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A Framework for Increasing the Flow Efficiency in a Public Organisation through Operations Management Principles

A Case Study at the Swedish Migration Board

Master's thesis in the Master Degree Program Quality and Operations Management

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Abstract

The public sector has a tradition of bureaucracy, political influence and conflicting stakeholder interests, which historically has resulted in that the public sector has fallen behind the industry regarding operational improvement work. The demand for more efficient processes in the public sector has increased and attempts have therefore been made to adapt successful concepts from the industry such as Operations Management principles. There are several examples where Operations Management principles within the private sector have been successful. However, the theory of applying Operations Management in the public sector is insufficient and requires further research. Therefore, the purpose of this study is to contribute with knowledge on how to increase flow efficiency in a public organisation by adopting Operations Management principles. This was done through an analysis of the asylum process at the Swedish Migration Board, hereafter referred to as the board, where the process was examined and evaluated and proposals for increased flow efficiency was developed.

The board is a governmental organisation whose main field of responsibility is to consider applications from people who want to visit, live in, or seek asylum in Sweden and the focus of this study is the asylum process. With current conflicts around the world there is an increased demand for protection and the inflow of asylum seekers to Sweden have increased with approximately 50 % between 2013 and 2014. The board is therefore facing a challenge to meet the increased demand with acceptable waiting times, wherefore it has been requested to evaluate if the way of working is sufficient for the organisation.

Based on the current theory, a conceptual framework was created in order to adapt Operations Management principles in public organisations. Based on the framework, an analysis of the current flow efficiency in the asylum process was conducted, and it was identified that the board has issues with high inventory levels in the system and thereby long waiting times in the asylum process. Moreover, there is a significant variation in the asylum process due to both internal and external factors that increases the total throughput time. The organisational design of the board is functional with a top-down decision making and control. The employees are organised in “silos” with deficiencies in both horizontal and vertical communication, which leads to limited insight in the work of others. Moreover, there is a lacking capacity of human resources that further increases the throughput times. The daily work is controlled by insufficient productivity goals that lead to sub-optimised processes and less ability for the employees to stop the process if defects are detected.

In order to increase the flow efficiency a number of improvement proposals have been identified. First of all, it is urgent to reduce the inventory levels in the system in order to reduce false demands and increase the value adding time in the process. In order to do so, the performance goals must be changed, and the method should be controlled rather than the productivity. Furthermore, the variations in the system must be reduced, wherefore different flows with similar characteristics should be separated. Finally, the communication within the organisation as well as between the organisation and external operators must be enhanced. With these proposals, the flow efficiency can be increased in the public organisation through Operations Management principles.

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Carina Iversen & Louise Sandén

Glossary

ABO	Accommodations provided by the board to asylum seekers during the asylum process.
ABE	Permanent apartments, a type of ABO accommodation, that is offered during the asylum process.
ABI	Arrival accommodation, a type of ABO accommodation, that is offered during the application process.
ABT	Temporary rooms such as camping facilities or hostels, a type of ABO accommodation, that is offered during the asylum process.
Asylum	Protection due to for instance persecution, inhumane treatment or armed conflicts in the country of origin.
Asylum examination	The process where the reasons for asylum is investigated.
Asylum seeker	The person who applies for asylum.
AT-UND	A certificate of exemption from the obligation to hold a work permit.
BUV	Short for “barn utan vårdnadshavare”; unaccompanied minors under the age of 18 that do not have a parent, parents or custodial guardian.
Case officer	At the asylum examination unit, the case officer investigates the need for asylum in the asylum examination process. At the reception unit, the case officer handles for instance MUS meetings and payment of allowances.
Daily allowance	Financial support that is provided to all asylum seekers that do not have any money or other means during the asylum process.
The Dublin Regulation	The country in which asylum first was applied for is the country that should handle the application. Due to this regulation, an asylum seeker is not allowed to apply for asylum in more than one country covered by the Dublin Regulation.

EBO	Accommodation that the asylum seeker has found by own means.
Flow efficiency	The one-piece movement of input resources through an operation's processes with the highest possible value adding time and lowest possible waste.
KUB card	A bank card that the board offers to the asylum seeker to which the daily allowance is paid.
Lifos	The board's database for legal and country of origin information.
LMA	Short for "lagen om mottagande av asylsökande"; The Reception of Asylum Seekers and Others Act (SFS 1994:137). This implies for instance that the board is responsible to provide financial support and accommodation to the asylum seeker.
MUS	Short for "mottagningens utredningssamtal"; meetings with the asylum seeker at the receptions in which for instance family situation, previous work experience and ID documents are covered.
OH/OT	Short for "omedelbart hemland/omedelbart tredjeland"; immediate home country/third country; asylum seekers from countries that are classified as safe with an acceptable state protection.
Public counsel	The juristic representative that represents the asylum seeker in the asylum examination.
PUT	Short for "permanent uppehållstillstånd"; permanent residence permit.
REG2	The final registration meeting in the application process in which for instance reasons for asylum, health conditions and family situation of the asylum seeker are discussed.
Residence permit	Allowance to stay in Sweden for either a temporary or permanent period of time.
Skapa	The board's information system in which necessary information regarding an asylum seeker is registered.

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1. Introduction

This chapter presents the introduction to the study. First of all, the background and the problem description are discussed. Furthermore, the purpose and the research questions are presented, followed by the delimitations of the study. Finally, the outline of the report is explained.

1.1. Background

The public sector has a tradition of bureaucracy, political influence and conflicting stakeholder interests, which historically has resulted in that the public sector has fallen behind the industry regarding operational improvement work (Radnor & Noke 2013). The demand for more efficient processes in the public sector has increased and attempts have therefore been made to adapt successful concepts from the industry (Radnor & Noke 2013). However, there is no tradition of continuous improvements within the public sector and initiatives to become more performance oriented have in general been unsuccessful (Fryer et al. 2009). One example is New Public Management (NPM), a philosophy where managerial techniques from the private sector are applied to the public sector, which was introduced during the 1980s and 1990s (Heyer 2011). NPM has been criticised by for instance Butterfield et al. (2004) who claim that due to the vastly differences between the public and private sector, adoption of attitudes and theories from the private sector is inappropriate. Although, further attempts to apply concepts from the industry in the public sector has been made and today it is the lean production, originating from Toyota's manufacturing processes in Japan, that is increasingly spreading within public organisations.

Lean production is an example of a philosophy covered by the field of Operations Management (Slack & Lewis 2011). Slack et al. (2010) define Operations Management as "the activity of managing the resources which produce and deliver products and services". It consists of three principles; *design* of the processes and the organisation, *planning and control* of the daily work, and *improvements* of the operations (Slack et al. 2010). There are several examples where Operations Management principles within the private sector have been successful (Hines et al. 2008; Radnor & Walley 2008). However, the theory of applying Operations Management in the public sector is insufficient (Jacobsson 2010; Åhlström 2004; Pedersen & Huniche 2011), and requires further research (Radnor & Noke 2013).

In order to contribute with knowledge within the field of Operations Management in the public sector this study will be conducted at the Swedish Migration Board, hereafter referred to as the board, which is a governmental organisation whose main field of responsibility is to consider applications from people who want to visit, live in, or seek asylum in Sweden. The focus of this study is the asylum process, which is initiated when an asylum seeker hands in an application at the board. The asylum process results in a decision of either a residence permit and placement in a municipality, or a refused decision and repatriation to the country of origin. Despite from examining the need for asylum, the board also has the responsibility to offer accommodation and daily allowance during the asylum process to the asylum seekers in need.

In an attempt to increase the flow efficiency¹ in the asylum process the board initiated a project in 2008 with the aim to reduce lead times. A consultancy firm was hired to introduce lean principles, which reduced the throughput times in the asylum process from approximately 240 to 100 days. However, according to Brännmark (2012) organisations often find their own way of adopting the lean philosophy which results in using some selected parts of the methods and tools. This is also the case of the board that has remained resource focused, which is contradicting the lean philosophy that emphasises flow efficiency (Modig & Åhlström 2011). Moreover, there is a general misconception within the organisation of what flow efficiency actually is and the board has stated that in order to increase the flow efficiency, either the value adding or the non-value adding time has to be decreased. However, according to Womack and Jones (2003) a reduction of the value adding time rather decreases the flow efficiency, wherefore this should not be strived for.

Due to the current situation with for instance intense conflicts in several parts of the world the stream of immigrants is larger than ever, which has caused the waiting times in the asylum process to increase to approximately 240 days from registration to asylum examination once again. The forecast is that 83,000 people will come to Sweden to seek asylum during 2014 and between 80,000 and 105,000 in 2015, which can be compared to 24,200 year 2009 when the lean project was initiated. The board's emergency preparedness plan covers possible actions for levels up to 1,500 asylum applicants per week, but during 2014 this number has been as high as 2,400. The board is therefore facing a challenge to meet the increasing demand with acceptable waiting times, wherefore it has been requested to evaluate if the way of working is sufficient for the organisation.

There are several benefits to be gained by conducting a study at the board. First of all, examining, evaluating and developing proposals for improvements of the processes will be beneficial for the organisation itself as well as for the asylum seekers due to decreased costs and throughput times. Secondly, since the board is a governmental organisation it is financed by tax allowances, wherefore the society as a whole is interested in as cost efficient operations as possible. Finally, there is a need for additional knowledge of Operations Management principles in public organisations (Jacobsson 2010; Åhlström 2004; Pedersen & Huniche 2011; Radnor & Noke 2013), and the study will contribute to the research within this area.

1.2. Purpose

The purpose of this study is to contribute with knowledge on how to increase flow efficiency in a public organisation by adopting Operations Management principles. This will be done through an analysis of the asylum process at the Swedish Migration Board. The asylum process will be examined and evaluated in order to develop proposals for increased flow efficiency.

1.2.1. Research questions

Against this background, the report aims to examine and evaluate the asylum process at the Swedish Migration Board as well as develop proposals for an improved asylum process.

¹ Flow efficiency is defined as the one-piece movement of input resources through an operation's processes with the highest possible value adding time and lowest possible waste.

Moreover, the study aims to contribute to the research within the field of Operations Management in public sectors. This will be done by answering the following research questions:

- *How does the asylum process look like today at the Swedish Migration Board?*
- *What are the current hindrances related to flow efficiency in the asylum process at the Swedish Migration Board?*
- *How can Operations Management principles be applied in a public organisation in order to increase flow efficiency?*

1.3. Delimitations

Due to time constraints some delimitations have to be made in order to ensure a depth of the study. Therefore, the research will be delimited to only focus on the asylum process which is one of the board's main operations that constitutes approximately 96 % of the total budget. The remaining activities conducted by the board are for instance making decisions regarding work and study permits, residence permits for immigrants' family members that have not yet arrived to Sweden, and Swedish citizenships.

Furthermore, delimitations have been made within the asylum process due to different procedures in different cases. Approximately 20 % of all decisions include unaccompanied minors² and cases covered by the Dublin Regulation³, and there are employees within the board that have been allocated to only work with these specific cases. Since these processes are significantly different from the ordinary asylum process they will not be further described, although data and statistics in some cases include these two groups, in which case it will be clearly stated. Moreover, the study will only cover processes that the board can influence, and hence not include external operators that can affect the throughput time such as the municipalities, the police or the Migration Courts. These external processes and operators will only be described briefly in order to increase the understanding of the asylum process.

Finally, the study will not investigate the actual activities required in order to make a decision in the asylum examination, and the procedure of these activities. This is due to the assumption that all these activities are value adding and in order to increase the flow efficiency the focus should be on eliminating the non-value adding time. The approach is from an Operations Management perspective, and hence behavioural or social aspects have not been taken into consideration. These questions are instead of interest for researchers with for instance a juridical or social scientist background.

1.4. Outline

First of all, the *Method* chapter will explain the choice of research strategy and approach as well as the research process. Furthermore, the literature study, data collection methods and the

² Children under the age of 18 without a parent, parents or custodial guardian who have applied for asylum.

³ The country in which asylum first was applied for is the country that should handle the application. Due to this regulation, an asylum seeker is not allowed to apply for asylum in more than one country covered by the Dublin Regulation.

data analysis will be described. The trustworthiness of the study as well as ethical consideration will also be discussed.

Secondly, a chapter concerning the *Theoretical framework* will summarise the relevant theory that already exist within the field of Operations Management. Moreover, flow efficiency will be defined, the characteristics of public organisations will be explained, and a framework for Operations Management in public organisations will be presented.

The *Results and analysis* of the study will be presented in the fourth chapter, which initially describes the asylum seekers, the Swedish Migration Board and the asylum process. Thereafter, the current state of the asylum process and problems that inhibit flow efficiency with the perspective of Operations Management in public organisations will be analysed, and improvement proposals in order to increase the flow efficiency will be presented.

The final chapter consists of a *Concluding discussion*, where the research questions are answered and recommendations for future research are discussed.

2. Method

This chapter presents the research strategy and approach of the study followed by the research process. Furthermore, the methods used in the literature study as well as the data collection and data analysis are presented. Finally, the trustworthiness of the study, ethical considerations and the methodology being used in the study are discussed.

2.1. Research strategy and approach

The study aims to contribute to research and not to confirm already existing research, wherefore, according to Bryman and Bell (2011), a qualitative research should be applied. However, in order to verify the current state of the processes, quantitative methods were used as a complement to the qualitative research. Since it is a single organisation that is examined and evaluated on a detailed level, the research design was chosen to be case study, which according to Bryman and Bell (2011) is suitable for this type of research.

Since the literature study and the gathering of empirical findings were conducted iteratively, the research had an abductive approach (Dubois & Gadde 2002). First of all, a literature review was conducted in order to gain an understanding of Operations Management principles, after which empirical findings could be gathered, understood, and analysed. The process continued to be iteratively in order to understand the already existing theory as well as to contribute to the field of research.

2.2. Research process

The research process of this study is visualised in figure 1. The initial problem description and aim of the study stated by the case organisation was broad and vague. The first step was therefore to define the current expectations on the study within the organisation to enable a more narrow scope. However, due to diverging opinions regarding the focus of the study, the researchers decided together with the constituent that the researchers were given the opportunity to determine the scope of the study themselves. In parallel with the process of defining the scope of the study, the researchers gained an understanding of the asylum process through interviews with employees from the main divisions that are involved in the process. This was considered as necessary regardless of the final scope of the study. However, since there were indications that the general knowledge within the organisation regarding Operations Management principles was low, it was decided to adopt a broad perspective and focus on the entire process and particularly the flow efficiency. The understanding of the entire asylum process was therefore useful.

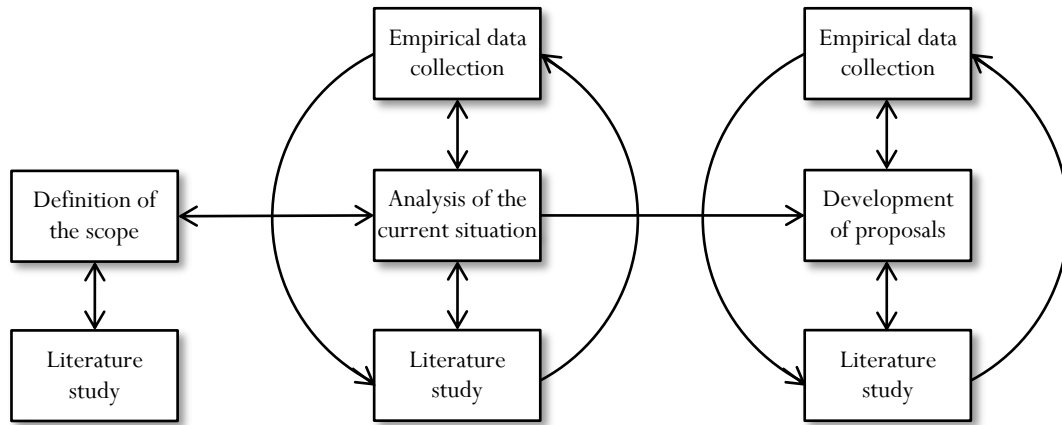


Figure 1. The research process of this study.

Thereafter, the research process consisted of two main phases, where both included literature study, data collection, analysis and verification of data. The first phase focused on the two first research questions, see chapter 1.2.1. *Research questions*, and therefore aimed to gain an understanding of the current process as well as identifying potential problems related to the flow efficiency. During the first phase the researchers mapped the current process and listed the identified problems. In the end of the phase the findings were verified through additional interviews with employees from the different divisions related to the asylum process. Thereafter, the researchers compiled the findings and started to create a desired future state according to the theory. The second phase focused on the third research question and therefore aimed to apply Operations Management principles and develop potential solutions to the identified problems, in order to achieve the desired future state. During the interviews in this phase different suggestions of solutions were discussed and analysed. The proposed solutions were thereafter verified through a workshop with the employees.

The literature study was conducted in an iterative process together with the empirical study and based on what issues arose during the collection of empirical data, the literature study focused more on these issues. However, since most of the theory related to flow efficiency and operational improvements originate from the manufacturing industry it was seen as important to clarify the differences between the context of public organisations compared to producing products in a private company. In order to conduct quantitative analyses of for instance the capacity of the system, quantitative data was requested. However, due to long lead times to receive the data and deficiencies in the raw data, it was considered as appropriate to focus more on the qualitative analysis, even though some quantitative data has been analysed.

The study started in August 2014 and lasted for 20 weeks. The main focus of the study have been concentrated to one of the five regions within the board, called Region West with head quarter in Gothenburg. Therefore, it cannot be stated that the result is accurate for the whole organisation, even though it can be argued that Region West is representative for the rest of the board since the process is controlled equally throughout the country. Furthermore, the employees within the region have daily contact with other regions and do not consider any major differences between the regions. Finally, the researchers have visited the head quarter

in Norrköping and the asylum examination in Malmö to gain insights in an ongoing pilot project.

2.3. Literature study

To enable a thorough analysis the researchers needed to gain an extensive understanding of the theory behind flow efficiency and Operations Management principles. The first step was therefore to conduct a rigorous literature review regarding these areas. Both historical aspects and more recent literature regarding its adaptation to the service industry and the public sector were covered. Data bases such as the Chalmers University online library and Google scholar were used. A systematic search including key words such as “flow efficiency”, “operations management”, “service operations management” and “public organisations” were applied. Since the study focus on the public sector, parts of the literature related to flow efficiency in the private sector were excluded, such as pricing and competitiveness. Furthermore, a literature review on research methodology was conducted in order to identify sufficient research methods for the project.

2.4. Data collection

To answer the research questions presented in chapter 1.2.1. *Research questions*, different methods had to be applied. Therefore, the empirical study consisted of various data collection methods of both qualitative and quantitative data. Qualitative data was collected from both primary and secondary sources while quantitative data was collected solely from secondary sources. Primary data is created for the purpose of the study while secondary data is created regardless of the study (Bryman & Bell 2011). Initially a qualitative approach was required in order to map the current state of the asylum process, and to identify problems related to the asylum process. The quantitative data collection was then based on the information gained through the qualitative data and used primarily to verify and quantify perceptions among the employees regarding the current state.

2.4.1. Qualitative data collection

The main data collection method used regarding qualitative data was semi-structured interviews. Other methods used to gain an understanding of the organisation and the processes in focus of the study, as well as developing potential improvements to the identified problems, included workshops and gathering of internal documents as well as reviewing the board's website. Altogether 40 employees have been interviewed in 45 hours, and the researchers have spent 185 hours on the research field.

2.4.1.1. Interviews

Semi-structured interviews were used as the main data collection method throughout the study. This method was chosen to be the most appropriate due to the research design and the complexity of the organisation in terms of several different divisions involved in the process at different stages. The researchers therefore encouraged the interviewees to speak freely and also wanted to have the opportunity to ask follow-up questions in order gain an extensive understanding of the processes. Semi-structured interviews were conducted with managers and randomly selected administrators from the different divisions that handles asylum

seekers. Since the opinions regarding the positive and negative aspects of the processes might differ within the organisation, it was considered as important to interview employees from different levels of the organisation. The interviewees were selected according to their position and division but were thereafter chosen randomly. Snowball sampling was also applied, meaning that the interviewees had contacts that could be of interest for the project (Bryman & Bell 2011).

Altogether 27 semi-structured interviews were performed with employees from the different divisions at the board, of which 18 were with employees working directly with the asylum process. One interview was also conducted with employees from another area within the board, where the purpose was to gain knowledge of other projects considering flow efficiency within the organisation. The interview focused on certain success factors that could be identified in the projects, as well as their main challenges and how they were handled. The interviews were mainly conducted with employees situated in Gothenburg but since the reception unit in Gothenburg does not handle the main part of the accommodation process, interviews were also held with personnel at three other reception units within the region; Vänersborg, Mariestad and Karlstad. At these visits the researchers also had the opportunity to visit an accommodation unit. Furthermore, six semi-structured interviews were conducted with employees from the supporting functions which are related to the asylum process, such as Planning and Control, Centre for Strategic Development and Centre for Operative Coordination.

2.4.1.2. Workshop

In order to verify the problem analysis and elaborate on potential improvement areas a workshop was conducted with participants from the asylum examination division. It was considered as important to focus on this division since it had been identified as the bottleneck in the process and therefore the identified issues related to the asylum examination division were considered as most urgent. During the workshop the identified problem areas were discussed, the reasons for why they exist and how to solve them. The workshop was also valuable in order to gain a comprehensive view of the current state and create a common vision of the future state.

2.4.1.3. Documentation

The empirical study also included collection of internal documents in order to gain an increased understanding of the pre-conditions and existing knowledge within the organisation. Since the board is a governmental organisation there is a culture of report writing and ongoing investigations. Internally written reports connected to the subject of this study have therefore been reviewed.

The board's website has also been thoroughly reviewed since it contains extensive information about the organisation and how the asylum examination and accommodation processes are designed. There are also current statistics available on the website which was useful in the project in order to gain a basic understanding of for instance the variations in the inflow of asylum seekers.

2.4.2. Quantitative data collection

Not all important information can be captured through interviewing as a single research method, and only implicit knowledge can be gained through interviews (Bryman & Bell 2011). Existing quantitative data has therefore been used to complement the interviews with necessary information in order to further understand the current state of the processes. The quantitative data collection included only secondary data and consisted of for instance the inflow of asylum seekers, number of cases at different stages in the process and the current capacity at the asylum examination. However, due to deficiencies in the data with contradicting information, in several areas it was not considered as possible to conduct a comprehensive and accurate analysis based on solely secondary quantitative data. Therefore, in some areas considered as important to include, such as the capacity at the asylum examination division, the researchers had to verify and modify the data by contacting the different units within the divisions directly to get access to the data needed.

2.5. Data analysis

The analysis of the qualitative data was conducted in an iterative process where the data collection and analysis were performed simultaneously, which is common when analysing qualitative data (Bryman & Bell 2011). There are several advantages with an iterative process, such as possibilities to discover deficiencies in the data collection (Miles and Huberman 1994). The quantitative data was analysed when it had been collected. Miles and Huberman (1994) suggest that the analysis of qualitative data should include three procedures; data reduction, data display and conclusion drawing/verification. During all interviews, the information was documented both during the interview as well as afterwards. However, since only the information considered relevant for the study was documented, this was an initial reduction of the data. To gain a comprehensive understanding of the process, the data was displayed visually in order to map the current process. Also the current state and performance of the process were visualised when including for instance the inventory levels, and the inflow and outflow of the system. Due to the researchers' limited insight in the organisation, it was considered as important to verify the findings. This was conducted both through interviews and a workshop with employees from the asylum examination unit. Moreover, a draft of the results was sent to an employee at the board in order to verify if there were any misunderstandings or direct factual errors.

2.6. Trustworthiness

To increase the trustworthiness of the study, the credibility, transferability, dependability and confirmability must be considered (Bryman & Bell 2011). First of all, the credibility means according to Bryman and Bell (2011) the believability of the study, which was increased by using triangulation. This means that several methods were applied in order to gather and analyse data such as interviews, workshops and collection of quantitative data, etc. Secondly, by using a thick description of the situations encountered during the research and a thorough description of the research methods applied, the transferability of the study could be enhanced. Thirdly, the dependability is according to Bryman and Bell (2011) the ability to replicate the findings in other contexts, which can be more difficult. However, by supporting the findings with theory, the research will hopefully be generalizable to other situations.

Finally, the confirmability of the study means the objectivity of the researchers (Bryman & Bell 2011). It is impossible to be completely objective, but the intention of the researchers was to strive towards being as objective as possible.

