal of Economics (February 2015), Commerce and Management, Vol. III (Issue 2), 1-17.

Bernardo, Nicoletti 2012. Lean and Digitize: An Integrated Approach to Process Improvement. Routledge, London, New York.

Blanchard, Nick P & Thacker, James W 2010. Effective training: systems, strategies, and practices. Pearson, Boston.

Brady, A J & Monk, F E, & Wagner, J B 2001 in Damij, Nadja & Damij, Talib 2013. Process Management. Springer Heidelberg, New York, Dordrecht, London.

Brink, Hill I L 1993. Validity and reliability in qualitative research. Curationis; Vol 16, No 2 (1993), 35-38.

Bryman, Alan & Bell, Emma 2007. Business research methods. Oxford University Press Inc., New York.

Buckley, Roger & Caple, Jim 2007. The theory & practice of training. Kogan page, London and Philadelphia

Creswell, John W 2014. Research design: Qualitative, quantitative, and mixed method approaches. Sage Publications, Thousand Oaks.

Damij, Nadja & Damij, Talib 2013. Process Management. Springer Heidelberg, New York, Dordrecht, London.

DeWalt, Kathleen M & DeWalt, Billie R 2002 in the article by Kawulich, Barbara B. 2005. Participant Observation as a Data Collection Method. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, Volume 6, No. 2 (May 2005).

Edwards, Rosalind & Holland, Janet 2013. What is Qualitative Interviewing? Bloomsbury, London.

Ferrance, Eileen 2000. Themes in Education: Action Research. LAB: Northeast and Islands Regional Educational. Updated: May 2008. https://www.brown.edu/academics/education-alliance/sites/brown.edu.academics.education-alliance/files/publications/act_research.pdf. Read on January 3, 2017.

Gilbert, T 1996. Human Competence: Engineering Worthy Performance. Tribute Edition, Washington.

Gillham, Bill 2005. Research Interviewing: The Range of Techniques. Two Penn Plaza, New York.

Guest, Greg & Namey, Emily E & Mitchell, Marilyn L 2013. Collecting Qualitative Data: A Field Manual for Applied Research. Sage publications, Los Angeles.

Hague, Paul N & Hague, Nicholas & Morgan, Carol-Ann 2004. Market Research in Practice. Kogan Page, London.

Handshaw, Dick 2014. Training That Delivers Results: Instructional Design That Aligns with Business Goals. ASTD AMACOM, New York.

Kawulich, Barbara B. 2005. Participant Observation as a Data Collection Method. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, Volume 6, No. 2 (May 2005).

Kananen, Jorma 2014. Toimintatutkimus kehittämistutkimuksen muotona. Miten kirjoitan toimintatutkimuksen opinnäytetyönä? Juväskylän ammattikorkeakoulu, Juväskylä.

King, James B & King, Francis G 2014. Process Improvement Simplified. ASQ Quality Press, Milwaukee, Wisconsin.

Kotter, John P 1996. Leading change. Harvard Business School, Boston.

Leung, Lawrence 2015. Validity, reliability, and generalizability in qualitative research. J Family Med Prim Care. 2015 Jul-Sep; 4(3): p. 324–327.

Lewis, Jamie 2006 in Edwards, Rosalind & Holland, Janet 2013. What is Qualitative Interviewing? Bloomsbury, London.

Mann, David 2010. Creating a lean culture: tools to sustain lean conversions. CRC Press, Boca Raton, London, New York.

Mann, Steve 2016. The Research Interview. Palgrave Macmillan, Hampshire.

Merriam, Sharan B 1998 in the article by Kawulich, Barbara B. 2005. Participant Observation as a Data Collection Method. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, Volume 6, No. 2 (May 2005).

Mitchell, Alex 2017. Purchase Orders: What They Are, Why Use Them, and What To Do With Them. Updated 27.6.2017. https://medium.com/@rubberstampio/purchase-orders-what-they-are-why-use-them-and-what-to-do-with-them-new-data-7c1cf7ce3dce Read on January 3, 2018.

Oakland, John S 2014. Total Quality Management and Operational Excellence. Routledge, London.

Pastinen, Markus 2010. High-Performance Process Improvement. Springer Heidelberg Dordrecht, London, New York.

Pande, Peter S & Neuman, Robert P & Cavanaugh, Roland R 2014. The Six Sigma Way: How to Maximize the Impact of Your Change and Improvement Efforts. McGraw-Hill Education, New York.

Pollock, Roy V H & Jefferson, Andy & Wick, Calhoun W 2015. The Six Disciplines of Breakthrough Learning: How to Turn Training and Development into Business Results. Willey, Canada.

Robson, M & Ullah, P 1996 in Damij, Nadja & Damij, Talib 2013. Process Management. Springer Heidelberg, New York, Dordrecht, London.