To avoid misunderstandings when gathering data it is important to use a language which is understandable to the employees and not focus on certain terminology within for instance Operations Management. There can also be an issue during interviews when the respondent wants to please the interviewer and therefore modifies its answers according to what they think the interviewer wants to hear. In order to reduce these issues, each interview contained a thorough introduction including the aim of the project and the focus on the processes was emphasised.

2.7. Ethical considerations

The researchers needed to have some ethical considerations in mind throughout the study. Bryman and Bell (2011) emphasise four main areas of ethical principles in research including harm to participants, lack of informed consent, invasion of privacy and deception. These ethical considerations have been an important issue throughout the whole study. When questioning how people perform their work there is a risk that they feel criticised. Although all interviewees are anonymous in the thesis there is also a risk that complete confidentiality cannot be guaranteed for the participants. This can have negative consequences in case there will arise sensitive information during the data collection (Bryman & Bell 2011). In order to reduce the impact of these issues, the researchers constantly emphasised that no errors are due to human mistakes, it is always due to deficiencies in the system, which is an important opinion within Operations Management (Modig & Åhlström 2011). It is also important to inform participants about the study in order for them to make a decision to participate or not. The information to the participants has therefore clearly stated the purpose and aim of the project to avoid lack of informed consent and deception.

Furthermore, the board and especially the asylum examination division and reception division handle people seeking protection in Sweden for various reasons and it is of uttermost importance that the legal security is maintained. Therefore the study does not include any details or personal information regarding applicants and strictly confidentiality will be held.

2.8. Methodology discussion

The study has mainly consisted of face-to-face semi-structured interviews. Some of the interviews were conducted with solely one employee, and some of the interviews were conducted with several employees simultaneously. This method was seen as the most appropriate method to understand the process but it is important to mention how the method could affect the outcome of the project. First of all, when interviewing people, only their personal point of view can be collected, and it is difficult to know if that view is consisted with the rest of the organisation or division. Secondly, there is risk that the answers are more related to how the work is supposed to be than how it really is. Finally, there is a risk that people do not want to talk about problems since it feels like they blame someone else or make themselves look bad. With this in mind, observations would have been an appropriate method

to use together with the interviews, but due to confidentiality issues this was not feasible. However, several of the identified problem areas have been verified both through quantitative data analysis and through workshops with employees which increase their validity. On the other hand, it is possible that important problem areas have been missed since the data mainly was collected from interviews.

The study does not include any detailed plan or comprehensive solution regarding how the asylum process should be designed and controlled. This since it is not considered as appropriate or possible to include such details in this type of study. The aim of the study is to contribute with knowledge regarding how the flow efficiency within a public organisation could be increased through the adoption of Operations Management principles. In order to create conditions for a flow efficient process in a long term perspective and continuous improvements of the process, it is considered as important to focus on the knowledge and principles of flow efficiency. This since organisational knowledge regarding flow efficiency is required in order to work according to the theory in a long term perspective.

3. Theoretical framework

This chapter presents the theoretical framework used in the study. First of all, the theory regarding flow efficiency is covered and thereafter the characteristics of public organisations are discussed. Furthermore, Operations Management principles are explained as well as the Operations Management challenges in public organisations. Finally, a proposed conceptual framework for Operations Management principles in the public sector is presented.

3.1. Flow efficiency

All organisations produce some kind of products and/or services, and therefore have an operation that consists of interconnecting processes. A process consists of input, activities and outputs (Martin & Osterling 2013), and hence these processes transform input resources and produce outputs in forms of products, services, or a mixture of both (Slack et al. 2010). A flow is the movement and transformation of resources through a series of activities that together constitute a process (Liker 2004). According to Slack et al. (2010) there are mainly three types of inputs; information, material and customer, which creates three types of flows; information flow, material flow and customer flow. According to Womack and Jones (2003), there should be no waiting times in an efficient flow, and when a process is finalised the following process should be initiated immediately. In order to be as efficient as possible, the organisation should produce products or services in the pace of incoming customer demand in a one-piece flow (Liker 2004). The activities should hence be initiated at the point when the demand occurs, and thereby create a pull-system instead of pushing products or services out on the market that there is no need for.

According to Liker (2004), focusing on a one-piece flow is essential to achieve the best possible quality at the lowest cost and with high safety. Applying a one-piece flow in the processes increases the employees' ability to detect problems and find efficient solutions, since the production otherwise will stop (Womack & Jones 2003). Organisations throughout the world have shown that producing according to a one-piece flow results in increased productivity and quality, reduced inventory and space, and shorter lead time (Liker 2004). Hence, focusing on flow efficiency implies advantages and possibilities for the organisation to satisfy its customers and decrease cost.

However, in most organisations there is a tradition of focusing on resource utilisation instead of flow efficiency (Modig & Åhlström 2011). This is a result of the common perception that in order to reduce costs the resource utilisation must be maximised (Modig & Åhlström 2011). The principles economies of scale and specialisation, hence that larger batches and increased performance in each individual task will reduce the cost per piece produced, are further seen as important when focusing on resource utilisation (Glenday 2007). However, with increased variations in the system, such as variation in demand over time or variation within the demand, a high resource utilisation creates queues and inventory (Slack et al. 2010). The costs of handling these queues and inventories are often less visible than for instance the costs of key competences, which makes it more intuitively to focus on resource utilisation. Liker (2004) also claims that inventory hides problems in the system, which is further described in chapter 3.3.2.2. *Inventory*.

Womack and Jones (2003) argues that value should be defined from the perspective of the customer, and it should be specified where in the production value is adding. However, the definition of which activities that are value adding can differ between different stakeholders, and with an increased number of stakeholders the complexity of defining value increases (Radnor & Noke 2013). For instance, Lengnick-Hall (1996) argues that customers can have five different roles; *customer as a resource*, *customer as a co-producer*, *customer as a buyer*, *customer as a user* and *customer as a product*. Depending on the role of the customer, their definition of value might therefore differ. If an activity in a process does not directly add value to the product or service, it is identified as unwanted waste (Åhlström 1997). Having waste in the process results in increased cost and longer throughput times, and should therefore be eliminated in order to achieve flow efficiency (Modig & Åhlström 2011). According to Liker (2004), most organisations have 10 % value adding activities and 90 % waste in their production. Liker (2004) categorises waste as eight different types:

- *Waiting time*. Units in the process that are waiting to be processed are a less obvious type of waste compared to equipment and labour efficiency.
- *Defects*. Re-work due to defective items is a great source of cost for an organisation and the reasons for this have to be eliminated.
- *Unnecessary transports*. Physically moving units within the operation is not value adding for the customer, and is a result of insufficient layouts.
- *Inventory*. Over-production results in inventory and the underlying reasons for why it occurs must therefore be detected and eliminated.
- *Over-processing*. Some processes only exist due to a lacking layout of other processes, for instance poor maintenance, and is hence a source of waste.
- *Over-production*. The greatest source of waste is producing more than is actually needed by the next activity in the flow.
- *Unnecessary movement*. The movement of personnel within the process is not adding value for the customer.
- *Unused employee creativity*. By not listening to the ideas and proposals of the employees the improvement work is aggravated.

According to Slack et al. (2010) the different types of waste are mainly due to four barriers to an efficient flow; *waste from non-streamlined flow*, *waste from inexact supply*, *waste from inflexible response*, and *waste from variability*. First of all, waste from non-streamlined flow can be a result of a long and complex process layout, which in turn leads to inventory build-up, delays, and low throughput efficiency (Liker 2004). Secondly, waste from inexact supply is due to that the supply is not matching the demand, and the value of products or services decreases when they are not delivered when needed (Baudin 2004). Thirdly, waste from inflexible responses is caused by the process not being able to change due to changing circumstances or changing needs from the customer (Slack et al. 2010). Finally, waste from variability is mainly due to the variation in quality of products and services, and that quality conformance is not ensured throughout the processes (Bergman & Klefsjö 2010).

Based on the theory above, flow efficiency is defined as *the one-piece movement of input resources through an operation's processes with the highest possible value adding time and lowest possible waste*. Flow efficiency is calculated as the ratio between the value adding work content and throughput time for a process, see formula 1.

$$\text{Flow efficiency} = \frac{\text{Value adding work}}{\text{Throughput time}} \times 100$$

Formula 1. The equation of flow efficiency.

3.2. The characteristics of public organisations

Organisations within the public sector are characterised by several factors that affects the nature of their operations and objectives. Boyne (2002) argues that the differences between public and private organisations can be categorised within four areas; *publicness and organisational environments*, *publicness and organisational goals*, *publicness and organisational structures*, and *publicness and managerial values*. These areas will be further described below.

3.2.1. Publicness and organisational environments

Boyne (2002) argues that there are several conditions in the external environment in which the public organisations operate that are different from private organisations. Walley (2013) further states that there are several factors that the public organisations have to adapt and relate to. First of all, there are multiple customers and stakeholders with conflicting interests that might be of equal importance (Radnor & Noke 2013). While in private organisations the performance of the company can be directly related to the satisfaction of the customers, it is more complicated within the public sector (Johnston & Clark 2009). Public organisations have to consider demands from for instance politicians that determine the overall objectives and goals, the taxpaying society that wants as cost efficient operations as possible, and the end consumer with other needs related to the product and/or service (Christensen et al. 2004). This can aggravate decision making processes since there might be difficulties in identifying what needs that are most important, and in what way they should be prioritised against each other.

Public organisations are responsible towards a government elected by popular vote, in Sweden every fourth year, that mainly focuses on short term benefits (Christensen et al. 2004). This creates an instability in establishing long term goals and objectives, which pressures the organisations to show quick results (Boyne 2002). This is further problematic in the sense that important decisions regarding overall objectives and goals in a public organisation are influenced by external operators that do not have the same knowledge about the end consumers and business environment as the organisation itself (Christensen et al. 2004). Walley (2013) claims that the decision making processes in private manufacturing therefore are usually smoother compared to public organisations.

Public organisations are not operating on a competitive driven market and in some cases the organisation is the only actor in the country that offers the specific product or service (Christensen et al. 2004). The public organisation is not driven by maximising profit, and

incentives to improve the business are therefore not the same as for companies on a competitive market (Radnor & Noke 2013). This leads to the fact that public organisations are focused on cost reductions, which shows in the direction of the improvement work. Best-practice and benchmarking become more inapplicable, and improvement work is sometimes lacking and has fallen behind in the public sector compared to private organisations (Radnor & Noke 2013).

3.2.2. Publicness and organisational goals

Boyne (2002) argues that the goals within public organisations are often vague and include aspects such as equity and accountability. This is partly due to the fact that the public organisation has to satisfy the entire society with diverse opinions regarding how the organisation should operate (Christensen et al. 2004). Radnor and Noke (2013) further argue that the public organisations have to sustain citizen satisfaction, and Walley (2013) claims that this causes complexity and goals that are difficult to specify. Public organisations are therefore not only a non-for-profit business, but also have to take other aspects than cost reduction into account.

Since public organisations cannot influence the demand by using for instance the pricing mechanism, matching the supply with the demand becomes challenging (Johnston & Clark 2009). Public organisations are often capacity rather than demand led, and historical patterns in the demand are in general not taken into account when planning the production (Radnor & Noke 2013). When demand exceeds supply it is a matter of the acceptable time that the user has to wait for the product or service. This can in some organisations be sensitive issues; for instance in health care services it can be a matter of life and death if the supply is not sufficient to match the demand. Variations in demand over time also complicate matching the supply and both expanding and reducing supply contains challenges (Walley 2013). For instance, educating personnel when the demand increases is often time consuming and when it decreases the employees must be allocated to other work tasks.

3.2.3. Publicness and organisational structures

Public organisations are known for being bureaucratic, with for instance longer decision making paths and less flexibility in the organisational structure (Christensen et al. 2004; Walley 2013). Boyne (2002) argues that the bureaucratic environment partly can be derived from the demand for accountability and equity. Public organisations exist to serve the society, and the society claims equal treatment and handling of all consumers. This is further complicated when the public organisation mainly offers services, since services are intangible and the quality is dependent on the people involved (Mohr et al. 2010). Furthermore, if the consumer is participating in the production and plays an active role during the consumption, equal treatment is further aggravated (Bowen et al. 1989). A higher level of bureaucracy is therefore a mean for securing accountability and quality of the decisions made within the organisation.

Due to the bureaucracy within public organisations public managers are bounded by less autonomy in their decision making processes (Boyne 2002). This often results in that the public managers are less able to react to shifting circumstances or changes in the external

environment. Moreover, management within the public sector are characterised by complexity due to the varying stakeholder demands (Christensen et al. 2004). There are difficulties for public managers to meet the differing demands and at the same time ensure that laws and regulations decided by the government are followed (Radnor & Noke 2013).

3.2.4. Publicness and managerial values

Boyne (2002) claims that public organisations differ from private organisations in terms of managerial values and the employees' attitudes. Christensen et al. (2004) argue that employees within public organisations must be loyal towards the current government and its laws and regulations, but also neutral towards the politics. This can be problematic when a new government is elected, since a too loyal organisation might have difficulties in the adjustment that a new political agenda can lead to (Christensen et al. 2004). Furthermore, the employees within public organisations are often more interested in maintaining the public welfare, but at the same time they are often less committed to their organisation (Boyne 2002). Boyne (2002) argues that this is due to the inflexibility in the work environment of the employees, and that the personnel are rarely rewarded when performing good results, which results in a decreased work motivation.

3.3. Operations Management principles

Operations Management is according to Slack et al. (2010) "the activity of managing the resources which produce and deliver products and services". Baines et al. (2011) argue that a mixture between products and services is becoming more common, and Slack et al. (2010) further state that all operations produce services. Hence, the following framework is not distinct to either products or services, but rather a mixture of both. Since all organisations produce products and/or services, all organisations have some kind of operations function and operations activities, although not every business necessarily calls the operation function by its name (Johnston & Clark 2009).

An operation consists of interconnecting processes in which materials, information or customers flow within and between, and together these processes create a network (Shingo 1984). Slack et al. (2010) define a process as "an arrangement of resources that produce some mixture of products and services". Each process is an internal supplier and/or an internal customer for other processes within the network (Bergman & Klefsjö 2010). The operation together with its external suppliers and customers together constitute a supply network (Slack et al. 2010).

The purpose of Operations Management is the same regardless of the type of organisation, but depending on the objectives of the business there are some issues to consider (Slack et al. 2010). For instance, non-for-profit organisations are usually more complex and involve conflicting stakeholder interests from the political, economic and social point of view, and decisions regarding the operations will therefore be made under conflicting circumstances (Radnor & Noke 2013). However, Operations Management is of importance to the entire business, since operations excellence can contribute to reduced cost (Dangayach & Deshmukh 2001). For instance, high-quality and efficient operations reduce the amount of work in

process, are flexible to changing circumstances, can be relied upon, and do not create time and resource consuming waste (Liker 2004).

Operations differ in mainly four aspects called the four Vs; *volume*, *variety*, *variation* and *visibility* (Slack & Lewis 2011). First of all, the volume of units processed will imply the level of repeatability and systematisation, which affect the unit cost (Andersson et al. 1992). Secondly, the level of variety of the products or services offered will determine the possibility to standardisation and flexibility (Skinner 1974). Thirdly, the variation in demand will affect the needed capacity of the processes, and the organisations' ability to match the capacity with the demand is of importance (Walley 2013). Finally, the visibility refers to how much of the operations the customer is participated in, which influences the customer contact skills of the organisation and the staff utilisation (Slack et al. 2010).

An important aspect to become flow efficient is to define value through the eyes of the customer (Womack & Jones 2003). According to Slack and Lewis (2011) five different performance objectives are a useful framework for mapping and understanding the customer demands on the product or service. The same performance objectives can be applied to all operations, but the view upon each objective will differ depending on the organisation's customers and its business environment. The performance objectives according to Slack and Lewis (2011) are listed below.

- *Quality*; is divided to specification quality and conformance quality. Specification quality is concerned with the product and/or service, and conformance quality is the operation's ability to produce according to the specification.
- *Speed*; is defined as the time from the beginning to the end of a process.
- *Dependability*; is the operation's ability to deliver the right products or services at the requested point in time.
- *Flexibility*; is divided into product and service flexibility, mix flexibility, volume flexibility, and delivery flexibility, and refers to the operation's ability to change its processes to meet the customer demand.
- *Cost*; the most important performance objective, since all organisations regardless of their business can be assumed to be interested in low costs.

According to Skinner (1974) there is a trade-off between the different performance objectives, and not all performance objectives can be achieved at the same time. For instance, flexible operations might be less cost efficient and high quality products or services may take longer time to produce. However, Womack and Jones (2003) claim that increased flow efficiency will contribute to increased quality, reduced throughput times, more dependable and flexible processes as well as reduced costs.

The framework for Operations Management used in this study is visualised in figure 2 and consists according to Slack et al. (2010) of *design*, *planning and control*, and *improvements*. These further interact with the Operations Strategy of an organisation, which is another field of theory not covered in this thesis. The design, planning and control, and improvements will be further discussed below.

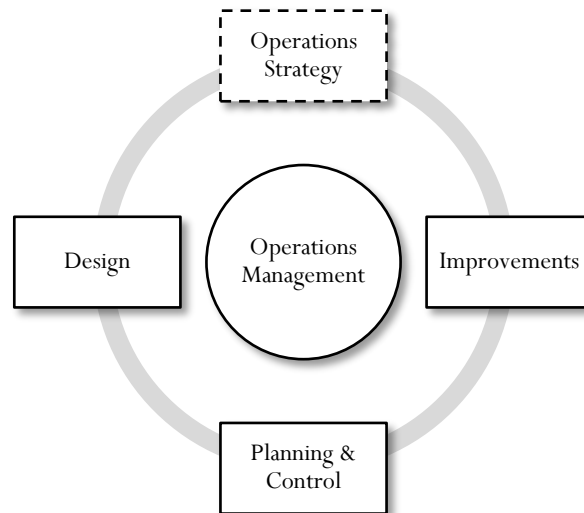


Figure 2. The Operations Management principles.

3.3.1. Design

The design of the processes is directly connected to the extent of waste in the value stream, and the organisational design determines the flexibility and resource utilisation of the system. The processes and the organisation is therefore a core issue to achieve flow efficiency, which will be further covered below.

3.3.1.1. Process design

Liker (2004) emphasises the importance of reducing the number of units within a system and work according to a continuous one-piece flow. When the number of units in a process is low, waste such as inventory and waiting time between activities can be decreased. Moreover, problems within the process can be detected at the point when they occur which require an immediate solution, otherwise the process and flow of units will stop. Hence, a decreased number of units in the system and a continuous one-piece flow the flow efficiency of the process can be increased (Liker 2004).

Process variability

In order to increase the flow efficiency, variation in the system has to be decreased (Skinner 1974). According to Slack et al. (2010), there are two main types of variation; variation in the inflow of units to be processed, and variation to perform activities within the process. Liker and Meier (2006) further argue that variation can be divided into two parts; self-inflicted variability that can be controlled, and external variability that is related to the customers and suppliers. If the system has an over-capacity in the processes and there is no variation in the inflow of units or the time required to perform the activities, the incoming units will never have to wait to be processed. However, as soon as the time between the arrivals of units decreases to a point when the system has an under-capacity in the processes, the waiting times for the units to be processed will increase to infinity (Anupindi et al. 2006).

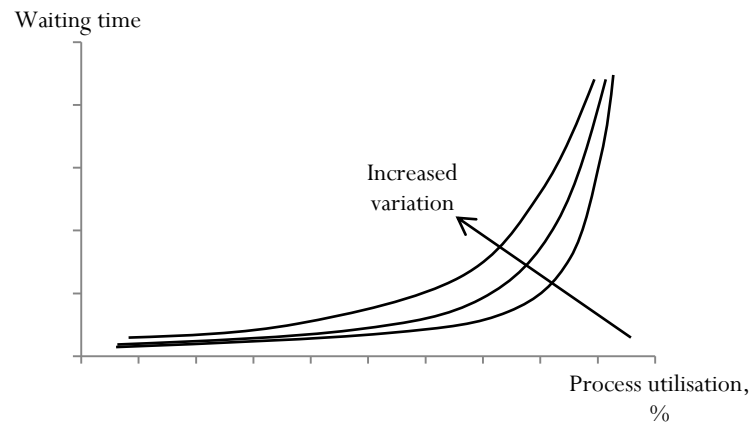


Figure 3. The waiting time increases with increased variation and process utilisation.

Figure 3 visualises how the waiting time is affected by variation in the system and process utilisation. When there is a variation in the inflow of units and process time the units will sometimes have to wait due to an under-capacity in the process, and sometimes the process will be under-utilised (Walley 2013). The average waiting time will therefore increase with a higher utilisation of the processes, and an over-capacity in the processes is required to reduce the waiting times (Hopp & Spearman 2001). With increasing variation in the process, the relation between the waiting time and process utilisation differs more from the function in figure 3 (Slack et al. 2010). The waiting time and process utilisation can according to Slack et al. (2010) only be handled in three ways, depending on the objectives of the organisation:

- Achieve a high process utilisation with long waiting times as a result
- Reduce waiting times by having an over-capacity in the system (and thereby low process utilisation)
- Reduce waiting times and increase process utilisation by reducing the variation in inflow and/or required process time

Hence, organisations have to decide what the objectives of the business are and what is of importance; a high resource utilisation or a short throughput time, since with a variation in the inflow of units and in the activities required in the process it is impossible to achieve both (Modig & Åhlström 2011). In other words, it can be stated that achieving both flow efficiency and resource efficiency is not compatible with variation, and an organisation has to consider to what extent it is beneficial to be one or the other.

One way of coping with process variability is to identify flows that in some way can be standardised and separated. The separated flows will have similar characteristics and hence the variation will be reduced, which according to the discussion above will result in that the flow efficiency can be increased with a higher resource utilisation. There are different ways to identify certain flows such as product type, industry, customer segregation, and volume. Glenday (2007) state that products or services can be categorised based on for instance occurrence, needed components to close a case, or complicated versus non-complicated cases. By increasing the flow efficiency in for instance the process for non-complicated cases more resources can be allocated to complicated cases, which require a larger time effort (Glenday

2007). In order to maintain the flow efficiency it is important to include the intended cases in the flow and hence sort out cases that do not belong to the flow.

Process mapping

In order to eliminate waste and become flow efficient, all factors contributing to the throughput time have to be investigated, which can be done with the help of process mapping (Slack et al. 2010). Process mapping is a method to visualise the activities and processes, and the interconnection between these. The process mapping can be conducted at different levels within the flow, and the more detailed process map, the more complex it is. High-level process mapping is a more reviewable visualisation of the process, which is beneficial to use before going into detail and improving specific activities (Johnston & Clark 2009). The process map can also be used to visualise different types of flows, such as materials or information flow within the same processes.

There are several benefits of using process maps, such as increased visualisation and a material that can be used as a plan for improvements (Martin & Osterling 2013). By visualising the activities of a process, unnecessary process steps are shown and waste can be identified (Slack et al. 2010). “Low hanging fruits” are easily discovered and can be adjusted immediately with instant rewards in the process for the employees (Rother & Shook 2003). With the current process map as a base, a desired future process map can be constructed. The new process map constitutes a plan for improvement and creates a direction for the whole organisation to strive towards (Rother & Shook 2003).

Value Stream Mapping is a method for analysing the current state and designing a future state of a complete value stream within the organisation (Rother & Shook 2003). A value stream is all the activities required to complete a product or service and consists of both material and information flow (Liker 2004). Most important when working with value streams is to have a systems view and improving the whole process instead of optimising individual parts (Rother & Shook 2003). Even though Value Stream Mapping is mostly used in manufacturing companies, Keyte and Locher (2008) claim that it can be used in non-manufacturing businesses; the challenge is to adapt it to the specific context.

Quantitative analysis of a process is of importance in order to identify waste in the process and to understand how it should be designed to be as effective and efficient as possible (Rother 2010). In order to quantitatively analyse and evaluate a process, several measurements are usually utilised, where some of them according to Rother and Shook (2003) and Slack et al. (2010) are:

- *Lead time*; the elapsed time for a unit to move through a process from start to end.
- *Throughput time*; similar to lead time, although it includes all processes within an operation.
- *Cycle time*; the time elapsed between two units emerging from a process.
- *Work in process*; the total amount of units within a process at a certain point in time.

- *Takt time*; how often the product or service is demanded by the customer during a work shift. In order to meet the demand, the cycle time should be lower or equal to the takt time.

Moreover, Brandon-Jones and Slack (2008) identify two formulas for calculating the productivity within a process:

- *Throughput efficiency*; the actual work performed in a process is different from the throughput time, and in order to calculate the efficiency of the process, the throughput efficiency is calculated by: $\frac{\text{Work content}}{\text{Throughput time}} \times 100$.
- *Value adding throughput efficiency*; not all work performed in a process is value adding, and instead of using throughput efficiency the value adding throughput efficiency can be calculated by: $\frac{\text{Value adding time}}{\text{Throughput time}} \times 100$.

Finally, Slack et al. (2010) identify a mathematical relationship between throughput time, work in process and cycle time, called *Little's Law*. The throughput time is calculated as the product of work in process and the cycle time. This formula indicates that if the amount of work in process is increased, and the cycle time remains the same, the throughput time will also increase. On the other hand, if the amount of work in process is decreased, and the cycle time remains the same, the total throughput time will decrease and thereby increase the flow efficiency.

3.3.1.2. Organisational design

The organisational design determines the allocation of decision making responsibility (Ritson 2000) and in order for the decision making within an organisation to be efficient, it has to be delegated to the right function and the right employees (Slack et al. 2010). Womack and Jones (2003) claim that the employees should control the processes, and hence decisions mainly should be made by the employees working in the core operations since they have the sufficient knowledge of the value adding work. Hence, the authority and the decision making in the traditional organisational structure should instead be reversed. According to Burton and Obel (1995) an organisational design that fits the strategy with the coordination of activities is a prerequisite for efficient operations. An organisational structure with less hierarchical levels promotes the efficiency within the operations, since the employees will have more autonomy to control their daily work (Rubenowitz 2004). However, with decentralised decision making it can be difficult to ensure standardised products or services, which require clear objectives and goals set by the top management (Slack & Lewis 2011). There are a number of organisational structures, for instance functional, divisional, matrix, hypertext, N-form, network and modular (Schwartz 2006; Slack et al. 2010). Three of these have been identified as the most common structures (Bhattacharyya 2009; Slack et al. 2010), wherefore these will be further discussed below.

The most common organisational structure is a *functional organisation* (Bhattacharyya 2009) which groups resources according to function; for instance marketing, sales, and operations constitute separate departments (Slack et al. 2010). An advantage with a functional

organisation is that with the increased specialisation of the employees, the resource efficiency can increase (Burton & Obel 1995). However, if the customisation of the product or service increases, the need for information sharing between the functions can become unmanageable (Bhattacharyya 2009). Another disadvantage with this organisational design is that the efficiency can be counteracted by the fact that the different functions have their own agendas and budgets (Slack et al. 2010), and the incentives to be innovative and improve are prohibited since all functions might have conflicting decision making (Ritson 2000). Moreover, the knowledge sharing between the functions are counteracted by the structure (Slack et al. 2010) and a functional organisation is not suitable in an unstable environment since it inhibits flexibility to reallocate capacity (Burton & Obel 1995).

There are other examples of common organisational structures, such as *divisional organisations* and *matrix organisations*. A divisional organisation is grouping resources after for instance products or services, or based on local markets (Ritson 2000). This increases knowledge of that specific product, service or local market, but on the other hand inhibits coordination and knowledge sharing between the divisions (Bhattacharyya 2009). A matrix organisation combines the functional structure with divisions, and the resources thereby have at least two responsibilities (Slack et al. 2010). It is common that the functional structure is combined with a project structure in order to allocate resources to ensure efficiency and focus (Burton & Obel 1995). However, this type of organisation requires the support and compliance from middle managers, since their new responsibilities will be complex which might affect their work environment and burden their leadership (Gottlieb 2007). Furthermore, there is a risk that this type of organisation becomes too complex (Slack et al. 2010).

When dividing the tasks between the employees, the organisation has to decide if the work design should be specialised or generalised (Slack et al. 2010). Specialised work design leads to benefits such as faster learning, automation and a reduction of the non-productive work (Slack et al. 2010). However, with an increased specialisation, disadvantages arise such as a monotone work environment, inflexible organisations and poor robustness in the entire system since only a few of the employees can carry out some of the tasks (Rubenowitz 2004). Dean and Bowen (1994) argue that in order to achieve a systems thinking among the employees, it is of importance to not only advance vertically in the organisation, but also cross-functional horizontally. Therefore, depending on the nature of the operations and the products and services, the organisation has to decide to what extent the employees should be specialised within a specific area, or if all employees should be able to execute some or all activities in the process (Slack et al. 2010).

According to Dean and Bowen (1994) organisational structure and information management is related, and hence knowledge and information sharing within the organisation is dependent on the structure and specialisation of the employees. Hicks (2007) further argue that information management is crucial in order to achieve flow efficiency within an operation. Information should be available for the right person at the right point in time, which also indicates that all information is not necessary to share with the whole organisation (Liker

2004). On the other hand, Nonaka (1994) argues that redundant information is of importance in individual and organisational learning, and excessive information can create knowledge. Hicks (2007) identifies four types of waste in information management:

1. *Failure demand*; the processes or activities needed to gain information that is required but lacking.
2. *Flow demand*; resources needed to identify required information and make that information flow.
3. *Flow excess*; resources required to overcome information overload. Dean and Bowen (1994) further argue that all information is not necessary in all situations, which can also be identified as flow excess.
4. *Flawed flow*; resources required to verify and correct information.

Rubenowitz (2004) claims that the productivity and profitability are directly affected by the organisational design, and that cooperation and knowledge sharing between departments within the organisation are crucial. The organisational structure is closely linked to the knowledge sharing and learning within the organisation, and for instance flexibility and non-bureaucracy are important characteristics of knowledge intensive firms (Schwartz 2006). In order for an organisation to be flow efficient, it is hence of importance to identify an organisational structure that is flexible enough to enable information and knowledge sharing between the employees. Also Liker (2004) emphasises the importance of creating a learning organisation, and claims that this is achieved by identifying root causes, encouraging all employees to reflect on mistakes or weaknesses and suggest improvement, and aligning all individual objectives throughout the organisation.

3.3.2. Planning and control

According to Slack et al. (2010) planning and control is “concerned with managing the ongoing activities of the operation so as to satisfy customer demand” and to make a connection between supply and demand in order to ensure efficient processes. Farahani et al. (2011) state that the entire process of planning and controlling efficient flows is called logistics. The objective of logistics is to deliver “the materials needed, when needed, in the exact quantity needed, and conveniently presented” and is hence a prerequisite for flow efficiency (Baudin 2004). It is debated among authors whether logistics in itself adds any value and according to lean manufacturers there are no value added in logistics, but logistic authors on the other hand claim that logistics provides the value of time, place and presentation (Baudin 2004).

Petersson et al. (2009) argue that there is a common misunderstanding related to rationalising logistics, where the focus tend to be on how to make the transports more efficient rather than how to eliminate them. Only when the need for transports is reduced, waste can be eliminated (Liker 2004). Moreover, Goldsby and Martichenko (2005) argue that there is a risk in viewing different kinds of costs separately without understanding how they are related. Organisations tend to focus on the visible costs, such as transportation, without considering more indirect costs, such as inventory handling (Liker 2004). This is also an issue in the management of

different kinds of costs, since cost savings in one unit can cause increasing costs in another, with sub-optimisations as a result (Goldsby & Martichenko 2005).

The planning and control of operations mainly consist of five areas; capacity, inventory, performance measurements, routines and priorities, and customer and supplier relationships. These will be further described below.

3.3.2.1. Capacity

Capacity is defined as the level of activity that the process can achieve during normal conditions over a period of time (Slack et al. 2010). The capacity can be measured for example by the number of calls an employee can handle during one hour or the number of meals served by a restaurant during lunch time. If there are variations in the demand of products or services, the capacity planning becomes more difficult (Slack & Lewis 2011). For instance, if there is no variation in the demand of a product or service an employee can handle a certain amount of regular units each week. However, as soon as there is a variation and some of the units require more time, the total waiting time and thereby number of units in the queue will increase, see discussion in chapter 3.3.1.1. *Process design*. Johnston and Clark (2009) further emphasise that when increasing the productivity of a process it is of importance to ensure that the service outcome is maintained, otherwise the demand on the system will increase due to its inability to meet the demand in the first place.

Johnston and Clark (2009) identify three different capacity strategies for meeting the demand of a product or service; *level capacity*, *chase capacity* and *demand management*. First of all, when adapting level capacity the resources are kept at a constant level regardless of the demand (Walley 2013). The main objective with this strategy is to maximise the resource utilisation, which is commonly used in professional services such as physicians at a hospital clinic (Johnston & Clark 2009). Secondly, the chase capacity strategy means that the resources are matched with the demand as far as possible, where the main objective is to provide availability without any delays (Walley 2013). Using this strategy requires flexible resources and is often managed by having part-time employees or employment contracts without any standard time of the shifts (Johnston & Clark 2009). Finally, the demand management strategy focuses on influencing the level of demand over time which includes pricing strategies or steering the demand (Johnston & Clark 2009). For instance reduced prices can be offered during periods when the demand is usually low, and telephone hours can be provided at certain times during the day.

There are different ways for organisations to improve their resource utilisation such as increasing the operational flexibility and reducing capacity leakage (Johnston & Clark 2009). First of all, increasing the operational flexibility includes increasing the competence among the employees to enable reallocation of resources between functions to meet the demand (Slack et al. 2010). Working in teams is a way of building flexibility, since this enables reallocation of work within the team during a fluctuating demand (Rubenowitz 2004). Secondly, reducing capacity leakage includes activities to prevent absence due to illness and employee training in order to increase their knowledge and competence (Rubenowitz 2004).

Quality defects are another type of capacity leakage where the root causes to the failures must be traced in order to take preventive actions (Johnston & Clark 2009).

Seddon (2010) argues that there is a distinction between *value demand*, what the organisation exists to fulfil, and *failure demand*, demand that arises due to failure in the system when the organisation has not been able to satisfy the value demand in the first place. Value demand is managed by effective and efficient process design, and failure demand is managed by understanding and eliminating the causes to why it exists (Seddon 2010). Failure demand is often a significant source of waste in service organisations, and Seddon (2010) claims that the reason for this is due to deficiencies in the management of resource planning, control and performance measurements. Traditionally management plans the resources according to historical demand and controls the system by focusing on whether the capacity can meet the demand or not (Seddon 2010). Furthermore, the performance measurements are often focusing on time to handle a demand, for instance how many calls a service centre operator can handle during a work shift, and hence no attention is given to the reasons why the demand actually exists.

3.3.2.2. Inventory

As mentioned in chapter 3.3.1.1. *Process design* a high resource utilisation combined with variations in the system creates waiting time and hence inventory that needs to be managed. The term inventory can represent not only physical products and materials but also people and information within the system. Inventory is according to Liker (2004) considered as waste that reduces the total flow efficiency of a process and leads to a number of disadvantages. The costs of handling inventory are significant even though they are less visible than other costs (Modig & Åhlström 2011). Examples of costs related to queues of people are administrative work to send out a notice to a patient or answering questions from a customer who is forced to wait. Liker (2004) further claims that inventory hides problems in the system, such as quality issues, poor supplier relationships and unreliable operations. Detection of failures in the processes is often separated from when the failure actually occurred, which further aggravates prevention of quality defects (Womack & Jones 2003). By reducing inventory levels and work according to one-piece flow the existing problems will be visible and urgent to solve, which will improve the whole system (Liker 2004).

From a customer perspective, high levels of inventory between processes imply long waiting times (Slack et al. 2010). The time aspect is always important since the time a customer has to wait for a product or service will affect the customer satisfaction. There is also always a risk that inventory becomes obsolete (Petersson et al. 2009), which can be the case if information is stored for a long period of time before it is used. For instance, in insurance claims, the time aspect can complicate the case since additional facts or changing circumstances can affect the decision making in the case. The customer can be forced to add more recent information which is both more time consuming for the customer and will extend the throughput time even further due to additional required activities.

From an employee and systems perspective, high levels of inventory are likely to increase the workload. First of all, false demand arises when customers are forced to wait and for instance

contact the organisation with questions regarding the progress in their case (Seddon 2010). Furthermore, if the employees have a large number of parallel units and frequently switch between them there will be a start-up time every time a new unit is being handled (Petersson et al. 2009). In other words, inventory increases the demand on the system, complicates the work for the employees and decreases customer satisfaction.

Although it can be stated that inventory should be reduced, most organisations must handle queues to various extent. If additional resources are not feasible it is of increased importance to manage the waiting time and make it appear decent for the customer. For instance Johnston and Clark (2009) state the importance of reducing anxiety, uncertainty and unexplained wait. Moreover, unfair and uncomfortable queues are likely to decrease customer satisfaction and aggravate the waiting time. Having a clear and understandable system for how the customers should be prioritised, be consistent in following the system and communicate it to the customers is therefore of importance to reduce false demand.

3.3.2.3. Performance measurement

Historically the focus of performance measurements has been on what measurements to use and how the results can be used to improve the organisation, which often is challenging in most organisations. However, Rother and Shook (2003) argue that instead of focusing on measurements of the current operations performance, the focus should be on striving towards a future goal of how the operations should be performed. The performance measurements should therefore not be used to control the operational work, but to constitute an indicator on how close the current state of the process is to a future desirable state.

According to Johnston and Clark (2009) performance measurements should have a clear purpose, and systems of processes should support or achieve that purpose. There are four main purposes to measure performance; communication, motivation, control and improvement (Johnston & Clark 2009). By measuring a process or an outcome the organisation communicates to the employees that this is important and that a certain target should be met. Furthermore, it motivates the employees to strive towards a certain direction and to improve what is being measured. Johnston and Clark (2009) therefore emphasise the importance of having the right mix of measurement since for instance measuring speed of responses but not quality is likely to improve the speed at the expense of the quality. Furthermore, the measurement should be able to provide feedback in order to control the process and take actions when the process does not meet the target, which altogether drives operational improvement (Johnston & Clark 2009).

Seddon (2010) claims that one of the most significant problems with the traditional way of controlling the performance of an organisation is related to how measurements are being used. Organisations often choose measurements and establish goals that do not reflect the purpose of the organisation which often encourage people to “cheat” and find short-cuts in order to achieve the goal (Seddon 2010). For instance, if the performance of an employee is measured according to number of processed units each week, it is likely that the employee strives to achieve the goal by processing only the least time consuming units or choose not to perform an extra activity which would enhance the quality. The purpose of the employees’ work

thereby shifts from performing a good and accurate work into achieving a goal. It is therefore important that the measurements originate from the performance of the entire system to achieve its purpose; otherwise they will rather be counterproductive (Seddon 2010).

Seddon (2010) argues that targets and goals are irrelevant in order to improve the system, since striving towards established goals inhibits the work of actually improving the system. Johnston and Clark (2009) on the other hand regard targets as an important mean in the improvement work and emphasise the importance of employee involvement in target setting. When the employees are empowered and involved in the process of determining targets, and the target level is something regarded as achievable, it is more likely that they are motivated to actually strive to reach the target (Johnston & Clark 2009).

3.3.2.4. Routines and priorities

Established work routines describe the current state of how the organisation performs the operational work (Slack et al. 2010). In improvement work it is likely that the routines are modified and if they initially are clearly stated it is easier to share the improved way of working to the rest of the organisation. Liker (2004) emphasises the importance of having standardised work routines, and standards should be commonly agreed upon within the organisation and represent the best known way of how to perform the work. Standardisation is important in order to discover variations, increase predictability and create opportunities for learning (Petersson et al. 2009). Hence, standards should be updated continuously when new and better ways of performing the work are developed.

Standardised work routines reduce the vulnerability of the organisation since the knowledge of how to perform the work is not limited to a certain employee (Petersson et al. 2009), which also increases the flexibility within the organisation. Furthermore, when the work is performed in the same and best known way throughout the organisation the quality is likely to increase (Liker 2004). With clear and established routines no time will be allocated to elaborate on how to perform a certain task which will lead to increased efficiency (Petersson et al. 2009). However, Petersson et al. (2009) emphasise that all work, such as creative and unpredictable processes, can and should not be completely standardised. Seddon (2010) on the other hand advocates that the employees should be given as much autonomy as possible to decide in every given situation. There is a risk in that management establish routines that are not suitable from neither the customers' nor the employees' point of view (Seddon 2010).

Some theories within Operations Management emphasise that a one-piece flow should be applied, and do therefore not cover priorities in the daily work (Liker 2004). However, when circumstances make it difficult to work with a perfect one-piece flow within the whole organisation, daily priority routines can be used to increase the overall flow efficiency. Sequencing the work can be done according to certain rules, such as *First in, first out*, *Most critical first* and *Least work content first* (Johnston & Clark 2009). Several sequencing rules are often used in combination and in more complex situations it can be useful to use critical factor calculations in order to compare the urgency between different work tasks (Johnston & Clark 2009). This implies that a number of factors are taken into account, such as estimated amount of work in relation to the effects on the total throughput time.

3.3.2.5. Customer and supplier relationships

In order to become flow efficient, it is important to expand the view of the value stream beyond the organisation's own operations to also include the customers and suppliers (Slack et al. 2010). A critical issue is managing the relationship with the suppliers and partners and to apply a systems thinking, since from the customer's point of view it is the total value chain that results in the product or service. Suppliers can either be vertically integrated, meaning that the organisation owns the resources that supply them, or have a market relationship, meaning that the purchase and transaction is the only form of communication (Slack & Lewis 2011). Partnership is a mixture between vertical integration and market relationship, with the incentives to have a long term relationship between the supplier and customer (Slack et al. 2010). Further characteristics of a partnership are joint learning and problem solving, information transparency and shared success. With an increased cooperation the customer and supplier can work together towards an efficient flow throughout the entire value stream.

Channel alignment is a method to handle the customer and supplier relationship through integrating their operations with adjustment of scheduling, material movements, stock levels, etc. (Slack et al. 2010). This requires that the information systems of the customer and supplier are integrated with an increased visualisation in each other's processes and demands (Slack et al. 2010). For instance, vendor-managed inventory implies that the customer gives the supplier the permission to see the stock level and manage the inventories of the customer. The relationship is a long term solution and the customer and supplier are thereby "locked in", meaning that they are limited to choose other customers and suppliers. This therefore requires trust and communication between the two operators, and that the long term visions of the two companies to some degree are aligned.

3.3.3. Improvements

Operational improvements are of importance to become flow efficient and stay competitive, and the goal should always be to strive for perfection even though it might be impossible in reality (Rother 2010). Improvements can either be a breakthrough implementation of an improvement proposal or have a continuous approach (Harrington 1995), see figure 4. The former is more costly and often requires rethinking the processes and the system with radical step change implementations (Slack et al. 2010). On the other hand, breakthrough improvements often results in immediate benefits, and encourage creative thinking among the employees in order to rethink the way the organisation create value (Harrington 1995).

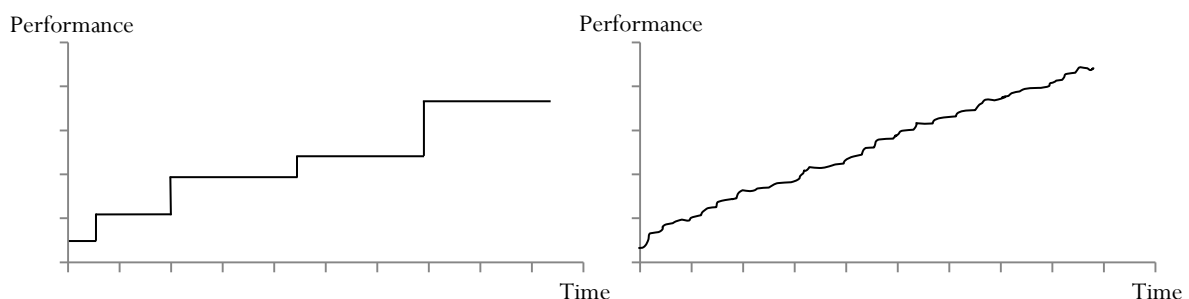


Figure 4. Breakthrough (to the left) and continuous (to the right) improvements.

Continuous improvements are instead small successive steps towards a better performance, with modifications in the existing processes rather than radical improvements (Liker & Franz 2011). This is often referred to as kaizen, and a benefit with this approach is that small improvements can easily be followed by other small improvements (Womack & Jones 2003). An important aspect of continuous improvements is that they are in fact continuous and frequently carried out, rather than focusing on the size of the improvements (Slack et al. 2010). However, according to Spear (2005) these small sized improvements with a small to medium term perspective, also referred to as rapid improvement events, often lack a clear long term improvement strategy. Breakthrough and continuous improvements should not be seen as two different strategies working separately; they should rather be aligned and complementary to each other (Harrington 1995).

There is a risk that small continuous improvements throughout the organisation have diverging directions, and in order for the organisation to actually benefit from the dispersed improvements, it is of importance to have a common goal that all improvement proposals should work towards (Liker & Franz 2011). In order to lead the direction of change, a future state map should therefore be created, which constitutes an improvement plan that all improvement proposals should work towards (Rother & Shook 2003). A future state map should be a vision of the perfect process with the least amount of waste possible (Rother 2010). The current state can thereby be evaluated against the future state in order to determine how close to the desirable process the organisation is.

The involvement of all personnel and the gathering of individual creativity of all employees are of importance in order for the organisation to develop and facilitate improvements (Bergman & Klefsjö 2010). Since the personnel that on a daily basis work within the operations possess the most sufficient knowledge regarding the processes, their knowledge is a valuable source for improvement proposals (Jekiel 2011). An important aspect is to develop the view of internal customer-supplier relationships within the organisation, meaning that the following internal customer in the process should be treated with the same level of service as the external customers (Slack et al. 2010). This will reduce sub-optimisation and increase the flow efficiency within the entire operation (Slack et al. 2010). However, involving the employees and make them responsible for process improvement require a supportive organisational culture that gives the employees the authority to implement improvement proposals (Johnston & Clark 2009).

The fact that management at all levels of the organisation shows commitment towards the improvement work and give the right support to the employees are crucial for success (Bergman & Klefsjö 2010). One of the most important tasks of the top management is to create an environment where the personnel are encouraged to share ideas and strive towards improvement (Jekiel 2011). If the management are not able to show and give support to the employees, this will affect the improvement work negatively, and the employees will lose motivation (Bergman & Klefsjö 2010). Furthermore, ensuring that enough resources are available for the improvement work is of importance for the top management to motivate the employees and show commitment towards the improvement proposals.

Continuous feedback on the progress is of importance in order to create a work environment that is motivating for the employees (Liker 2004). Even though an improvement proposal cannot be executed, it is important to inform the personnel of the reasons why. One way of ensuring feedback is to use visualisation boards that show improvement proposals and where in the process these proposals are. Through visualisation of results, the awareness of the progress will increase among the employees, which further increases the motivation to participate in the improvement work (Jacobsson et al. 2007). By having frequent, short meetings with all concerned employees around the visualisation board, the continuous improvement work will become a routine.

3.4. Operations Management challenges in public organisations

Operations Management principles were developed from the private manufacturing sector, but organisations in the public sector have since the 1970's attempted to adapt the philosophies from the industry in order to reduce costs and become more efficient (Radnor & Osborne 2013). However, the attempts have not always been successful and the adaption of industry philosophies in public organisations have been criticised (Butterfield et al. 2004). Rich and Piercy (2013) argue that the complexity in public organisations make Operations Management difficult to transfer. Radnor and Noke (2013) further claim that the context of public organisations is important to understand before adapting Operations Management principles, wherefore this chapter aims at discussing the challenges that Operations Management faces in the context of public services.

Christensen et al. (2005) argue that public organisations are characterised by conflicting stakeholder interests, which creates difficulties in identifying who the customers are and what can be defined as value adding activities for the different identified customers. Moreover, Johnston and Clark (2009) argue that some customers do not appreciate the services provided by public organisations, for instance prisons or the police, which further complicates the definition of value adding activities. Within Operations Management one of the most important tasks is to identify the value for the customer in order to eliminate all non-value adding activities and thereby achieve flow efficiency (Slack et al. 2010). Therefore, this is one of the first challenges that a public organisation faces when adapting these principles.

Public organisations are not driven by profit and are therefore mainly focused on cost reduction (Radnor & Noke 2013). The incentives to develop and improve are therefore different than for private organisations, which primarily strive to increase their revenues and secondly cannot exceed their budget since they are then threatened by bankruptcy. Public organisations are not as interested in solutions that not directly involve cost reduction, and rather focus on resource efficiency (Walley 2013). However, focusing on optimising the use of resources often leads to hidden costs in form of for instance inventory, failure demand and waiting times which are more difficult to identify since these are indirect costs (Liker 2004).