Saldana, Johnny & Leavy, Patricia & Beretvas, Natasha 2011. Fundamentals of Qualitative Research. Oxford University Press, New York.

Silberman, Melvin L. & Biech, Elaine 2015. Active Training: A Handbook of Techniques, Designs, Case Examples, and Tips. John Wiley & Sons Incorporated, New Jersey.

Wallwork, Andrian 2014. Presentations, Demos, and Training Sessions. Springer, New York.

Willis, Jerry W 2007. Foundation of qualitative research. Interpretive and critical approaches. Sage Publications, London.

Wolcott, Harry F 2009 in Saldana et al. 2011. Fundamentals of Qualitative Research. Oxford University Press, New York.

Observation summary

Mapping and coding of e-mail interview – "As-is" process

Mapping and coding of e-mail interview – “To-be” process

Modified requisition note template

Purchase Order training presentation

Service Finland Team's final survey

The purpose of this survey is to find out about the experiences of the Service Finland team in regards to the changes in purchase order process quality improvement during year 2017 and up to date. Purchase order process will continue improvements in local level in order the process work more smoothly and faster. Nordic Area management will continue to put pressure to headquarters in order to implement in Nordic Area e-banf electronical purchase order request system. It should then replace the requisition note excel template and the status of purchase order creation will be possible to trace online. Comment on each statement and use a scale from 1 to 5 as follows: 5 = I completely agree, 4 = I partially agree, 3 = I do not agree nor disagree, 2 = I partially disagree, 1 = strongly disagree. If you want, you can put your reason for choosing.
The survey presents statements on different employees from Service Finland who has tasks related to purchase order process. There are also open questions that you can answer by giving more details about your own views.

1. I know the purpose why my organisation is using purchase orders.

5	4	3	2	1

Comment: ………………………………………………………………………………

2. I know the benefits my organisation receives using that process.

5	4	3	2	1

Comment: ………………………………………………………………………………

3. Senior management of Nordic Area monitoring and put urgency over purchase order for subcontractors' costs.

5	4	3	2	1

Comment: ………………………………………………………………………………

4. Creations of RN is easier and faster now.

5	4	3	2	1

Comment: ……………………………………………………………………….

5. Purchase order now is created faster. Please add in the comment average number of days PO was created before improvement and now.

5	4	3	2	1

Comment: ………………………………………………………………………………

6. Purchase order process is clear and I know what my input on it is.

5	4	3	2	1

Comment: ………………………………………………………………………………

7. The tool - request for purchase order namely "Requisition Note" is simple, clear and I know how to fill it.

5	4	3	2	1

Comment: ………………………………………………………………………………

8. I received sufficient explanation and instruction how to create purchase order request "Requisition Note".

5	4	3	2	1

Comment: ………………………………………………………………………………

9. I have received purchase order training and know where to find training materials. How you evaluate the training and its materials?

5	4	3	2	1

Comment: ………………………………………………………………………………

10. I can use training materials when creating purchase order and can find an answers to some non-standard situations (e.g. how to increase the value of PO, create framework PO etc.).

5	4	3	2	1

Comment: ………………………………………………………………………………

11. I can receive local support in purchase order related issues.

5	4	3	2	1

Comment: ………………………………………………………………………………

12. I receive local support with quick feedback.

5	4	3	2	1

Comment: ………………………………………………………………………………

Thank you for the answers, your feedback will be used with confidence.

The frequency of replied answers to the final survey questions

Assessment -->	5	4	3	2	1	Average	
1. I know the purpose why the target organisation is using purchase orders	4					5,00	How to stimulate people to use PO process?
2. I know the benefits the target organisation receives using that process.	3	1				4,75	
3. Senior management of Nordic Area monitoring and put urgency over purchase order for subcontractors' costs.	2	2				4,50	
4. Creations of RN is easier and faster now		3	1			3,75	
5. Purchase order now is created faster. Please add in the comment average number of days PO was created before improvement and now		2	1	1		3,25	
Average reply						4,25	
6. Purchase order process is clear and I know what my input on it is.	1		3			3,50	How to make PO process smooth and clear?
7. The tool - request for purchase order namely "Requisition Note" is simple, clear and I know how to fill it.		4				4,00	
8. I received sufficient explanation and instruction how to create purchase order request "Requisition Note".	3	1				4,75	
9. I have received purchase order training and know where to find training materials. How you evaluate the training and its materials?	2	1	1			4,25	
10. I can use training materials when creating purchase order and can find an answers to some non-standard situations (e.g. how to increase the value of PO, create framework PO etc.).	1		3			3,50	
11. I can receive local support in purchase order related issues.	4					5,00	
12. I receive local support with quick feedback	3	1				4,75	
Average reply						4,25	

Assessment:
5 - I completely agree, 4 - I partially agree, 3 - I do not agree nor disagree, 2 - I partially disagree, 1 - I completely different opinion