Another issue for public organisations is the fact that the business to a large extent is controlled by external operators such as the society and the public elected government. The public organisations are often restricted by laws and regulations regarding which suppliers and partners they are allowed to cooperate with (Radnor & Noke 2013). Furthermore,

Christensen et al. (2004) claim that the public sector not only can focus on solely efficiency, but also have to take for instance equity into account, which affects the goals of the organisation. These factors affect the performance measurements and budget regulations of the organisation, which can result in sub-optimisations between both the internal processes of an organisation, but also the cooperating public organisations. Moreover, the government might demand results that are in line with resource efficiency, which according to the discussion in chapter 3.3.1.1. *Process design* is contradicting flow efficiency in the presence of variation in the system.

In private organisations the demand can be controlled by pricing mechanisms, which is not feasible in public non-for-profit organisations (Johnston & Clark 2009). Radnor and Osborne (2013) further argue that public services are capacity led and are less able to influence the demand. Public organisations are in general managed by optimising resource use rather than focusing on the demand, and do not use historical variation in the demand to distinguish patterns (Walley 2013). In order to become flow efficient, it is of importance to even out the variations, both within the process but also in the inflow (Slack et al. 2010). If the organisation does not have the means or are not able to even out the demand and thereby the inflow, it will have an impact on the organisation's ability to become flow efficient. Furthermore, focusing on optimising the use of resources instead of meeting the demand contradicts flow efficiency, wherefore a capacity led strategy is not compatible with efficient flows (Slack et al. 2010).

Finally, public organisations generally have a lacking knowledge within Operations Management principles and flow efficiency (Walley 2013). The lacking knowledge combined with the complexity of public organisations described above hinder the improvements that focus on increasing the flow efficiency with maintained resources. There is a lacking understanding to why Operations Management is needed, and a general perception that quality is not compatible with lower throughput time (Iversen et al. 2014). These obstacles have to be overcome in order to increase the flow efficiency within a public organisation.

3.4.1. Criticism of Operations Management principles in public organisations

Even though several studies have shown that public organisations can achieve successful results by adopting Operations Management principles (Hines et al. 2008; Radnor & Walley 2008), there are researchers claiming that the characteristics of the public sector make it infeasible to adopt these principles. For instance, Radnor and Osborne (2013) argue that the underlying logic regarding value and flow in the public sector is missing and that most attempts to adapt these principles lack a long term perspective. According to Butterfield et al. (2004) the vastly differences between the public and private sector make the adoption of attitudes and theories from the private sector inappropriate in the public sector. Critics also argue that the difference between manufacturing products and handling humans is too large (Fillingham 2007; Papadopoulos 2008), which makes Operation Management principles originating from the manufacturing industry infeasible in the service sector. Seddon (2010) also claims that several methods and tools that are useful in manufacturing industry cannot be adapted in the service industry. The contribution of, for instance, value stream mapping in

service organisations is limited since this method requires a standardised work, which will reduce the system's ability to handle variations (Seddon 2010).

Although several authors have criticised the use of Operations Management principles within the public service sector, common for most of them is that the critics is not mainly concerned with the principles being used but rather how the principles are being adapted in the specific context. Radnor and Osborne (2013) argue that the principles have to be further developed and situated in a public sector dominant business logic. Also Seddon (2010) claims that the methods and tools have to be changed to fit the certain context since there are other kinds of problems that needs to be handled in the service sector compared to the industry.

3.5. Proposed conceptual framework

One of the cornerstones in establishing a successful improvement work is to adapt the theories into the specific context of where it should be used (Radnor & Noke 2013). The proposed conceptual framework, see table 1, has been developed from the discussion in the previous chapters, and aims at explaining how Operations Management principles can be adopted to the context of the public sector.

Table 1. The proposed conceptual framework for increasing flow efficiency through Operations Management principles in public organisations.

	Publicness and organisational environment	Publicness and organisational goals	Publicness and organisational structures	Publicness and managerial values
Design	<ul style="list-style-type: none"> Defining value adding activities from each stakeholder is difficult but important. 	<ul style="list-style-type: none"> Vague goals must be identified and incorporated in the value adding activities. 	<ul style="list-style-type: none"> Bureaucratic structure leads to inflexibility in both the process and organisation why a systems perspective is of importance. 	<ul style="list-style-type: none"> Less loyalty towards organisation might lead to increasing employee turnover → work satisfaction must be ensured.
Planning and Control	<ul style="list-style-type: none"> Goals influenced by external operators requires communication and relationship management with several actors. 	<ul style="list-style-type: none"> Capacity rather than demand led due to resource utilisation requires a change of mind-set. Difficult to influence demand puts pressure on capacity and inventory planning and control. 	<ul style="list-style-type: none"> Top management must trust their employees with autonomy and responsibilities. 	<ul style="list-style-type: none"> Difficulties to be both loyal but neutral towards politics require objective visions and goals.
Improvements	<ul style="list-style-type: none"> Short term focus due to re-elections requires long term political neutral goals and values. A non-competitive market requires other motivation for improvements. 	<ul style="list-style-type: none"> Vague goals aggravate improvement work why these must be defined and communicated through a common view of a desirable future state. 	<ul style="list-style-type: none"> Bureaucratic structure inhibits improvement work why a common vision of a future state is of importance. 	<ul style="list-style-type: none"> Rarely rewarded employees inhibits improvement work and the employees must be motivated and commended for their work.

4. Results and analysis

This chapter presents the results of the study and the analysis of the findings. First of all, a description of the Swedish Migration Board is provided. Secondly, the current flow efficiency in the asylum process is presented, followed by an analysis of the hinders to flow efficiency in the asylum process. Finally, proposed improvements in order to increase the flow efficiency are discussed.

4.1. Description of the Swedish Migration Board

In order to understand the asylum process, the context in which it exists must be explained. Therefore, a definition of asylum seekers will be provided below, followed by a description of the organisation of the board.

4.1.1. The asylum seekers

An asylum seeker is a person who has travelled to Sweden in order to seek protection, but who have not yet received a decision regarding a residence permit. Sweden has signed the United Nation's Convention Relating to the Status of Refugees, which means that the asylum process is influenced by international standards and regulations. A person can apply for asylum for various reasons:

- *To seek refugee status*; when a person has sound reasons to fear persecution due to for instance race, nationality, gender, and/or sexual orientation.
- *To seek subsidiary protection*; when a person is exposed to a risk of for instance being sentenced to death, torture, and/or inhumane treatment.
- *To seek other protection*; when a person cannot return to the country of origin due to for instance armed conflict and/or environmental disaster.

The evidential burden is on the asylum seeker, and it is hence the responsibility of the asylum seeker to prove that there are satisfactory reasons for him or her to stay in Sweden. The residence permit can be either permanent or temporary, based on the current situation in the home country and the needs of the asylum seeker. If the board issues a refused decision the applicant has the right to appeal against the decision. If the final decision is refused the applicant must leave the country and cannot re-apply until four years after the final decision. However, if new circumstances emerge after the final decision that might change the outcome, the asylum seeker can apply for impediments to enforcement.

When the asylum seeker is registered at the board, he or she is covered by the LMA; the Reception of Asylum Seekers and Others Act (SFS 1994:137). This implies for instance that the board is responsible to provide financial support, called daily allowance, and accommodation to the asylum seeker. The daily allowance is in general distributed once every month, and the amount depends on the number of people in the family, if the asylum seeker stays at the board's own accommodations (see chapter 4.1.2.2. *The reception division*) and whether the accommodation offers food or not. Furthermore, the board has to arrange a suitable accommodation if the asylum seeker cannot arrange this by own means. However, if the asylum seeker chooses to accept the accommodation offered by the board, he or she is not

allowed to choose the location, but has to accept whatever is offered. Furthermore, the municipality in which the asylum seeker stays is responsible for offering education for children under 18 years old and the county council is responsible for providing the health care needed. The asylum seeker is covered by the LMA until he or she has received a final decision and is discharged from the board. However, it is not unusual that the asylum seeker absconds, in which case he or she is discharged from the board and is therefore no longer covered by the LMA.

At the point of registration, the asylum seekers are categorised into groups depending on the country of origin and if an application has been handed in to another European country previously:

- *Permanent residence permit presumption (PUT presumption)*; asylum seekers from countries that are classified as unsafe due to the political or environmental situation. The examination in these cases is mainly focused on determining the identity of the asylum seeker, since there already are valid reasons for asylum. Today these applicants are from Syria and Eritrea due to the current conflict in these countries. There are also applications that are classified as “stateless” although they are from countries categorised as PUT presumptions.
- *Immediately home country/third country and obviously unfounded (OH/OT)*; asylum seekers from countries that are classified as safe with an acceptable state protection, for instance the West Balkans. These cases should be handled within 90 days, although the goal is between 8 and 19 days, otherwise they will become ordinary cases. During the asylum examination a public counsel is not participating, see chapter 4.1.3.3. *The asylum examination process* for further explanation. If the OH/OT asylum application results in a refused decision, the board orders a refusal of entry with immediate effect, meaning that the asylum seeker is not allowed to travel to the Schengen Area within two years and not allowed to stay in Sweden during the appeal, see chapter 4.1.3.4. *The closure process* for further explanation.
- *The Dublin Regulation*; applicants that have been seeking asylum in another country covered by the Dublin Convention and hence should be relocated to the first country where asylum was applied for. These cases are not given an asylum examination by the board, and are therefore only waiting in Sweden until the receiving country has accepted the applicant, which in general must be done within 90 days.
- *Ordinary cases*; all other cases that do not classify in any other group. Previously, the goal was that these cases should be handled within 90 days, but the time restraint has recently been removed.

There is an additional group of unaccompanied minors (BUV); asylum seekers under 18 years old who have arrived without a parent, parents or another custodial guardian. This group has significantly increased recently and the forecast for 2014 is that the number of applications from unaccompanied minors will be 7,900 which is approximately twice as high as for the two previous years. Since the process for this group of asylum seekers is different from the other groups’ process, this will not be included in the project. However, since this group is

prioritised at the asylum examination it is important to mention that the size of this group will affect the capacity allocated to the rest of the cases at the asylum examination.

4.1.1.1. The inflow of asylum seekers

The inflow of asylum seekers to the board is depending on the current situation around the world. The immigration of foreigners to Sweden depends on for instance armed conflicts and environmental disasters which drive people to leave their homes and seek shelter elsewhere. Current situations affecting the inflow of immigrants are for example the situation in the Middle East, foremost Syria and Iraq, and the board has decided that all asylum seekers from Syria will be granted a permanent residence permit.

EU has since June 2011 a European Asylum Support Office located in Malta, with the objective to increase the collaboration between public authorities regarding asylum issues. The intention is that the asylum process should be uniform independent of in which state the immigrant applies, and hence counteract secondary migration within the union. However, in 2013 Sweden received 5,680 asylum seekers per million inhabitants and was therefore the country in Europe that received the most asylum applications per million inhabitants (Eurostat 2014). This can be compared to for instance the same number in Germany and Norway, which was 1,575 and 2,360 asylum seekers per million inhabitants respectively during the same period (Eurostat 2014).

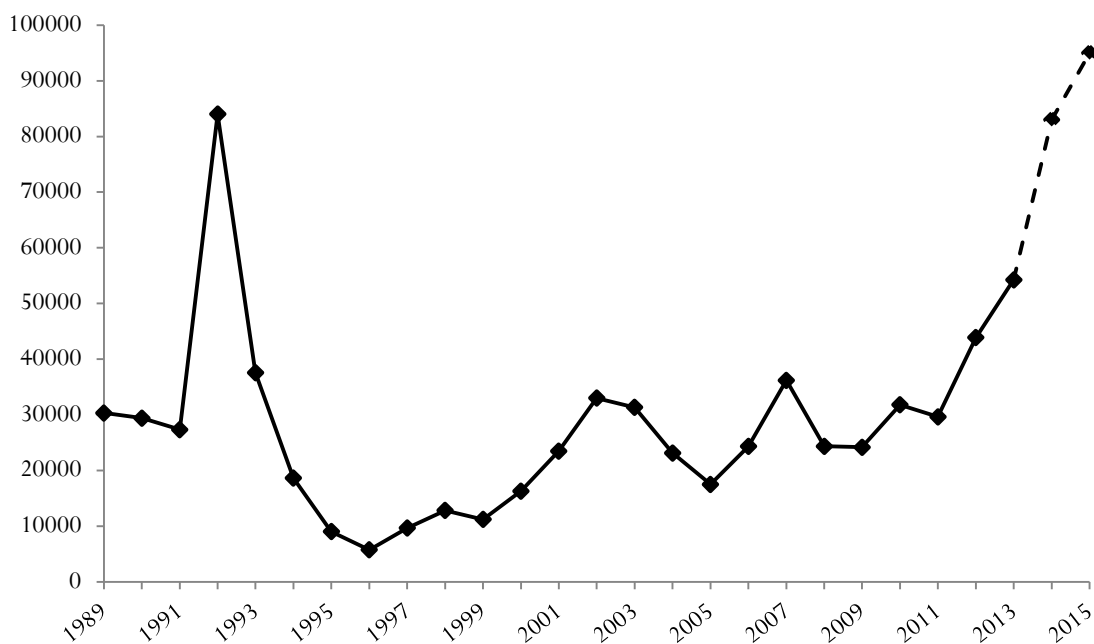


Figure 5. The historical inflow of asylum seekers and the prognosis for 2014 and 2015.

Historically, the nationality and number of applicants each year have varied extensively, see figure 5. During the Balkan War in the 1990's, the number of applicants was 84,000 year 1992, and only four years later this number decreased to 5,800. A great majority of these applicants were from Yugoslavia, and the second largest group was from Iraq. For the past eight years, the number of asylum seekers each year has been at least 24,000, and the highest

number was 2013 with 54,300 applicants. The majority during this period was from Syria, Iraq, Afghanistan, Eritrea, and Somalia. The forecast for year 2014 is 83,000, where most of the applicants are from Syria and Eritrea. The inflow of asylum seekers has not been this high since 1992, and it is assumed that this will continue at the same pace the following years. The forecast for year 2015 is between 80,000 and 105,000 applicants with 95,000 as a main scenario.

Between January 2014 and November 2014, a total of 74,347 people have applied for asylum in Sweden. The most common groups of asylum seekers during this period came from Syria (38 %), Eritrea (15 %) and Somalia (6 %). Furthermore, 10 % of the applicants were stateless, meaning that they do not have any citizenship in any country and hence no valid documents to confirm their identity. It is also common among the other groups that ID documents are missing and 90-95 % of the asylum applicants do not show any identity documents during the registration, meaning that a significant part of the asylum examination constitutes of activities to verify the person's identity. Furthermore, it is common that single men travel to Sweden to apply for asylum after which their families apply for a residence permit at an embassy in another country, and in 2014 67 % of the asylum seekers were male. Figure 6 visualises the percentage of asylum seekers from the ten most commonly occurring countries, which together constitute 82 % of all asylum seekers during this period.

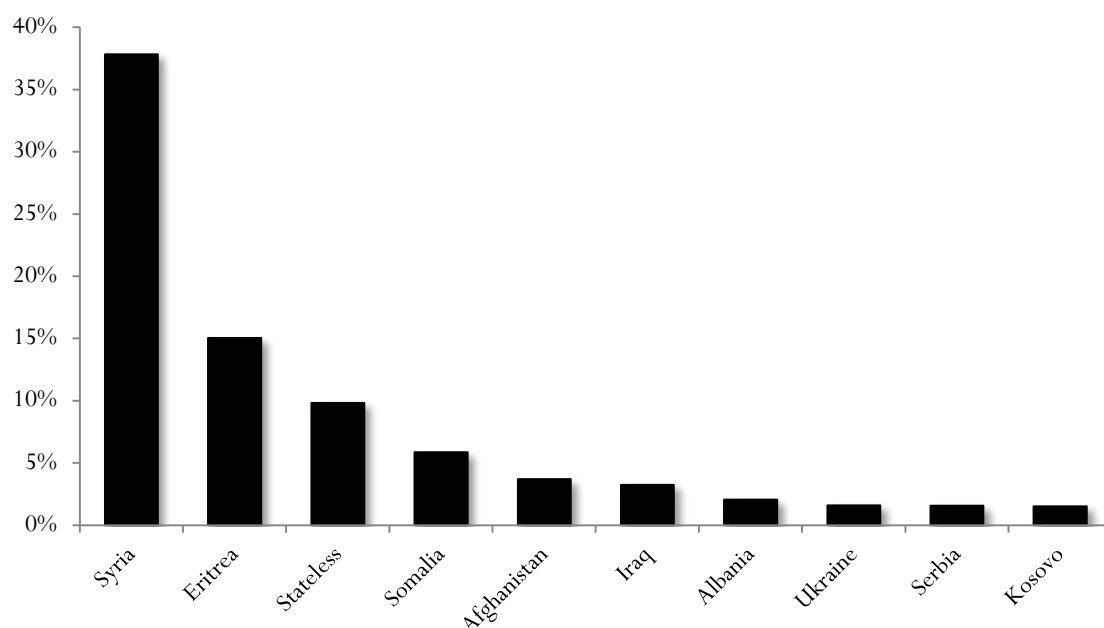


Figure 6. The 10 most commonly occurring countries in the asylum process.

4.1.2. The organisation of The Swedish Migration Board

The board consists of approximately 5,000 employees organised in operational departments with a Director-General appointed by the government. The organisation consists of four divisions and six supporting functions, see figure 7 which also shows how the capacity of employees are allocated to the various divisions and functions. The four divisions are responsible for the operational work, and have the direct contact with the asylum seekers.

Managed Migration and Citizenship only considers applications regarding for instance work and study permits, and is therefore outside the scope of this project, wherefore this division will not be described further. The Administrative Procedure division handles appeals and the supporting functions handle everything between administration and European and international cooperation.

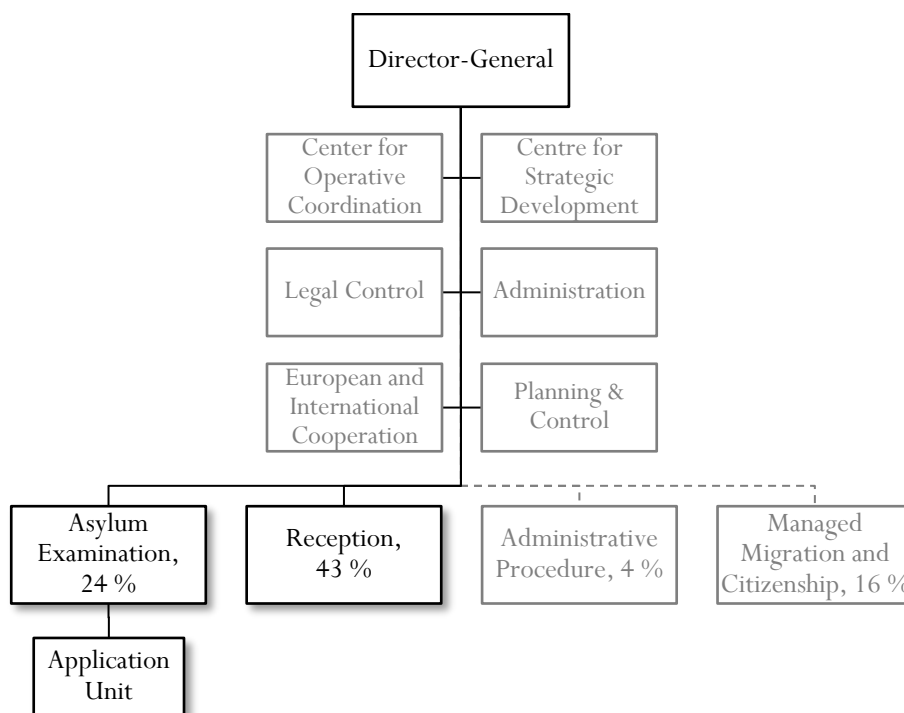


Figure 7. The organisation chart of the board.

The organisation is continuously expanding and since 2009 the number of employees has increased with approximately 60 %, and the board plans to recruit approximately 1,000 new employees during 2015. During 2013, 13.9 % of the employees at the board left their employment (Migrationsverket 2014). This number can be compared to the corresponding numbers at the Swedish Tax Agency and the Swedish Social Insurance Administration, which are 7.3 % (Skatteverket 2014) and 9.0 % (Försäkringskassan 2014) respectively. When excluding retirements the numbers are 12.7 % at the board, 2.4 % at the Swedish Tax Agency and 5.5 % at the Swedish Social Insurance Administration.

4.1.2.1. The asylum examination division

The asylum examination consists of both an application function responsible for registration and an examination function responsible for hearing the asylum applications. There are six application units located in Malmö (two units), Gothenburg, Solna, Märsta and Arlanda. It is also possible to apply for asylum in Flen, Norrköping and Gävle, where application functions are located. Furthermore, there are three smaller application functions handling unaccompanied minors, located in Skellefteå, Örebro and Umeå. When an asylum seeker visits one of the units to apply for asylum, the case is registered and an appointment is booked with a case officer at the closest examination unit. If the load of asylum seekers at the

examination units are unevenly distributed in relation to the different capacities, the cases can in some circumstances be reallocated.

Approximately 1,350 employees work at the asylum examination division, and the work is organised in teams consisting of a team leader, case officers, decision makers, and assistants. The team leader is responsible for ensuring an even distribution of cases to the case officers based on experience, case complexity and time. The goal is that one case officer should handle three cases per week, and the decision makers approximately one. The role of the assistant is to support the team and appoint resources that must be available during the meetings, such as interpreter, public counsel, etc. There are teams that only handle unaccompanied minors, and one division only processes cases under the Dublin Regulation (see chapter 4.1.1. *The asylum seekers* for description), but the remaining teams do not have any specialisation.

4.1.2.2. The reception division

There are approximately 2,000 employees working in the reception division, and the work is organised in three specialised teams; investigation, accommodation and repatriation. Each team consists of approximately 10-15 people depending on the location of the team, and includes a team leader, case officers and assistants. An asylum seeker is not given a specific case officer, but is allocated to a specific team that handles the issues connected to the asylum process. Each team has a hotline rotating between the team members, which the asylum seeker or other employees within the organisation can turn to with questions regarding the asylum process and other issues.

Through the receptions the board is present in approximately 40 locations throughout the country, from Malmö in the south to Kiruna in the north. The board is divided into five reception areas, see figure 8, with at least one asylum examination unit in each area. The goal is that all asylum seekers should stay within the same region as the asylum examination meeting is held. Furthermore, all receptions are connected to the asylum examination unit in the specific region. The responsibility of the reception is to be a communication channel to the asylum seeker during the asylum examination process. The reception handles practical issues such as accommodation displacement, introduction meetings, individual appointments, payment of allowances, etc. Furthermore, the reception is responsible to inform the asylum seeker regarding the decision made by the asylum examination unit regarding residence permits.



Figure 8. The reception areas of the board.

The reception is responsible for the accommodation that is offered to all asylum seekers. Figure 9 visualises the distribution of different types of accommodations. The asylum seeker can either choose to find a place by own means called EBO, or choose to accept the accommodation that is offered by the board called ABO. The number of asylum seekers registered at the board varies, but in October 2014, approximately 23,000 people stayed in EBO accommodations and 52,000 people stayed in ABO accommodations. Furthermore, 2,000 people stayed in other accommodations, such as hospitals or custodies. Hence, there were a total of approximately 77,000 people registered at the board in October 2014. The ABO accommodations are divided into several categories, and the three most common are;

- *ABI*; the arrival accommodation which is situated near the application units. The goal is that the asylum seeker stays for approximately three days during the registration process. The total capacity of ABI accommodations is approximately 1,100 beds.
- *ABE*; permanent apartments where the asylum seeker stays throughout the asylum process. An apartment can either house one family or a number of single asylum seekers. In October 2014, there were approximately 28,400 asylum seekers staying in ABE accommodations throughout Sweden.
- *ABT*; temporary rooms in for instance camping facilities or hostels that have been procured due to lack of ABE accommodation. The goal is to stay in this type of accommodation while waiting on an ABE apartment. There are two types of ABT accommodations; one that is all inclusive, hence food is offered at the accommodation

unit, and one that is without food. In October 2014, there were 20,600 asylum seekers staying in ABT accommodations throughout Sweden.

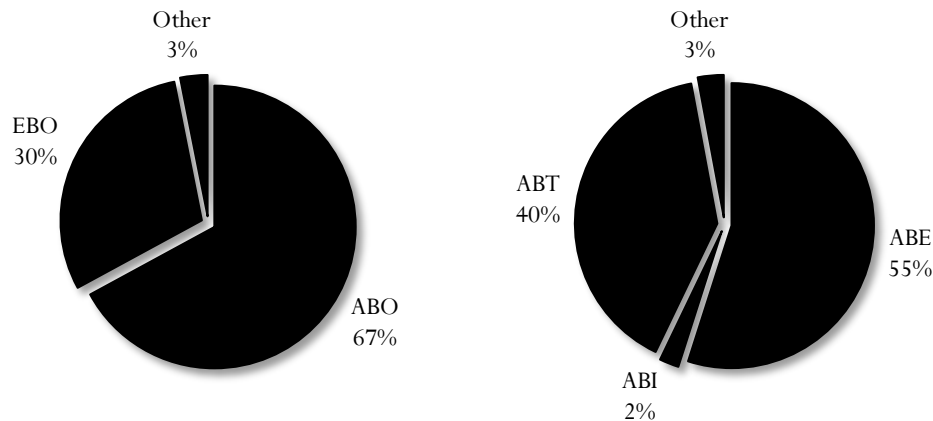


Figure 9. The different accommodation types (left) and the ABO accommodations (right).

Nine accommodation coordinators located around Sweden are responsible for coordinating the asylum seekers to an available accommodation within the region of the asylum examination unit. Each day the coordinators receive a list from the application unit of ready-to-move asylum seekers, and match these with available accommodations. The accommodations comprise several beds and when allocating single people several factors are taken into consideration, such as country of origin, language and sex. Families are always kept together and do not stay with other single people, although two families can stay together. When the accommodation coordinators have allocated the asylum seekers to accommodations around the country, it is the responsibility of the reception to move people within the accommodations connected to the reception in order to sufficiently match the right people with the right accommodation. For instance, if a family stays in an ABT room, the reception strives towards moving the family to an ABE apartment when it is possible.

4.1.3. The asylum process

The asylum process is initiated when the asylum seeker hands in an application at one of the application units. It is also possible to seek asylum at the Swedish border, where the police are involved and hands over the application to the board. If a family seeks asylum, they will be processed together as one asylum examination, although the time required for the activities in the process will differ depending on the number of family members. The asylum process is here divided into the registration process, the reception process, the asylum examination process, and the closure process, see figure 10.

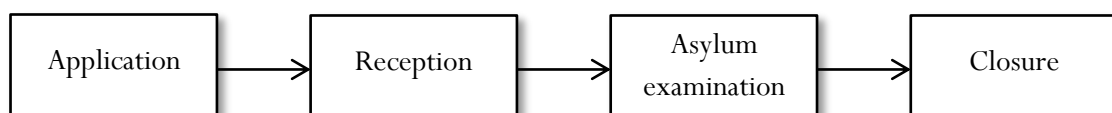


Figure 10. The asylum process.

4.1.3.1. The application process

At the application unit the asylum seeker is required to state his or her identity, reasons for protection needed and how he or she came to Sweden. If the applicant lacks monetary resources, daily allowance will be applied for as well. The receptionist controls whether the asylum seeker previously has submitted an application and has a valid decision since four years, in which case he or she is not allowed to apply for asylum. If a registration of the asylum seeker already exists, the asylum process is resumed at the point where the process was disrupted. Otherwise, administrators at the application unit register the applicant in the information system Skapa⁴. Elderly, pregnant women, asylum seekers suffering from an illness, and applicants that have travelled far and do not stay at the arrival accommodation (ABI) are prioritised during the application process, which usually lasts for three to five days. The detailed application process can be seen in figure 11.

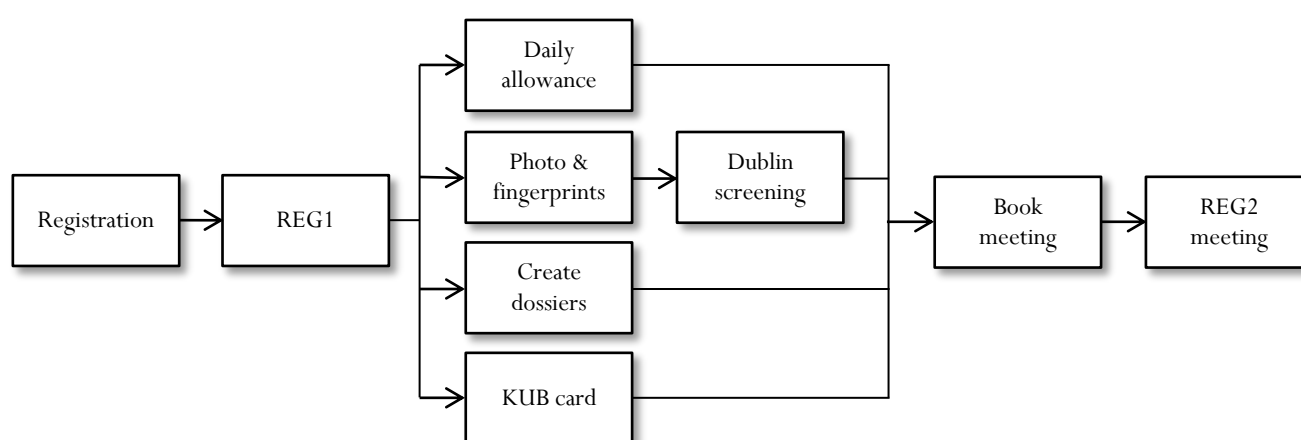


Figure 11. The application process.

Thereafter, the applicant is being photographed and fingerprints are registered, which are compared to the European data base with asylum applicants. This is done according to the Dublin Regulation, which implies that the country where the applicant first seeks asylum is the country that should consider the application, see chapter 4.1.1. *The asylum seekers* for further description. If there are indications that the asylum seeker previously has applied in another country covered by the regulation, the case is transferred to the Dublin division located in Stockholm which accedes to the process and makes arrangements with the other country to transfer the applicant. However, the receiving country is obliged to handle the application within a period of 90 days, during which the asylum applicant is staying in Sweden.

The applicant is thereafter assigned an LMA card, which shows that the person is an asylum seeker in Sweden and has the right to stay in the country while the application is processed. A number of administrative tasks are performed simultaneously, such as approval or disapproval of the daily allowance application, opening of a bank account with a belonging KUB card to the case, and creation of an identification number in order to keep the identity of the asylum seeker anonymous. Two dossiers that gather all information connected to the asylum seeker

⁴ The board's information system in which necessary information regarding an asylum seeker is registered.

are created; one is sent to the reception unit and one is sent to the asylum examination unit. An assistant at the application unit schedule the asylum examination meeting to the case officer with the first available time.

The applicant is booked to a REG2 meeting; a registration meeting at the application unit where for instance the reasons for asylum, health condition and family situation of the asylum seeker are discussed, and information about the application process is communicated. This meeting is usually held within two days from the point of registration, but with a high inflow of asylum seekers this could be delayed. The asylum seekers that are covered by the Dublin Regulation or classified as OH/OT cases will attend a shorter meeting that only focuses on for instance the health status and communicating information about the process. During the meeting, the asylum seeker receives the KUB card and an appointment for the asylum examination meeting. This meeting should be held within two to three weeks, but due to the high inflow of asylum seekers, the waiting time is now as high as eight months. If the asylum seeker has arranged accommodation by own means (EBO), he or she will also receive an appointment at the closest reception unit to a MUS meeting; a meeting with the asylum seeker in which for instance family situation, previous work experience and ID documents are covered.

4.1.3.2. The reception process

The reception process can be seen in figure 12. If the asylum seeker requires accommodation, the board is obliged to offer a place to stay during the asylum process. After the REG2 meeting, the application process at the application unit is completed and the asylum seeker is marked as “ready-to-move”. An accommodation coordinator allocates the applicant to an available and suitable place within the region where asylum was applied for. The list of allocated asylum seekers arrives to the arrival accommodation (ABI) at a given time every day, whereafter the asylum seekers are informed. Asylum seekers covered by the Dublin Regulation are prioritised to stay close to an airport, and there are therefore certain accommodation units that are designated to Dublin cases.

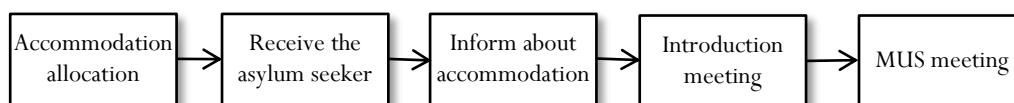


Figure 12. The reception process.

Personnel at the arrival accommodation (ABI) inform the applicant where he or she will stay and transportation to the accommodation is arranged. Personnel from the reception meet the applicant at the train station or near the accommodation unit where the bus stops, depending on the means of transportation. If there are several people that are allocated to the same place bus transportation is arranged, otherwise train is the most common means of transportation. Personnel from the reception give all information needed about the accommodation, such as garbage disposal, laundry instructions and how to use the kitchen equipment. They also show where the grocery store is located as well as care centre, schools and other public services that might be needed.

The applicant is called to an introduction meeting at the reception unit which the case has been transferred to. This is a group meeting where information is communicated regarding the asylum process, Swedish laws and regulations, financial support, health care contacts, etc. These meetings are usually held within one month from arrival, depending on the reception unit. An individual meeting called MUS is also arranged at the reception unit, where the aim is to further confirm the identity of the asylum seeker and collect ID documents, discuss previous education and work experience, discuss health condition and family situation, and gain information that might be useful in the asylum examination. If the asylum seeker did not attend the group introduction meeting, information will be given individually at the MUS meeting.

When the asylum seeker is about to have the asylum examination meeting, he or she can contact the reception unit with help to arrange travel tickets to the asylum examination unit. If the accommodation is far away from the asylum examination unit, or if the public transportation is insufficient during the period of travel, the applicant might have to travel the day before the meeting and stay temporarily at either the arrival accommodation (ABI) or a hotel.

4.1.3.3. The asylum examination process

The asylum examination process is visualised in figure 13. Prior to the asylum examination meeting, a number of activities are performed. First of all, the team leader screens all incoming cases and can, if needed, reallocate them between the case officers within the team according to experience and workload. The assistant schedules a room together with an interpreter and a public counsel. However, if the case has been classified as PUT presumption or OH/OT, a public counsel might not be needed. In case a public counsel is appointed, a meeting between the public counsel and the asylum seeker might take place prior to the meeting if needed. Finally, the case officer screens the case before the meeting and discusses possible outcomes and question marks with a decision maker. If the asylum seeker is from an uncommonly occurring country, the case officer search in Lifos, the board's database for legal and country of origin information prior to the meeting in order to receive information about the current situation in the country. It is also possible for the case officer to request necessary information from the Lifos unit. The time required for the case officers to prepare for the interview can therefore vary from a couple of minutes to several hours depending on the type of case.

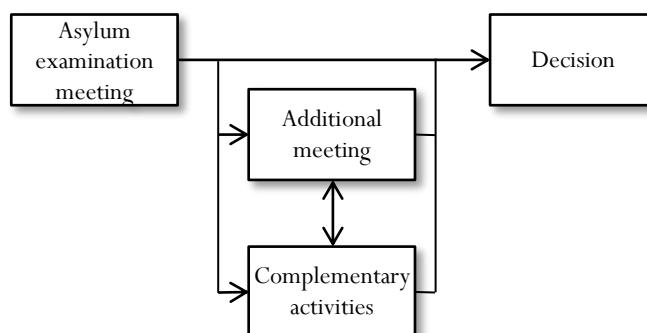


Figure 13. The asylum examination process.

During the asylum examination meeting the applicant has to give an account of the reasons for asylum and why the country of origin is not safe. A public counsel is normally present together with an interpreter, and the role of the public counsel is to support the asylum seeker, and to be a juristic representative. If a public counsel is present, the case officer is allowed to be questioning the reasons for the application. During the meeting there are hence at least three or four people attending; the asylum seeker, the interpreter, the public counsel and the case officer. In some cases, for instance if the asylum seeker stays far from the asylum examination location, the meeting can be held through video. In that case, the asylum seeker visits the reception where video rooms are available, and the asylum case officer is located at the examination unit. The meeting lasts for approximately 2-4 hours depending on the asylum seeker and the family situation. Families are handled at the same time and these meetings are therefore longer than for an individual.

After the asylum examination meeting, further actions might be necessary in order to make a decision, for instance control of ID documents, translation of documents or language analysis. If necessary, an additional meeting is held with the asylum seeker. If the applicant has a public counsel, a pleading should be filed within two weeks after the final meeting. If necessary, the applicant can have an additional meeting with the public counsel to discuss the pleading before it is filed. Based on the information, the case officer together with a decision maker determines if the asylum seeker should get a residence permit or not. When a decision has been made, the information is sent to the reception unit. Altogether there is a variation in the time and the activities required in the asylum examination process and the value adding time can vary from one to several days.

4.1.3.4. The closure process

When the asylum examination unit has made a decision regarding an application, the information is sent electronically to the reception unit, which receives it the same or the next day. A meeting with the asylum seeker is then appointed approximately seven to ten days later, and a notice is sent by mail to the address where the applicant is registered. The closure process is visualised in figure 14.

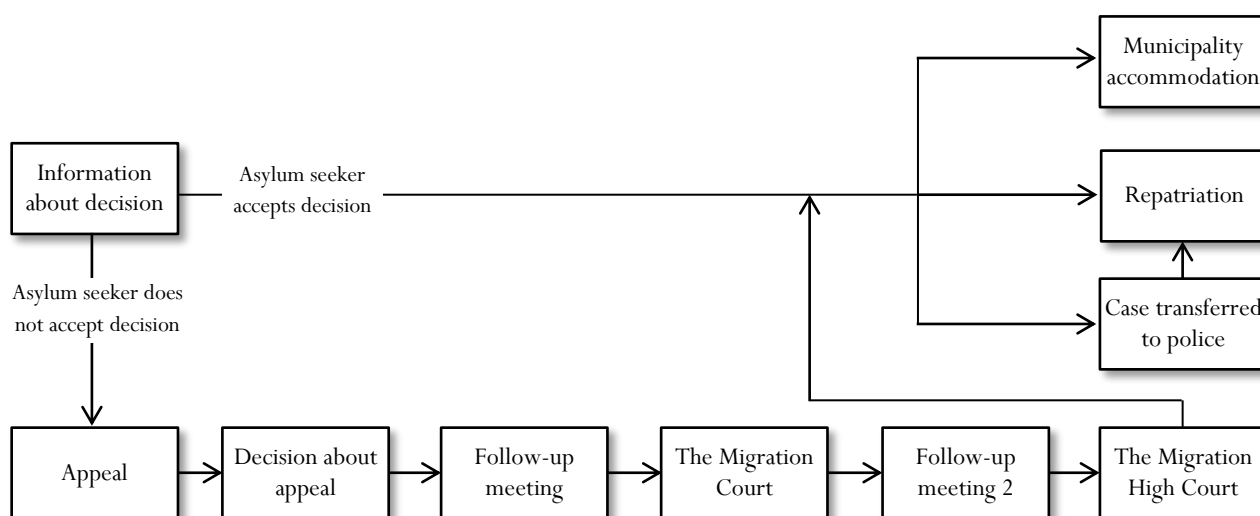


Figure 14. The closure process.

If the decision is positive, hence the asylum seeker receives a residence permit, the case is transferred to the Employment Service, who is responsible for establishing the individual in the society. However, if the asylum seeker stays in one of the board's accommodations (ABO), he or she will be listed at the reception until a municipality is ready to receive him or her. This time varies vastly between different applicants, which is partly due to the intention of matching the applicant's education and working experience with a municipality where the applicant can find a job. However, the current housing shortage in Sweden implies that municipalities have difficulties to arrange accommodations to those who receive residence permits and in October 2014 there were 10,206 people with a residence permit staying in the board's accommodations. The asylum seekers with a residence permit registered in the system have been waiting in average 371 days for accommodation in a municipality. If the asylum seeker on the other hand stays at a place by own means, he or she will be discharged from the reception four weeks after the final decision automatically. The asylum seeker is during this period comprised by LMA and receives the daily allowance.

If the application is refused by the board, the repatriation team accedes to the case and informs the applicant about the decision. The asylum seeker has the right to appeal against the decision, in which case the appeal is sent to the case officer who reviews the appeal and decide whether the decision should be changed. If the board maintain its decision, which happens in almost all cases, the appeal is sent to the Migration Court which can either change the decision or agree with the board. If the decision is changed, this is usually due to new circumstances and new evidence. If the Migration Court agrees with the board, the applicant can apply for leave to appeal to the Migration High Court, but this is only granted in precedential cases and is hence not common. If the asylum seeker is classified as an OH/OT case, he or she is not allowed to stay in Sweden during the appeal process. However, all other asylum seekers are registered as previously in the process, and are covered by the LMA during the time for appealing.

When the final decision has been made, a repatriation process to the country of origin is initiated. If ID documents are lacking, the board together with the asylum seeker take actions to arrange this. If the asylum seeker refuses to cooperate the daily allowance is reduced to only comprise enough monetary resources for food and the case is transferred to the police. The police are then responsible for the person leaving the country. Although the police are responsible for the asylum seeker to leave, the asylum seeker is still registered at the board and stays at the board's accommodations during this period.

4.2. The current flow efficiency in the asylum process

Flow efficiency has been defined as *the one-piece movement of input resources through an operation's processes with the highest possible value adding time and lowest possible waste*, see chapter 3.1. *Flow efficiency*. The flow efficiency is calculated as the value adding time divided by the total throughput time. One example in the asylum process is the case of a single man from Syria with ID documents categorised as a PUT presumption for which the average value adding time can be approximately two days and the total throughput time from application to notification of the decision can be approximately 530 days. In this case, the

flow efficiency is 0.4 %, and in order to increase this percentage it is not sufficient to focus on changing the actual value adding time, but to decrease the total 528 days of waste that constitutes a significantly larger part of the entire process. However, due to the high inflow of asylum seekers the waiting time for an asylum examination is difficult to decrease with the existing capacity. Hence, the flow efficiency in the asylum examination process is of interest, where the time between the asylum examination to notification of decision in the example given above can be approximately 110 days. With the value adding time still being two days the flow efficiency can be calculated to 1.8 %. For a further account of the estimations and calculations, see Appendix I. Liker (2004) claims that most organisations have 10 % value adding time and 90 % waste and compared to this the flow efficiency in the asylum process can be argued to be low.

The value adding time has in the example given above been identified as the time that the case officer needs in order to conduct the examination and write a decision. Hence, the MUS meetings at the receptions and some of the activities in the application process is not characterised as directly adding value to the final decision, since if the examination would be held immediately these activities would not be necessary, see chapter 4.2.2. *Identified waste* for further discussion. Moreover it is important to mention that these calculations are a simplification of the actual situation. There is no existing data that supports a completely accurate calculation of the flow efficiency including variations and standard deviations. However, the calculations give an indication of the current situation, which is seen as sufficient for its purpose.

The throughput times in the asylum process have varied over time and in 2009 the board initiated a comprehensive project aiming to reduce the throughput times. A consultancy firm was hired and conducted an analysis of the asylum process. The project resulted in the introduction of the lean philosophy at the board and during the project the waiting times were reduced from 240 days to approximately 90 days. However, after the project had been finalised the waiting times increased to approximately 100 days, but they were still significantly shorter than before.

The lean philosophy consists of principles such as a continuous flow of units, a pulling system instead of pushing units through the processes, and jidoka that emphasises that employees should be able to stop the production in order to not deliver defect units (Liker 2004). However, the current asylum examination process is characterised by working in batches, pushing cases through the system instead of pulling cases when demand arises, and due to the performance goal of three cases per week the employees have limited autonomy in their examination work. Furthermore, even though Liker (2004) claims that it is possible to increase the quality with reduced resources, there is a perception within the organisation that there is a trade-off between quality and efficiency.

Womack and Jones (2003) also emphasise the importance of a flat organisation where all employees have insight in the overall process and understand their part in the whole value chain. They also claim that management should adapt the concept of “go and see”, meaning that in order to make accurate decisions management at all levels must participate physically

in the core operations within the organisation. However, the board is characterised by several hierarchical levels and the employees within the asylum process experience that management at higher levels in the organisation have limited knowledge of the daily work and are reluctant to visit the units. Furthermore, since the employees have limited knowledge regarding the other divisions' work in the process, they have difficulties to understand the importance of their part of the value chain.

Even though flow efficiency is a fundamental part of the lean philosophy, the asylum examination process is controlled by focusing on resource utilisation which contradicts flow efficiency. Each unit has their own productivity goals, expressed in number of cases handled, which leads to sub-optimisations when each unit strives to reach their individual goals instead of what is best for the whole process. This further creates a competitive situation between the units where there are no incentives to ease the work for another unit, since this might affect the own unit's results negatively. Furthermore, the flow efficiency is inhibited by the increased number of cases in the system, which according to Little's law increases the total throughput time with maintained cycle time. The inflow of applications cannot be affected but the cases in the asylum examination process have also significantly increased, which has increased the administrative work for the case officers.

4.2.1. Identified values

In order to apply the concept of flow efficiency in the asylum process a definition of what constitutes value in this specific context is required. However, the value should be defined from the perspective of the customer (Womack & Jones 2003) and since it is not obvious who the customer is in public organisations, this is not uncomplicated. As previously mentioned, Lengnick-Hall (1996) argues that customers can have five different roles in human service organisations, where three of them are *customer as a buyer*, *customer as a user* and *customer as a co-producer*. The society represented through the government can in the asylum process be regarded as the buyer of the services offered by the board. The asylum seekers can be seen as both the direct users of the services but also as co-producers, since the participation of the applicant is necessary in order to produce the final output.

The different roles of customers imply that they have different needs and different demands on the services that might be contradicting (Lengnick-Hall 1996). These customers cannot be seen in the same way as in private manufacturing industry, where the performance of the company directly can be derived from the satisfaction of the customers (Seddon 2010). For instance, all asylum seekers presumably will be disappointed if their application is refused, although the society and the government might be satisfied with the legal security of the system. Furthermore, since migration is a political issue there are different opinions within these groups regarding the priorities of the values and acceptable levels of them. Hence, defining value adding activities that will satisfy all concerned parts of the system is a complex issue.

The board has stated a mission related to asylum examination, which is to offer asylum seekers a humane reception and a fast, cheap and legally secure examination. Therefore, value adding activities are seen as the activities that contribute to a humane reception and the

activities within the asylum examination process that increase the legal security of the examination. The speed of the examination will be achieved by eliminating the non-value adding time between these value adding activities. However, with the goal to administrate three cases per week the focus has primarily been on reducing the speed, and with the increased number of asylum seekers in the system the workload of the employees has continuously increased. According to the employees the focus on speed has resulted in a stressful work situation that reduces their ability to offer a humane reception to the same extent as before, which also affects the legal security. Hence, with the system that exists today there can be contradictions between the different values identified by the board.

4.2.2. Identified waste

The low level of flow efficiency can be derived from the large amount of non-value adding time in the system. This non-value adding time, or waste, can be divided into eight different categories; waiting time, defects, unnecessary transports, inventory, over-processing, over-production, unnecessary movement and unused employee creativity, further discussed below.

Waiting time

Waiting is a source of waste that occurs both when customers have to wait for the next activity in the flow and when employees are forced to wait for another activity to be performed before their work can start (Liker 2004). In the asylum process, the low flow efficiency implies that the waiting time for the applicants is significant. There are external waiting times within the process and in the asylum examination these mainly consist of waiting for responds from embassies, results of language tests or translations of documents. However, there are also significant internal waiting times, for instance when requests are sent between different units. Figure 15 visualises the current waiting times in the asylum process.

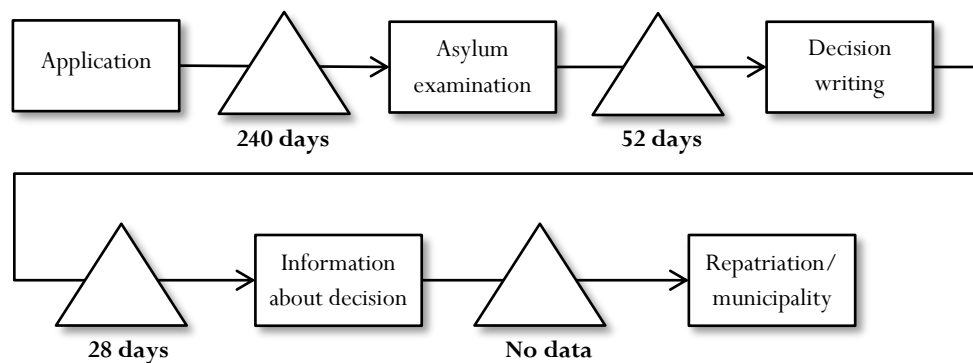


Figure 15. The waiting times in the asylum process.

The longest waiting time for the applicant is the time between registered application and the asylum examination meeting, which currently is approximately 240 days. However, there is also a significant waiting time between when a case is decision ready until the decision is made. The average time for how long these cases have been decision ready is 90 days and the median time is 52 days. The median waiting time from when the decision has been made until the asylum seeker is being informed about the decision is 28 days. However, for the asylum seekers that received a residence permit the same median time is 15 days, and for asylum seekers whose decision is refused 46 days. The applicant is informed by mail that a decision

has been made and is booked for an appointment at the reception to be notified of the decision. When an applicant does not come to the meeting, a new appointment is booked and a new mail is sent to the applicant about the new appointment, which further extends the waiting time.

The median time from when the asylum seeker has been informed about the decision, hence the decision has entered into force, until today waiting for effectuation is for Dublin cases 45 days, OH/OT 49 days, PUT 71 days and refused ordinary cases 423 days. However, this measurement is not entirely justified, since this is a median for all applicants that are waiting for effectuation at this moment. With a high inflow and low outflow this implies that the median will decrease since the number of people waiting for effectuation is constantly increasing. Hence, this measurement does not take the actual outcome into account, and does not reflect the prognosis of what the waiting time is believed to result in. The cases that currently are heard in the Migration Court and stays at an ABO accommodation have in average been 481 days in the asylum process. Furthermore, the applicants with refused decisions that stay at an ABO accommodation and where the case has been transferred to the police have been waiting in average 1158 days from the point of registration. Finally, asylum seekers that have received a PUT and stays at an ABO accommodation have waited in average 371 days for an accommodation in a municipality from the point of registration.

It should be noted that the longer handling time of a case, the more complex it becomes in the asylum examination. The applicant has the right to bring documents related to his or her application during the entire process until a decision is made. When a handling time of a case is extended it is therefore likely that new circumstances arises and that the amount of documents that needs to be investigated increases. Furthermore, when an applicant has received a refused decision, the repatriation is aggravated if the applicant has spent a long time in the country.

Defects

Defects is a source of waste requiring re-work (Liker 2004) and in the asylum process this usually appears when there is a lack of information shared between different units. An example is when the accommodation coordinators allocate applicants that are ready to move from the arrival accommodation (ABI). If not all the required information has been communicated to the coordinator, such as preferences of whom to stay with, health status and disabilities, the transfer cannot be executed and the work performed by the coordinator has to be redone. Furthermore, this leads to delayed transfers and the work at the arrival accommodation (ABI) has to be redone when new accommodations have been scheduled.

Another example of re-work is related to cancelled meetings and figure 16 visualises due to which actor the meeting has been cancelled. At the asylum examination 6.3 % of all investigations are being cancelled. In this case, 52 % of the cancelled meetings are due to the applicant, 20 % are due to the board, 22 % are due to the interpreter and 6 % are due to the public counsel. Within the groups of applicants from West Balkan and Mongolia/Commonwealth of Independent States 75 % of the meetings being cancelled are due to the applicant. There is no data at the reception regarding the number of cancelled

meeting. However, the employees claim that nearly all cancelled meeting are due to that the applicant does not come to the meeting for various reasons and that OH/OT and Dublin cases are over represented. A cancelled meeting require re-work in terms of re-scheduling the case officer and interpreter, finding an available room, sending out a new notice to the applicant and if needed arrangement of transportations.

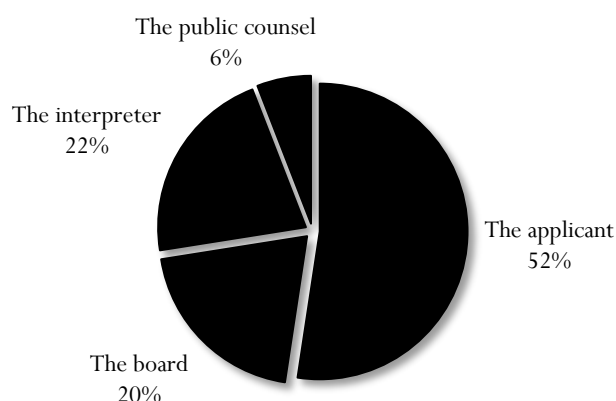


Figure 16. The reasons for cancelled meetings.

Another example of re-work is when the applicant does not participate in the introduction meeting. This results in additional work for the case officer at the reception who needs to inform the applicant individually regarding all the information that could have been acquired during the introduction meeting. Furthermore, re-work is required when the applicants do not receive answers to their questions from the first employee they contact. Even though it is not reasonable for all employees to have knowledge regarding all issues that appear within the process, currently also basic information is lacking in order to meet the demand in the first place.

Unnecessary transports

According to Liker (2004), unnecessary transports are a result of an insufficient layout, and do not add any value to the process. Due to the long waiting times for the asylum examination and the high inflow of asylum applicants, after the registration the applicants need to be transferred from the arrival accommodation (ABI) to other accommodations throughout the whole country. Throughout the process the main transportations occur from the arrival unit to the accommodation and thereafter from the accommodation to the asylum examination unit and back to the accommodation. There can also be transportations between the accommodation and the reception unit if these are far apart and also to the public counsel if needed.

The goal for each accommodation coordinator is that all asylum seekers should stay within the same region as the asylum examination is being held. However, due to for instance lack of accommodation this might not be possible and the asylum seeker is relocated to another region although the asylum examination meeting is kept within the region where the application was handed in. Moreover, if the asylum seeker has chosen to be listed within an EBO accommodation but due to various reasons has to move, the board has to offer an ABO

accommodation. In these cases, the asylum seeker might be forced to move to another region due to lack of available accommodations. Between October 2013 and September 2014, 18 % of all asylum seekers stayed in a different region than where the asylum examination was held. In worst cases, the asylum seeker has to travel 1,800 kilometres between the accommodation in Kiruna in the north and the asylum examination meeting in Malmö in the south. However, it is most common that if the asylum seeker stays outside of the region where the asylum examination is being held, he or she stays in the closest region possible. Moreover, this measure does not indicate the actual distance to the asylum examination, and other factors such as accessibility to and frequency of public transportation can affect the total travel time more than the actual distance.

Also, within each region there are distances between the accommodations and the asylum examination unit that causes long travels. These distances might be as long as 400 kilometres and the accommodations might be located where the public transportation is limited. The asylum seeker might need to change means of transportation several times during the travel. If the asylum examination meeting is held in the afternoon, the asylum seeker might miss the last public transportation to travel to the accommodation, which can result in that expensive taxi services or hotel nights might be required.

Since the asylum examination meetings are booked approximately eight months from the time of application, the transportation does not add any additional time to the total throughput time. However, the transportations decrease the flexibility of the system, and with asylum seekers far away from the examination unit, the system is sensitive towards for instance delayed public transportation or cancelled meetings. If the total throughput time would be shorter and the asylum examination could be held within a shorter period of time from the application, the distance from the accommodation to the examination unit will be more crucial to the total throughput time. According to the case officers at the asylum examination unit the distance to the asylum seeker does not affect the complexity or handling time of their work. However, in cases where an additional meeting is required and could be conducted within a short period of time it would be beneficial for the throughput time to have the asylum seeker close to the asylum examination.

Inventory

Inventory is a result of over-production and other deficiencies in the system (Liker 2004). In October 2014 there were 76,584 number of cases registered at the board, including both those who wait for a residence permit decision and those who have received a decision and therefore wait for either a municipality to receive them or to leave the country. Figure 17 shows how the number of cases is distributed within the asylum process.

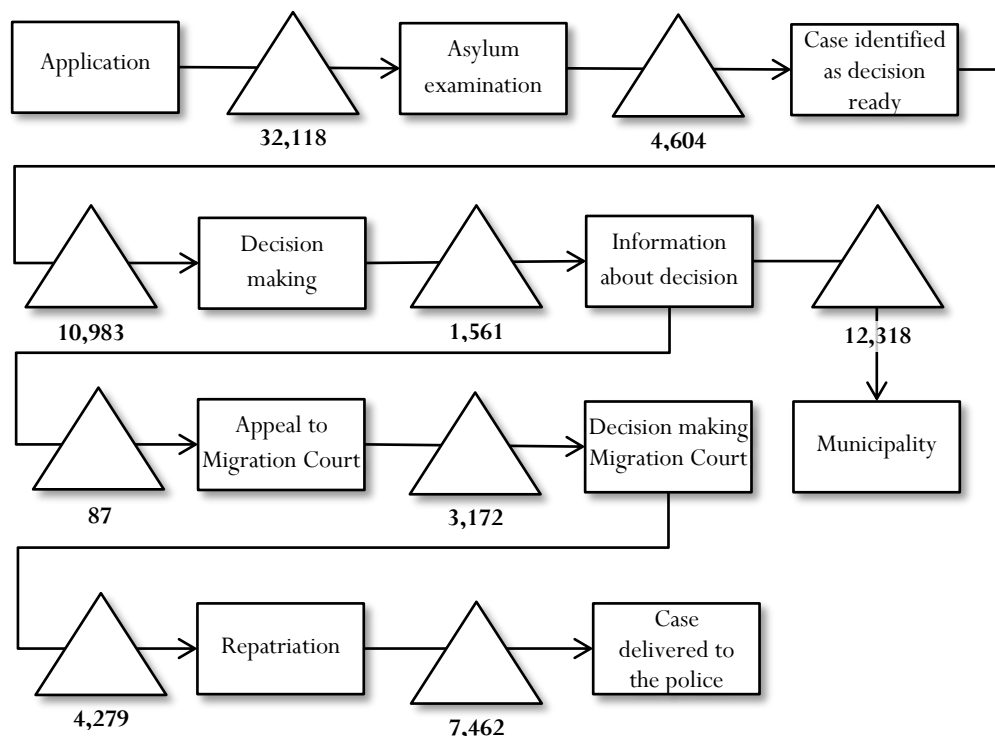


Figure 17. The inventory of cases in the asylum process.

There are 47,705 open cases in the system, which is the number of applicants that have not yet received a decision. The number of cases under investigation is 4,604, hence these have had their asylum examination meeting but are not decision ready. Furthermore, 10,983 cases are decision ready, but a decision has not yet been made. There are 10,206 immigrants, 13 % of the total number of people in the system, staying in the board's ABO accommodations that have received a residence permit. Moreover, there are 15,000 people staying in the board's accommodation whose decisions have been refused, of which 3,259 are waiting for a decision on the appeal. Approximately 50 % of the refused decisions have been transferred to the police. Furthermore, there are 1,561 cases with a decision but the applicant has not yet been notified, or the appeal has not yet been filed.

Each case officer at the asylum examination has responsibility of approximately 160 open cases, hence asylum seekers that not yet have received a decision. Since the cases already at the application unit are scheduled on a specific case officer at the asylum examination, several of these are waiting for their asylum examination meeting. In average, approximately 108 (67.5 %) of these cases have not had their examination meeting, 15 (9.4 %) are under investigation and 37 (23.1 %) are decision ready but the decisions have not been written.

There is also inventory in forms of information stored about the applicants in the asylum process. Since this information is stored for a long time before it is used there is a risk it becomes obsolete (Petersson et al. 2009). In the asylum examination process it is therefore likely that the information given several months prior to its use has to be modified,

complemented or at least verified. Another example of storing information is when the Lifos unit collects and stores information regarding the current situation in different countries.

Over-processing

The waste of over-processing is due to a lacking layout of other processes (Liker 2004). In the asylum process this can therefore be referred to as most of the activities that is performed prior the asylum examination as a result of the waiting time. Hence, most of the activities within the accommodation process except from the arrival accommodation (ABI) can be regarded as waste, since if the asylum examination would have been first in the process the need for allocating applicants all over the country would be eliminated. Moreover, all issues that are being handled by the reception unit during the waiting time for asylum examination can therefore be considered as waste.

Another example of over-processing is when an asylum examination meeting do not require any further action in order to make a decision, but since the case officer does not know when he or she will be able to write the decision the applicant is sent home. Thereafter, when the decision has been written, the reception unit is notified and sends out a notice to the applicants. This administrative work can therefore be considered as waste.

Over-production

Over-production is when producing more than is needed by the next activity in the flow (Liker 2004). Over-production creates inventory and in the asylum process this is frequently occurring. For instance, much of the information that is given at the application unit is not used until the asylum examination meeting is held, which currently is approximately eight months later. In the current system, the asylum examination meetings can also be regarded as over-production since the case officer have several other cases in queue to finalise before he or she can write a decision related to the meeting. Furthermore, scheduling the asylum examination meeting on a specific case officer already at the application unit eight months ahead of the meeting can also be considered as over-production. There are significant uncertainties regarding for instance if the case officer is still working at the unit and the current work situation with number of cases in the system at the point of the meeting.

Another example of over-production is to collect information that might be useful in the future but is actually never used. In the asylum process this occurs, for instance, during the MUS interview when the reception unit collects information regarding the applicant's education and previous working experience early in the process. This information will be sent to the Employment Service if the applicant receives a residence permit, but when there is a dismissal it will never be used. Furthermore, the Lifos unit collects information regarding the current situation in different countries continuously, sometimes regardless of if the information is needed at the moment.

At the application unit there is a lack of knowledge regarding how the information collected is being used, by whom and in what purpose. Therefore, there is a lacking understanding about the importance of different types of information, which altogether will affect the quality of the information collected. Furthermore, there is a lack of knowledge regarding what information

that is useful for the asylum examination to cover during the MUS meetings and employees at the asylum examination unit claims that the information from the MUS meetings varies in both extent and quality, resulting in it is seldom being used.

Unnecessary movement

Motion is the movement of personnel within the process that is not adding value for the customer (Liker 2004). In the asylum process this is a problem when the asylum seekers are allocated to ABO accommodations throughout the country. For instance, asylum seekers might be allocated to five different accommodations within the same reception area during the same day. This forces the personnel at the reception units to travel to all five accommodations in the same day in order to receive the asylum seekers and share information about the accommodation. If all asylum seekers would be allocated to the same accommodation, the motion of the employees would decrease and there would be more time to perform value adding work.

Unused employee creativity

Unused employee creativity is according to Liker (2004) when the employees' ideas and proposals are not considered and taken into account. The two watchwords communicated by the management are *respect for the human being* and *continuous improvements*. However, the employees experience that the improvement work is insufficient since proposals from the employees are not utilised and there is a lack of feedback on given proposals. There is a standardised structure for how, when and where improvement proposals should be discussed, but managers claim that lack of time is an important factor to why it does not work. They claim that other things are always more urgent and require their attention, making the improvement work forced to be postponed. Furthermore, when an improvement proposal concerns several units or divisions the discussion must be on a higher level in the hierarchy, which complicates the case for several reasons. First of all, on the way through the hierarchy there is a risk that the original idea is interpreted differently and becomes something else. Furthermore, there is often a lack of knowledge at a higher managerial level of how the work in the processes is performed which makes it difficult to understand the potential benefits of a proposal and it is therefore not prioritised.

4.3. Hinders to flow efficiency in the asylum process

The proposed conceptual framework in chapter 3.5. *Proposed conceptual framework* will in the following discussion be used in order to identify hinders to flow efficiency in the asylum process. The hinders to flow efficiency in the design, planning and control, and improvement are further described below.

4.3.1. Design

The design of the processes and the organisation is aggravated by the fact that the board is a public organisation. The environment in which the board operates is characterised by sensitive debates and the society is divided in different political standpoints. The board is often a subject for criticism in the media (DN 2014; SvD 2014a; Sydsvenskan 2014), and people from the society tend to show dissatisfaction towards the board despite of their political

agendas (GP 2014; SvD 2014b). The employees at the board have been a subject to threats and during year 2012 and 2013 there have been one incident every two weeks that have been reported to the police (SVT Nyheter 2014). According to Radnor and Noke (2013) the decisions in public organisations are affected by the opinions of the media, wherefore this can be problematic for the legal security of the processes.

Furthermore, the board is affected by the fact that the goals in public organisations often are vague, and for instance it is difficult to define and actualise “humane reception”. The board has not communicated a clear definition of what a humane reception is, but there is a general opinion that a humane reception means that the asylum seekers should be treated with respect and service-minded personnel. However, the increased inflow has resulted in that for instance there is a varying condition of the accommodations the board can offer, but under these circumstances it can be argued that the board has to accept whatever is available. The definition of a humane reception can hence be regarded as a dynamic concept, which depending on the inflow and number of asylum seekers in the system can change.

There are further issues with the design of the asylum process and the organisational design that hinders flow efficiency, which will be described below.

4.3.1.1. Process design

The number of asylum seekers in the system has increased with 45 % since January 2014 but the cycle time and thereby the number of decisions each month has approximately remained the same during this period⁵. If the work in process increases and the cycle time remains the same, the throughput time will also increase according to Little’s law (Slack et al. 2010). One way of reducing the throughput time is to reduce the variations in the system (Slack et al. 2010). According to Slack et al. (2010) there are two types of variations; variations in the inflow and variations to perform activities in the process. Liker (2004) further argues that there are variations that are self-inflicted, and external variations often related to customers.

Self-inflicted variations

Self-inflicted variations that are due to the process design are in the asylum process identified as variations in both required time to perform the activities, and type of case. First of all, the asylum examination meeting for a single applicant with a PUT presumption usually takes approximately one hour to process, but a family with five children from an uncommonly occurring country can take a whole day. Although there is a significant variation in the handling time, the two examples are both planned as one case each. At the application unit the estimated time required for each case is not always registered which aggravates the planning of the asylum examinations.

Moreover, when an asylum seeker hands in an application, the case is as previously mentioned categorised as either PUT, OH/OT, Dublin or ordinary. Dublin cases are separated to only be handled in the Dublin division, and OH/OT cases are prioritised to be processed within 90 days. Apart from this there is no separation of the different cases, and all case

⁵ With the exception of October, when the number of decisions increased from approximately 4,700 in September to 5,500 in October.

officers handle all kinds of cases. For example, asylum seekers with a PUT presumption often require fewer activities to make a decision, such as an ID control, whereas ordinary cases might need several activities such as embassy requests, language analyses, and translations of documents. Since these two categories are not separated, the variations in activities required to make a decision therefore increases. The fact that there is nearly no separation of flows contributes to a greater overall variation. According to Slack et al. (2010) a greater variation in the system will lead to longer queues with the same resource utilisation, which indicates that the throughput times could be reduced by reducing the variations in the system.

Today, the asylum process consists of a number of activities that are not performed in a continuous one-piece flow. The focus is mainly to register asylum seekers in the system and since resources are reallocated from the asylum examination, this has an impact on the outflow and thereby the number of asylum seekers in the system. The activities are performed by a number of different people, and sometimes approximately 15-20 people can be involved in the same case. The transfer of cases between employees is time consuming, but also leads to increasing variation in the throughput time due to for instance lacking communication.

External variations

At the board mainly three types of external variations have been identified; variations in the inflow, variations in the activities required in the process, and variations in the outflow of asylum seekers. First of all, the inflow of asylum seekers varies due to the current situations around the world, and is therefore difficult to influence although it can be forecasted several months ahead with up to 95 % accuracy. However, it is important to mention that factors such as differences in the migration systems between different countries affect where the asylum seekers apply for asylum. An example is the fact that the board has decided, as the only country in the world, to give all asylum seekers from Syria permanent residence permit. The inflow of asylum seekers between January 2013 and November 2014 can be seen in figure 18.

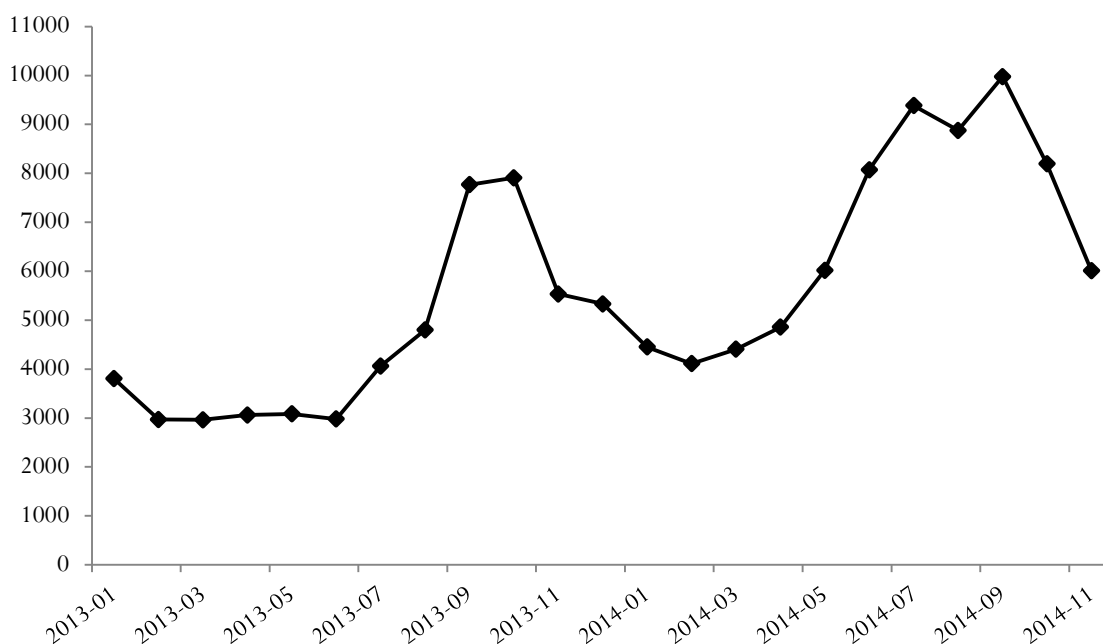


Figure 18. The inflow of asylum seekers between January 2013 and November 2014.

Secondly, there can be a significant difference in the activities needed during the asylum examination for asylum seekers that in the beginning of the process are classified as the same type of case. For instance two different single asylum seekers without ID documents from a country classified as a PUT presumption can require different activities in order to make a decision. The need for the activities required might arise first after the asylum examination meeting, and hence they are difficult to plan and control. This variation can be reduced with the right classification of cases, but there will always be differences in required activities that are due to the fact that the asylum seekers are individuals with different experiences and backgrounds.

Finally, the variation in the outflow of asylum seekers is mainly due to two reasons; the asylum seeker and external operators. It should however be emphasised that this variation is theoretically not entirely external, since the board can take proactive actions in order to reduce the variation. For instance, the communication with external operators can be enhanced, and the board can take actions to shorten the lead time of external activities together with the external operators. However, due to the complexity and the difficulty for the board to influence these variations, they will in this study be discussed and treated as external. If the asylum examination has resulted in a negative decision, the asylum seeker has to cooperate in order to return to the country of origin. If the asylum seeker has decided not to cooperate, there will be a significant variation in the time between when the decision has entered into force and the actual repatriation. The board has tried to reduce this variation by having a repatriation team that only handles issues connected to the return to the country of origin. However, there are still asylum seekers that refuse to cooperate and the board does not have any authority to force anyone to leave. Moreover, external factors such as the police, the Employment Service, the municipalities, or the receiving countries affect the variation in the outflow of asylum seekers, since they have varying lead times of their own, see chapter 4.2.2. *Identified waste.*

4.3.1.2. Organisational design

The organisational design of the board can be classified as a functional structure, since the employees are organised based on their function in the system. This results in the fact that the divisions have their own budgets and agendas, which further leads to sub-optimisations between the functions (Slack et al. 2010). Furthermore, the functional organisational structure inhibits flexibility in the system and it is difficult to for example move employees to the part of the process where capacity is needed the most. A number of problems have been identified at the board due to the functional structure; such as top-down decision making and control, the employees working in “silos” with lacking communication, an inflexible system, and the work design. These issues will be further discussed below.

The employees experience that the work is controlled from a top-down perspective, which according to Slack and Lewis (2011) is problematic since it is the employees that have the most sufficient knowledge regarding the processes. The managers at high levels make decisions that sometimes have a negative influence on the daily work, without the employees having a possibility to discuss or criticise the decision. For instance, employees at both the

asylum examination division and the reception division have expressed that the information obtained in the MUS meetings are rarely used. There is a general lacking understanding among the employees of why these meetings should be held and what the information will be used for, especially if the asylum seeker is a PUT presumption with valid ID documents. However, a decision has been made that these MUS meetings should be held for all asylum seekers.

The divisions at the board work in “silos”, meaning that there is a lacking communication between the departments and that the employees have a limited insight in the work in another department. The divisions have their own goals and budgets that they have to follow, which leads to the fact that when the inflow is high, routines within the own division are changed with a negative impact on other divisions. For example, the application division is focused on processing as many asylum applications as possible, but when the inflow is high, they have to restrict routines and conduct shorter REG2 interviews. This results in that information about the asylum application is lacking, and the asylum examination unit have difficulties to estimate the amount of hours each asylum meeting requires. Moreover, the asylum examination unit in some cases does not receive the reasons for asylum application, which is necessary to collect early in the process.

The limited insight in the work of other divisions also results in a limited understanding of the situation of other functions and their parts in the process. For instance, the asylum examination apprehends that the reception division forward raised questions from the asylum seekers without trying to find answers themselves. On the other hand, the reception division is in general of the opinion that they serve the other divisions of the board with tasks that might be outside of their ordinary work description. These conflicting opinions about responsibilities result in a sense of competition between the functions, and thereby sub-optimisations and counterproductive activities.

Furthermore, there are deficiencies in the communication between the departments considering collaboration around certain cases. The asylum examination unit experience that there often is no contact information available to the reception team responsible for a certain asylum seeker. Therefore it can be difficult to reach the right person at the reception unit and the case officers at the asylum examination unit are often redirected to several different employees before reaching the right person. Furthermore, the employees at the reception experience that they also have difficulties to allocate the person calling to the right employee. This results in that the person calling has to be redirected to several employees without receiving sufficient answers. This uncertainty of who to contact is therefore time consuming for both the applicant and the employees, and leads to an increased false demand on the system (Seddon 2010). Employees also experience an unreasonable response times when sending a request to another unit regarding a certain case. Often a team leader or manager needs to contact the unit in order to receive an answer.

A further issue with the divisions working in silos is that the information exchange between functions is limited. For example, receptions that handle ABT and ABE accommodations experience that they receive necessary information late in the process and that it is therefore

difficult to plan the daily activities. This results in that the reception unit must rather immediately send out personnel to the different accommodation units to receive the new arrivals. This is also the case when the procurement unit wants information regarding an inspection of a new accommodation that has to be done as soon as possible. Moreover, the accommodation coordinators have experienced that they do not receive the proper information required to allocate the right people to the right accommodations. For example, disabled asylum seekers have been allocated to an apartment on the third floor without an elevator, and siblings have been allocated to different towns.

The work designs at the board are specialised, which according to Rubenowitz (2004) reduces the flexibility of the entire system. For instance a case officer at the asylum examination does nothing but administrates cases. This is also the situation even within a division, and for instance at the reception unit there are teams that are working with the repatriation, and teams working with administration of MUS interviews. However, at the reception unit the different teams are able to cooperate if that is needed. Specialisation leads to an inflexible system with difficulties to reallocate capacity to where it is needed the most (Slack et al. 2010). This is especially problematic during the current situation at the board, when the inflow is significantly higher than previous years and the asylum examination can be considered a bottleneck.

The employee turnover of 13.9 % is higher than other comparable authorities, such as the Swedish Tax Agency (7.3 %) and the Swedish Social Insurance Administration (9.0 %). When excluding retirements the differences are even higher, see chapter 4.1.2. *The organisation of The Swedish Migration Board*. High levels of employee turnover make it difficult to maintain competences and having several recently hired employees requires supporting resources and might affect both the time to perform a certain task as well as the quality of the work. The high levels of employee turnover could also indicate that the working situation is inferior (Rubenowitz 2004). Employees claim that they experience a highly stressful situation and the fact that they often need to handle applicants' frustration is very demanding.

4.3.2. Planning and control

The planning and control of the operations are influenced by the fact that the board is a public organisation. First of all, the goals are influenced by external operators that lack sufficient knowledge of the business and its environment. This requires good communication and transfer of knowledge in order to secure sufficient and not counterproductive goals. Previously, the letter of regulation from the government included quantitative goals such as 90 % of the cases should be handled within 90 days. However, the recent letter of regulation has more qualitative goals, such as decreasing the throughput time, which is a prerequisite for increasing the flow efficiency. Moreover, since the board is controlled by the government, the managers and employees have less authority to influence the planning and control of processes. This reduces the flexibility of the operations, and for instance the capacity planning becomes resource driven instead of focusing on matching the capacity with the demand (Walley 2013). Furthermore, these issues affect the planning and control of performance

measurements, routines and priorities, and customer and supplier relationships, which will be further discussed below.

4.3.2.1. Capacity

The capacity of human resources, interpreters and meeting rooms, accommodations, and video examinations will be described below.

Human resources

Figure 19 visualises the inflow of asylum applications and number of decisions made, and it can be concluded that the capacity of the asylum examination division is insufficient with the current system. The cycle time of produced decisions is not corresponding to the takt time, that is the actual demand. With the increased inflow case officers from the asylum examination unit have also been allocated to the application unit, since the main target has been to register all applicants as soon as possible, leading to a reduced capacity at the asylum examination. The asylum examination is the bottleneck in the asylum process and the under-capacity has led to extended waiting times, increased workload at both the reception and at the asylum examination and the employees experience a highly stressful working situation.

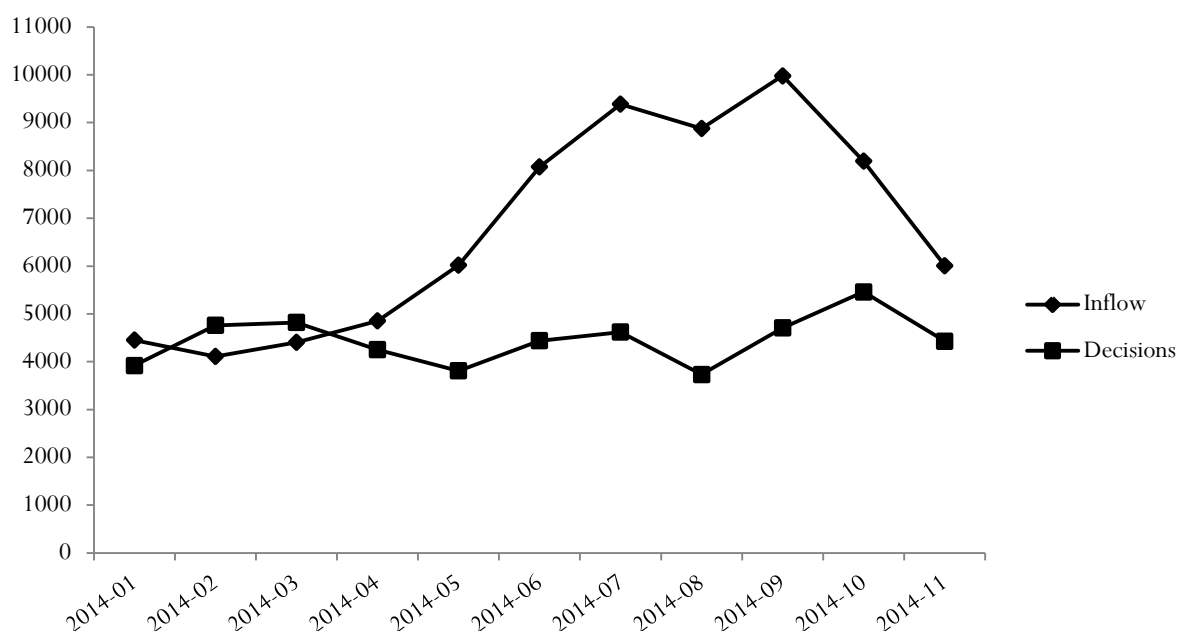


Figure 19. The inflow and made decisions between January 2014 and November 2014.

At the asylum examination unit, excluding the application unit, there are in total 1,031 full time employees. However, the net number of employees currently working at the asylum examination, including case officers, decision makers, assistants, team leaders and management, is in total 709, excluding the application unit. Of these there are 524 currently working as case officers or decision makers, of which 52 only work with Dublin cases, 97 with BUV cases, and 375 with all other cases. Hence, 10 % of the employees at the board are working directly with asylum examination, and 7.5 % with regular cases. It should be emphasised that the decision makers do not handle as many cases as the case officers. The total number of applications allocated to one case officer is approximately 160 asylum

seekers, and figure 20 visualises the distribution of where in the process the asylum seeker is, for calculations and estimations see Appendix II.

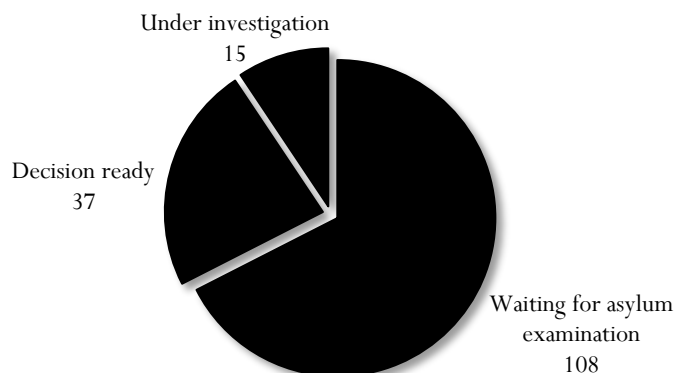


Figure 20. The distribution the asylum seekers allocated to each case officer.

Since the outflow of asylum seekers is lower than the inflow, the number of asylum seekers in the system increases continuously. In December 2014 there were 77,344 asylum seekers registered at the board that are waiting for a decision or have received a decision but are waiting for it to be effectuated. There is no current data regarding the cost of each applicant in the system but in 2013 every asylum seeker cost in average 449 SEK per day. However, in order to provide accommodations to the increased inflow of asylum seekers ABT accommodations have been procured, which are 93 % more expensive than ABE accommodation. Therefore it can be presumed that the cost is higher than 449 SEK per asylum seeker and day. This means that all 77,344 asylum seekers that are registered in the system cost at least 34,727,456 SEK per day. The waiting time from decision ready to information about the decision that today is approximately 80 days, see chapter 4.2.2. *Identified waste*, costs for all registered asylum seekers in the system 2,778,196,480 SEK.

As previously mentioned, the number of people in the system has increased by 45 % since the beginning of 2014 which is due to several reasons. First of all, as stated above the supply of the asylum examination unit have not been able to meet the increased demand, i.e. increased inflow of asylum applicants. The waiting time for the asylum examination meeting has therefore increased which inevitably increases the number of people in the system. However, also the time for the case officers to write decisions after the asylum examination has increased, leading to a reduced pace of finalised cases. In addition there are external operators affecting the outflow of cases, see chapter 4.3.1.1. *Process design* for further explanation.

The workload at the asylum examination unit has increased with the increased inflow of asylum seekers, which is due to the fact that the asylum examination meetings already at the application unit are allocated to one specific case officer. As previously mentioned, one case officer has currently approximately 160 open cases that are waiting for either an asylum examination or a decision. The increased number of open cases connected to each case officer has increased the administrative workload for the case officers, such as approval of AT-UND. With the current waiting times the scheduling system has led to that some case officers have a

fully scheduled calendar eight months ahead. This has resulted in an inflexible system since there is no available time for unforeseen events. For instance, if an additional asylum examination meeting is required, the case officer will be overbooked due to this meeting, resulting in an even further increased workload.

Furthermore, the increased workload at the asylum examination is due to the increased number of calls and emails from applicants asking if their asylum examination meeting can be held earlier or when the decision will be finalised. The case officers at the asylum examination unit experience that several questions regarding the asylum examination are redirected to them from the reception, even though the applicant could have received a proper answer already at the reception unit. This is an example of false demand and common in a system with high levels of inventory (Seddon 2010). The increased workload, which is partly due to false demand, affects the available time for the case officers to perform their examination work, leading to extended throughput times.

The capacity at the reception has not increased in the same pace as the increased number of people in the system. Since the reception is the main contact point between the applicant and the board, the increased number of people in the system directly affects the workload at the reception. Table 2 describes the number of asylum seekers in the system, the number of employees at the reception, and the average number of asylum seekers per employee at a certain point in time. It can be concluded that the average number of asylum seeker per employee at the reception has increased with 58.2 % since January 2013. Although this does not represent a corresponding increase in workload for the employees, it can be argued that with the increased number of asylum seeker in the system the workload at the reception has significantly increased.

Table 2. The number of employees in the reception division compared to the number of asylum seekers in the system.

Date	Number of employees in the reception unit	Number of asylum seekers registered in the system	Number of asylum seekers per employee in the reception unit
1 st January 2013	1822	43,222	23.7
1 st January 2014	1855	52,775	28.5
30 th September 2014	2028	76,027	37.5

The employees at the reception experience a high workload and claim that they do not have time to perform their tasks within a desirable time. A significant amount of the time goes to handling a wide range of questions from the applicants. Examples of questions that the reception receives are regarding the status of the application, when the asylum seeker will receive a decision or that he or she needs another accommodation. The reception further needs to handle a large number of calls every day from applicants, but also from for instance hospital personnel that ask to where a certain patient should be transferred and from Swedish citizens that have opinions regarding a certain case, daily allowance or other issues related to the asylum process. Employees at the reception unit also experience that a large number of

calls are transferred to them concerning issues that are not covered within their responsibilities, see chapter 4.3.1.2. *Organisational design*.

There is a limited understanding of why the MUS meetings are conducted, and the employees at the reception unit do not know what the information will be used for which results in lacking quality. Between January 2014 and November 2014 at least 42,900 hours have been allocated to the MUS meetings, which are approximately 24 full time employees and almost the size of an asylum examination unit (for calculations and estimations see Appendix III). It can therefore be discussed if the meetings should be changed to only cover what the asylum examination unit considers as important, or if they are unnecessary and instead allocate the personnel to the asylum examination unit that is the bottleneck in the asylum process.

Interpreters and meeting rooms

The employees experiences a lacking capacity regarding interpreters and rooms where the asylum examination meetings are held, which further causes the handling times to increase. The board is currently relocating several of its reception units and asylum examination units, and during the change process, several temporary rooms have been used. Furthermore, if the asylum seeker speaks an uncommon language or dialect, interpreters might be difficult to appoint. This is especially problematic if the asylum examination meeting is cancelled due to for instance illness, in which case the asylum examination meeting is delayed even further. However, the meetings are not evenly distributed and the majority of the meetings are held in the beginning of the week, see figure 21, resulting in reduced availability of the rooms and interpreters.

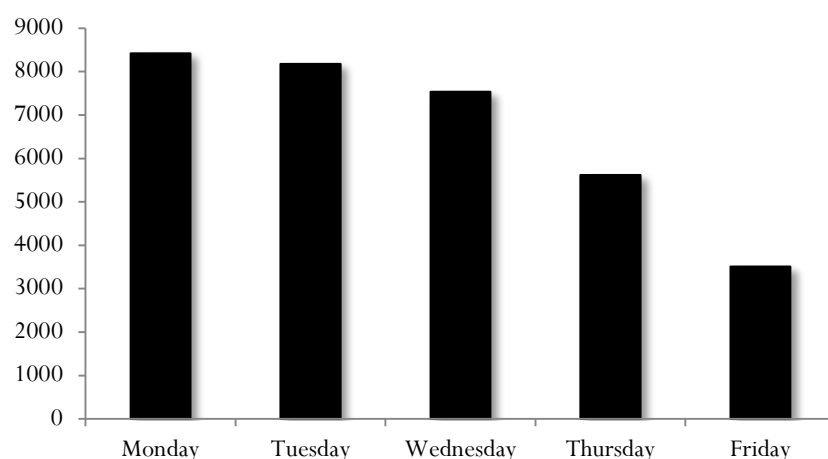


Figure 21. The variation of asylum examinations during the week days.

The capacity needed to meet the demand visualised in figure 21 is at least 92 examination rooms and interpreters. However, if the asylum examinations would be levelled out during the week, the capacity needed to meet the demand would instead be 73 examination rooms and interpreters. For calculations and estimations, see Appendix IV. Hence, the experienced lack of examination rooms and interpreters can be derived to the fact that the number of asylum examinations differ during the week.

Accommodations

With the increased inflow, there is a lack of ABE accommodations throughout the country, wherefore ABT accommodations have been procured. The awarding of contracts of ABT accommodations is controlled by the Swedish procurement legislation which is based on the Government Procurement in the European Union. The law implies that a public procurement should be confidential during the procurement process, and that the offers with the lowest price should be selected. The board has stated that the accommodations cannot be farther than four hours from a reception unit, but other than this the location cannot be influenced. Furthermore, the procurement of ABT accommodations have been handled reactively, and the board has been forced to accept offers with varying quality and price due to lack of accommodations.

Currently the board has an accommodation capacity of 54,176 beds throughout the country. The occupancy rate is 89.0 % but due to “not available” beds and those in preparation there are currently 3,585 number of available accommodation beds, and hence the availability rate is 6.6 %. There are different reasons to why beds are listed as not available such as, as stated previously, families are always kept together within an accommodation, and single people are not placed together with families. This results in that if for instance a family of four is placed in an apartment with six beds, two of the beds are listed as not available. Moreover, there are asylum seekers who suffer from physical and mental illnesses that cause them being unable to stay together with others. In these cases, at least one bed in each apartment has to be listed as not available, since the board does not have any single bed apartments. Accommodation might also be classified as not available if the apartment for instance requires restoration or other interventions that cause the apartment not being able to stay in. These activities are usually initiated first when the applicants have moved from the apartment since the information that a person has moved often is received by the reception unit late in the process, which aggravates planning. Currently there are 3,523 beds listed as not available, of which 1,757 are not available due to families, 481 due to people that cannot stay with others because of for instance mental illness, and 276 due to restorations.

The reception unit experiences problems related to their responsibility of arranging accommodations to applicants that unexpectedly arrives to the reception without a place to stay. Several of these have an EBO accommodation but claim that they cannot stay there any longer and want another accommodation. Furthermore, the issue can also arise with applicants that earlier have absconded but then return to the reception. However, even though it is the reception's responsibility to arrange an accommodation to the applicant, there is no accommodation capacity allocated to these unforeseen events. It is only the arrival accommodations (ABI) that have capacity to meet unplanned demand.

Another issue with the capacity of accommodations is the lack of accommodations in the municipalities. As previously mentioned, there are 12,318 asylum seekers that have received a PUT and are currently waiting for an accommodation in a municipality. 10,206 (83 %) of these stay at the ABO accommodations provided by the board. In 2014 the municipalities have received 23,381 immigrants, but only 5,283 (23 %) of these where from ABO

accommodations. Hence, the lack of accommodations is partly due to the fact that the municipalities do not have the ability to receive the asylum seekers in the same rate as the demand. Moreover, a vicious circle is created since the municipalities and the board are competing with the available apartments.

Video examination meetings

As previously mentioned, if the asylum seeker stays far away from the asylum examination unit, the meeting can be held through video. There are 31 video rooms available at the board, where 14 of them are located at the different asylum examination units and 17 are located at different reception units throughout the country. The goal is to conduct 2,500 video examinations during 2014 and is based on a certain utilisation of the rooms. The demand has been estimated to be higher than the current capacity of conducting 6,972 video examinations per year, wherefore additional video rooms will be installed. Other factors, except from the distance between the applicant and the asylum examination, that are taken into consideration when deciding whether there is a need for video examinations are the number of family members, if there are any small children in the family, disabilities and diseases.

4.3.2.2. Performance measurements

Seddon (2010) emphasises the importance of having measurements that are related to the purpose of the organisation. The board's mission is to offer asylum seekers a humane reception and a fast and legally secure examination. Hence, the performance measurements could be such as number of applicants disappointed with the reception, waiting time in different stages of the process, and amount of cases with insufficient examination. However, the organisation is mainly controlled by resource utilisation while performance measurements connected to quality and flow efficiency are lacking.

At the asylum examination unit the organisation is controlled by the number of cases each case officer handles each week. The performance measurements are number of cases investigated, i.e. number of investigation meetings with the applicant, and number of cases closed, i.e. number of written decisions. The goal of three cases per case officer and week refers to both cases investigated and cases closed, hence the number of case going into the system should be equal to the number of cases going out of the system. The goal is therefore not related to how long time each individual case spends in the system. There are also several other deficiencies in focusing on this type of measurement. According to Seddon (2010) there is a risk that only easy cases are being handled and that the employees find other ways to achieve the goal, such as avoiding certain activities that are time consuming.

Both Johnston and Clark (2009) and Seddon (2010) claim that there is a risk that what is not being measured is neglected in favour of achieving the existing goals. Therefore it is of importance to institute performance measurement connected to the quality, i.e. the legal security, of the decision and include these measurement in the daily control of the system. The existing quality control system consists of that it has to be two people making the decision together, one case officer and one decision maker. In addition, there are discussions in the teams every year where a couple of cases are screened and discussed between the case officers in order to educate the personnel. The aim is to discuss what had been done well and

what could have been enhanced in the examination. There are also internal investigations regarding the legal security, and recently a report indicated deficiencies in the ID controls that the board conducts. The number of changed decisions in the Migration Court is low, which implies that the legal security of the dismissals is high, and when the decision is being changed it is often due to that new information and evidence have arisen. However, nothing further can be concluded regarding the legal security of the approvals, since there are no appeals within this category.

The increased workload at the asylum examination, further explained in chapter 4.3.2.1. *Capacity*, has resulted in that the available time for the case officers to perform examination activities has been reduced. However, the performance measurement of conducting three examination meetings per week has not been modified, which has led to less time for the case officers to write decisions and finalise cases. Therefore the number of cases in the system and the waiting time from when the case is ready for making a decision until the decision actually is written has increased. Hence, the number of cases in the system is not taken into account when controlling the system. The extended time between decision ready and written decision has even further increased the workload for the case officers at the asylum examination, due to increased false demand.

While controlling the organisation by goals connected to specific units, as previously mentioned, a competitive situation arises between the units when the demand increases. All units have their specific goals and budgets that they today are limited to fulfil, and hence do not have the possibilities to ease other units' work. This has for instance resulted in that the application unit has shorten their REG2 meetings and avoids to perform tasks, resulting in that the reception unit receives an increased workload and it complicates the work both at the asylum examination and reception unit. There are lacking incentives to help each other, which is a result of the existing performance measurements on resource utilisation connected to each unit.

4.3.2.3. Routines and priorities

There are routines within the asylum process regarding for instance what information the application unit should collect from the applicant, how often the reception unit should inspect the accommodation and what accommodations that are intended to which applicants based on the categorisation of cases. However, when the situation is seen as something different than regular, these routines are either neglected or modified in a way that affects the entire flow negatively. Furthermore, when new methods within the asylum process are introduced there are lacking routines for how the work should be conducted. An example of this is the video examination process, in which there are lacking routines for how the video examinations should be appointed as well as lacking responsibility areas regarding practical details related to the meetings.

There is an emergency preparedness plan at the application unit. However, the inflow has recently reached approximately 2,400 asylum applicants per week which is higher than the highest level in the emergency preparedness plan of 1,500 applicants per week. The plan includes different routines depending on the current inflow. When the inflow increases the

application unit reduce their routines to be able to meet their goal to register all applications within 3 days. This leads to that tasks that usually are performed at the application unit instead has to be performed by the reception unit at a later stage in the process. In several cases an increased work effort for the reception unit is required in order to perform a certain task compared to if the application unit performed all the activities that is the routine for ordinary inflow of applicants. Also case officers at the asylum examination unit claim that their work is being aggravated due to lacking activities at the application unit. For instance, at the current level of inflow, the reasons for asylum are not always documented at the application unit, which aggravates planning for the asylum examination unit and creates difficulties to estimate the complexity of the case and how long time the asylum examination meeting requires.

The reception unit experience a lack of standardised routines in general and claim that the work is performed differently between the different reception units. One example of lacking routines is regarding the communication with municipalities in which new ABT accommodations are about to open, and there are often uncertainties in who to contact and what information to communicate. Furthermore, the reception experience a lack of information received from the procurement unit resulting in deficiencies in answering questions from the municipalities. The routines regarding MUS meetings are also differing between the units since the asylum examination experience a wide range in the quality of the information provided from the meeting.

There are limited routines for priorities at the reception units. For instance, the accommodation personnel should inspect all accommodations once every third month, in order to inspect if any restoration is required, and if the applicant actually stays in the accommodation. However, due to increased demand the employees at the reception unit have not been able to conduct these inspections, which have led to less preventive actions and reduced control and transparency of which accommodations that are available. This results in an increased risk that accommodations must be restored in the future which implies an increased unavailability and increased costs. Furthermore, there is an increased risk that applicants abscond without the reception unit's knowledge.

When an applicant moves from an accommodation there are no standardised routines for preparing the accommodation for the next resident. All the activities needed before the next asylum seeker moves in, such as cleaning, restoration, etc., is initiated when the person has moved out. Cleaning is the most common activity and the lead time for a cleaning company is often approximately one week. Regarding restorations, the lead times are often significantly longer and can be as long as several months.

At the asylum examination unit there are no standardised routines for how to prioritise the daily work. While having several open cases simultaneously it is of importance that there are clear routines for priorities regarding how to manage the work, even though the current number of open cases per case officer is significantly higher than desirable, see chapter 4.3.2.1. *Capacity*. The lacking routines and pressure to meet the performance measurements have resulted in that some complicated cases are being neglected and when the throughput

time is extended, the case often becomes even further complicated, see chapter 4.2.2. *Identified waste*, which results in a vicious circle.

4.3.2.4. Customer and supplier relationships

According to Slack et al. (2010) in order to achieve flow efficiency in the entire value stream it is important to extend the view of the entire system to also include customers and suppliers. Therefore the communication paths will be discussed below; from the applicants to the board, from the board to the applicants, and between the board and external operators.

Communication from the applicants to the board

During the asylum process, the reception unit is the main communication channel between the applicant and the board. The large number of calls that the reception needs to handle from applicants, see chapter 4.3.2.1. *Capacity*, are due to several reasons such as non-attendance in the introduction meetings, deficiencies in leading the applicant to the right employee, responsibility uncertainties among the employees, and unfair waiting times, which will be further described below.

As stated previously, all applicants are offered an introduction meeting at the reception unit with all necessary practical information, but at some reception units there are approximately 60 % attending these meetings. This results in that the reception unit must communicate this information by other means, often during MUS meetings. Employees at the reception unit claim that approximately 30 minutes must be allocated to inform the applicant regarding the lacking information. Also misunderstandings about the process and other practical issues arise due to the low attendance at the introduction meetings. Especially applicants with relatives or friends that have applied for asylum several years ago believe that they have all the necessary information, but since the asylum process have been changed recently it is important to receive the current information. According to Seddon (2010) it is important to consider why demand such as questions arises. Therefore it is important to consider which questions that are the most frequently occurring and how this information can be given earlier.

The reception unit experiences that a large number of calls are transferred to them that are outside of their responsibility areas. The call centre operators have difficulties to lead people calling to the board to the right employee. Several questions are regarding general issues that cannot be changed or affected which can be handled already by the call centre operator. The waiting times at the call centre are long and hence the call centre operators forward the questions as fast as possible in order to be able to meet the demand. There is a high employee turnover at the call centre and it is often a starting position within the organisation, which indicates that the knowledge regarding the organisation is relatively low. Both Liker (2004) and Seddon (2010) claim that it is important to have employees with in-depth knowledge in the beginning of the flow in order to be able to understand and meet the demand quickly or to enable an accurate allocation of the demand. High competence at the front end will therefore reduce the false demand (Seddon 2010) and increase the customer satisfaction.

There are often uncertainties among the case officers at the reception unit whether they are the right person to answer a question or has the authority to make a decision in a certain issue.

Previously all applicants had an individual case officer at the reception that handled everything related to the case, but today there are no specific case officer connected to a certain case, except from repatriation issues. Instead there is a team allocated to the case and all case officers within the team are supposed to be able to handle issues related to the application. However, the applicants, furthermore those who have relatives or friends that have applied for asylum previously, are often not familiar with the system and want to meet their individual administrator in person. Furthermore, the uncertainty among the case officers regarding if they are the right person to answer a question leads to several contacts with different case officers for the asylum seeker and thereby an increased false demand on the system.

Unfair waiting times can be identified as a reason for the increased false demand from applicants. There is an extensive communication and transparency between the asylum applicants, and their individual cases are frequently discussed among each other. Therefore, when it is known that someone who applied later than the others receives an asylum examination far earlier, the system will be perceived as unfair and other applicants want to schedule their meeting earlier as well. The unfair waiting times can primarily be derived from the scheduling system. First of all, all units within the asylum examination division do not simultaneously make their calendars available for scheduling meetings for the same period of time. This implies that when a unit opens their calendars there might be available slots more recently than before, leading to unfair waiting times. This is also the case when new case officers are employed at the asylum examination. Instead of assisting and unburden the other case officers in the team, which would for instance reduce the inventory of decision ready cases, a new calendar is made available for scheduling meetings. This results in that some applicants that arrive at the right point in time can receive an asylum examination meeting within two weeks instead of eight months. Furthermore, it occurs that case officers reschedule meetings to an earlier time since the applicant frequently calls with time consuming questions. According to Johnston and Clark (2009) it is important that the waiting time is perceived as fair from a customer perspective. Except from decreased customer satisfaction, unfair waiting times is likely to increase the false demand (Seddon 2010).

Communication from the board to the applicants

The main communication channel from the board to the applicant is by mail, which implies several deficiencies related to the throughput time in the asylum process. The fact that it takes several days for the applicant to receive the letter from the board extends the throughput time. Sending notices by mail implies that the meeting must be scheduled at least one week ahead in order for the applicant to receive the mail and be able to arrive to the meeting. When the meeting is cancelled due to the applicant, a new letter is sent again without knowing if the applicant actually receives the letters. Furthermore, the fact that all notices are written in Swedish results in that applicants frequently come to the reception and ask about the content of the letter.

An efficient means of communications when there have been misunderstandings and deficiencies in the communication between the board and the applicant is the monetary

transactions to the KUB card. If the applicant cannot be reached, the board can freeze the transactions and when the applicant realise there is no monetary resources on the card, he or she usually contacts the board. However, the current transactions are once every month, which means that almost 30 days can pass without any notice from the applicant.

Communication with external operators

There are several external operators that the board is affected by and needs to relate to. Examples of these actors are the municipalities, the police, the Employment Service, the Migration Court, other countries, interpreters, media and accommodation suppliers. The lead times at some of these, such as the Migration Court and administrative authorities in other countries affects the board but are difficult for the board to influence. The relationship between the board and the external actors are characterised by a long term perspective which makes it appropriate to invest in the relationship and cooperate. Slack et al. (2010) emphasise the importance of information transparency and joint problem solving in cooperation between actors.

When an asylum seeker has received a residence permit, the case is delivered to the Employment Service, although the asylum seeker still stays at the board's accommodation. When a municipality has been able to receive an asylum seeker, it is the responsibility of the Employment Service to inform the board, but these routines are in some cases lacking. This can result in that the accommodation might have been empty for several months without the board's knowledge, since the accommodation personnel as previously stated only visits the accommodations once every third month or, as of the current situation even less often.

The board has experienced problems related to the interpreters. It is regulated by law that an interpreter has to be present at the asylum examination meetings and the meetings where the decision is informed, even though the case officer speaks the same language as the applicant. However, recently there has been a lacking communication between the board and the interpreter organisations. Sometimes the interpreter does not arrive at the meeting, comes late or does not have the ability to interpret the language, leading to cancelled meetings which have to be rescheduled.

As mentioned earlier the board handles sensitive issues which citizens from the society tend to have opinions about. Although the employees only follow the laws regulated by the government it is the employees that have to handle people's opinions about their work. Also the contact with media affects the organisation negatively. However, the transparency that is needed to build up a good relationship (Seddon 2010) is inhibited by the confidentiality, making the board unable to clarify decisions or discuss circumstances in certain cases.

Due to the current situation with a significantly increased inflow of asylum applicants there is a shortage of ABE accommodations and the board continuously procures new accommodations from private suppliers. However, the process from the supplier's point of view has often been perceived as complicated due to several administrative documents to fill out. Also, since the current suppliers are not used to the process of public procurement, this has resulted in several deficiencies leading to delayed or cancelled contracts. It is therefore

important that the board supports these inexperienced suppliers which would ease the process of public procurement and fasten the time of contracting accommodations

4.3.3. Improvements

One of the board's watchwords is *continuous improvements* and there is an ambition that this should be a part of the organisational culture. However, in order for the organisation to actually benefit from the dispersed improvements, it is of importance to have a common goal that all improvement proposals should work towards (Spear 2005). Today there is no clear definition known by the employees of what an improvement actually is, and hence there is no strategy for the direction of the improvement proposals. This aggravates the improvement work, and with the current functional organisation of the board different functions might instead conduct improvement projects that negatively affect other functions, leading to sub-optimised processes. Moreover, with the performance measurements that exist today, there are lacking incentives to ease the work of other units.

There is a clear strategy for how the improvement work should be managed and pursued by the personnel. An improvement proposal that cannot be handled directly by the unit's employees should be advanced in the vertical hierarchical structure of the board. However, the environment at the board is characterised by bureaucracy and a hierarchical structure with several levels. Improvement work that involves several functions thereby becomes difficult to manage and pursue. This results in long lead times, and that improvement proposals might be forgotten or neglected without feedback to the employees. Moreover, if an improvement proposal is considered to be interesting, the time between administrating the proposal and initiating an improvement project is extensive.

If a decision has been made regarding that an improvement proposal is successful and should be adopted in the entire organisation, there is a tendency at the board that the managers push the improvements on the different units. According to Bergman and Klefsjö (2010) it is of importance that incremental continuous improvements instead are educated and executed by the personnel. For instance, a team that have tried a new successful way of working should not advance their routines to a high managerial level whereafter the manager decides that all units should work according to the new routines. Rather, the team should educate another unit, that in turn educates other units, and so on. The benefit with this incremental way of working is that the employees that actually have tried the way of working and have encountered the possible hinders and success factors can communicate this directly to other employees.

The personnel do not feel acknowledged or rewarded when suggesting improvement proposals. Due to the bureaucratic organisation, the time from handing in a proposal to the administration of the proposal might be long, especially if the improvement includes several divisions. Feedback to the employees is also lacking, which further reduces the motivation to actually propose improvements. The fact that one of the board's watchwords is *continuous improvements* thereby causes the employees to lose faith in management, since they experience that there is no need for their thoughts and ideas.

The employees experience a lack of time and resources in their daily work, and that they barely have time to perform their core activities, see chapter 4.3.2.1. *Capacity*. Hence, the improvement work is neglected, especially if there is limited feedback to proposed improvements. As mentioned in chapter 4.3.1.2. *Organisational design* there is a limited understanding of the entire process among the employees, and the communication between them is lacking. Hence, the proposals often cover what other divisions can change, which further aggravates the improvement work. The suggested proposals therefore are often limited due to the fact that there is a lack of time and resources, which also results in that the proposals often covers other units than the employees' own unit.

The direction of the improvement work requires other focus than traditionally in private organisations. There is no competition on the market since the board is the only actor that handles asylum applications in Sweden. Moreover, some of the goals are vague and difficult to grasp, such as “a humane reception”. The improvement work might even be inhibited by the fact that Sweden already is suffering a housing shortage. In the current situation there are no municipality accommodations, see chapter 4.3.2.1. *Capacity*, which result in that even though asylum seekers have received a residence permit, they still remain in the system.

4.4. Recommendations for increased flow efficiency

A common misconception when adapting Operations Management principles in the public sector is that the work should be rationalised in a way that will reduce the quality (Iversen et al. 2014). Therefore, it should be emphasised that increasing the flow efficiency is not concerned with decreasing the value adding time, but to focus on reducing the non-value adding time between the value adding activities. Reducing waste in the system will enable more resources available to the value adding activities and hence, the value adding time can instead be increased. I.e. in this case the asylum process activities, which contribute to a humane reception and increased legal security of the residence permit decision, should not be reduced, but rather should the time between the value adding activities be eliminated.

4.4.1. Desired future process design

In order to lead the direction of change, a future state map should be created, which constitutes an improvement plan that all improvement proposals should work towards (Rother & Shook 2003). A future state map should be a vision of the perfect process with the least amount of waste possible, and is not always completely realistic but a state to strive towards (Rother 2010). However, it is important to have goals that can be achieved and additional future state maps within different time horizons should therefore be created. These maps should constitute the desired state of the process within a shorter future, for instance in six months or in two years. It is of importance that the future state maps are common for all divisions at the board throughout the country, so that all employees strive towards the same goal, which will result in joint benefits and decreased sub-optimisation between divisions.

The perfect asylum process would be initiated immediately when an immigrant is applying for asylum and the asylum examination meeting would be conducted directly at the point of registration, meaning that no REG2 or MUS meetings would be necessary. Moreover, there

would be no waiting times between the activities and if for instance a language analysis would be required this could be conducted immediately. The asylum applications would be processed in a continuous one-piece flow and the case officer would handle only one case at a time, compared to the situation today with approximately 160 parallel applications. This perfect process would meet the values stated by the board; a fast and cheap process due to no waiting times. At the same time the legal security can be increased due to the increased autonomy of the employees, and that they are able and encouraged to stop the process if they detect quality issues. The details of the perfect process should be elaborated upon together with employees from the different divisions, since they possess the sufficient knowledge required.

4.4.1.1. Desired future process design in the short term

However, since there are external operators with lead times in the system, it is not feasible within a reasonable future to work strictly according to a continuous one-piece flow. If for instance an embassy must be contacted for questions, this process has its own lead time with variations that are difficult to influence and predict. Therefore, a future state map that is realistic within a near future should be created for the entire board to strive towards. In this process each case officer will have a number of parallel cases, but the number of asylum seekers in the system from the asylum examination to decision would be significantly reduced. Figure 22 shows a simplified map of the asylum examination process where a number of sub processes can be seen. In the desired future state the levels of inventory connected to each sub process should be as low as possible and resources should be allocated to finalise cases prior to examine new cases. This will reduce the workload at both the asylum examination unit and the reception unit, partly due to reduced false demand.

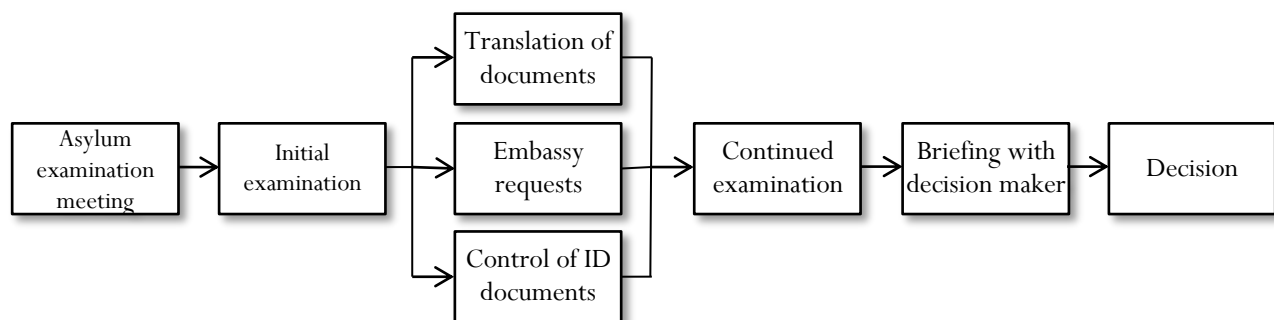


Figure 22. A continuous one piece flow in the asylum examination process.

When the immigrant is applying for asylum at the application unit and all the registration activities are conducted, a signal should be sent to the case officer at the asylum examination that in turn pulls the required information from the rest of the organisation. For example, if a single man from Afghanistan without valid ID documents applies for asylum the case officer must first initiate that a public counsel is appointed. Thereafter, the case officer requests information from the reception that can facilitate the asylum examination. For instance, the MUS meeting should only be initiated by the case officer and only cover whatever the case officer requires, for instance actions to confirm the identity of the asylum seeker. A pulling

system will thereby be created, which is a prerequisite for reducing over-production and in turn reduce inventories and other types of waste (Liker 2004).

The case officer should be in control of the flow and not be forced to make a decision in an asylum examination due to existing goals and performance measurements. The system should therefore not be controlled by productivity goals that do not consider the quality, but focus on the method of how the work is conducted, see chapter 4.4.4. *System control and value related performance measurements* for further explanation. If the case officers could work in a continuous one-piece flow routines to prioritise cases would not be necessary since only one case at the time would be possible to add value to. However, since this is not reasonable within a near future, the employees must have routines in order to control their daily work, further described in chapter 4.4.5. *Routines and priorities in the daily work*. It should be emphasised that the case officers should be given more autonomy to control the process and initiate whatever is needed. As mentioned above, for instance the MUS meeting should only be initiated if the case officer asks for it, and it should only cover the information required by the case officer.

According to Slack et al. (2010) waiting time can be reduced by reducing variations in the system. This requires a separation of flows, where a lowest common denominator and similar characteristics between cases should be identified (Glenday 2007). It should be emphasised that in order to have a flexible organisation, it is important that all employees can handle all types of cases. Hence, the separation of flows does not imply that a group of employees only should handle one specific case. Instead, the flows should be separated in different processes, whereafter resources should be allocated to the different activities. In the daily work this could mean that one team handles one specific case for a period of time, and then rotates to another separated flow. Handling several types of cases will lead to a more varying work environment for the employees, but will also keep the competence among the employees and ensure that the organisation is flexible to handle all types of cases, leading to a decreased risk of reduced legal security.

Figure 23 suggests how the asylum seekers should be separated into different flows. First of all, after registering fingerprints the flow is separated into Dublin and other cases, which is already a part of the system today. Thereafter, the asylum seekers should be separated depending on the country of origin, since there are similarities in the handling of these cases which will reduce the variations of activities required, see chapter 4.3.1.1. *Process design* for further discussion. Four groups are thereby identified; OH/OT which today is mainly the Western Balkans, PUT presumption which today are Syria and Eritrea, commonly occurring countries which today are Somalia, Afghanistan and Iraq, and finally other countries. It should however be emphasised that due to the current situation in the world, the countries covered by each group might change, but the purpose of the groups will remain the same.

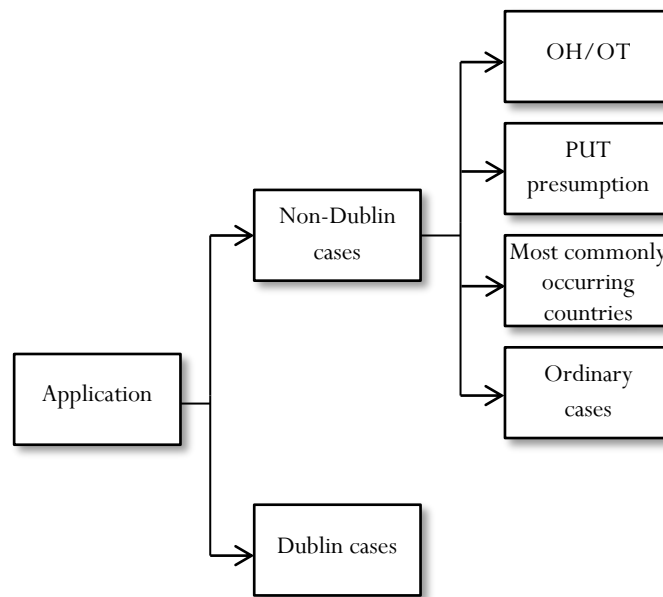


Figure 23. The separation of flows in the asylum process.

OH/OT cases differ from the other applications since for instance no public counsel is required and the decision can be effectuated immediately. There are also fewer activities required in order to make a decision for this group of applicants. PUT presumptions on the other hand is mainly a matter of confirming the identity of the asylum seeker, and hence these processes will be focused on required activities to determine the country of origin of the applicant. Commonly occurring countries have the benefit that the case officers will possess knowledge about the country of origin and thereby possible reasons for asylum, and hence fewer preparations might be required. Finally, ordinary cases are all applications that do not fit into another group. However, according to Glenday (2007) this group should also be used if for instance an asylum seeker initially is categorised in one of the other groups but later in the process is determined to not belong in the flow.

4.4.1.2. Categorisation of accommodations

The categorisation of accommodations should be extended to consist of even more specialised accommodations than today. This will increase the flexibility and reduce the variations in the asylum examination process since the asylum seekers will be closer and more available to the case officer. The new categories of accommodations are *examination accommodation*, *repatriation accommodation* and *hub accommodation*, further explained below.

First of all, examination accommodations should be introduced where the asylum seekers can stay during the asylum examination process. These accommodations should be allocated to only house asylum seekers whose examination has been initiated, and who are waiting for a decision. The demand for this type of accommodation will be predictable and relatively stable, and hence the capacity utilisation can be relatively high without a negative effect on the flow efficiency. With a shorter distance between the case officer and the asylum seeker the flexibility of the asylum process can increase. For instance, if additional activities are required or questions have arisen, the asylum seeker will be available within a short notice and hence the flexibility in the system increases. Therefore, an examination accommodation

that should be located in connection to the asylum examination is required. Moreover, the personnel will be able to inform the asylum seekers about the decision immediately after the decision has been written. This will reduce the throughput time with the median time of 15 days for PUT decisions and the median time of 46 days for refused decisions.

Secondly, repatriation accommodations should be used to allocate asylum seekers with a refused decision that are about to leave Sweden. These accommodations exist already today, but they are not used sufficiently since not all reception units choose to utilise them. One benefit with such accommodation is that the risk of missing the transportation to the country of origin decreases. Moreover, they should be used to unburden the examination accommodation when asylum seekers classified as OH/OT have received a refused decision with immediate effect. Moving applicants with refused decisions would also make accommodations available to asylum seekers waiting for a decision and could further ease the repatriation process, since it is often easier to move a person to another accommodation than it is to directly arrange the repatriation. It could be beneficial to also transfer applicants that have received a dismissal in first instance, and are waiting for the decision on the appeal, to certain repatriation accommodations. This would be a preparation for a potential dismissal, which can be argued as appropriate due to that a low percentage of appeals are being approved.

Finally, hub accommodations should be introduced close to the reception units in order to facilitate the planning and reception of the asylum seekers. Today, the employees at the reception units experience an excessive workload due to the distance to the accommodations allocated to each reception. Moreover, the accommodation coordinators find it difficult and time consuming to allocate the right asylum seekers to the right accommodation within short notice. Hence, it is suggested that each reception unit should have a hub located close to the reception or to public transportation. The hub should have an over-capacity, and be the first instance before the asylum seekers is moved to a permanent accommodation. The accommodation coordinators will be responsible to move the asylum seeker from the examination unit within a short period of time, and will then have a more flexible time frame to move the asylum seeker from the hub to an ABO. This will enhance the planning and control during the reception process, and the motion of the employees at the reception units will decrease. However, it should be emphasised that this is a solution to the current situation that is today with a high inflow and number of asylum seekers in the system. With a more stable process with a reduced amount of cases in the system, it should be strived towards that the right person is allocated to the right accommodation immediately, since this will decrease the number of activities required.

4.4.2. Knowledge exchange within the organisation

A sufficient organisational structure is of importance in order to achieve flow efficiency. From January 2015, the board will be organised in regions instead of functions, as a mean for overcoming sub-optimisations within the system. The organisation will instead have a matrix structure with the functional managers and several managers responsible for the processes. It is however important to emphasise that only changing the organisational structure will not

decrease the issues described in chapter 4.3.1.2. *Organisational design*. For example, the asylum application unit is in today's hierarchical structure organised under the asylum examination division, but there are still sub-optimisations between the units due to the budget allocation and performance measurements. The asylum application unit still has their budget to follow and certain productivity goals to reach, which have negative effects on the asylum examination unit. It is hence not the formal organisational structure, but the actual way people work in reality, that is of importance in order to increase the flow efficiency.

There is a general limited knowledge and understanding within the organisation regarding the work of other units, which as previously mentioned leads to sub-optimisations and re-work. This issue has been identified both on a vertical level between managers and employees as well as on a horizontal level between divisions. As Liker (2004) emphasises, it is important for management to "go and see" the daily work in order to be able to make sufficient decisions, and it would therefore be beneficial for the management to frequently practice in the asylum process. Moreover, all newly employed personnel should have an introduction at all divisions in order to increase the understanding of the entire process and the organisation. All personnel from the divisions should thereafter work with the other units on a regular basis. This would increase the understanding of the needs of the different actors in the process, and the communication between the internal supplier and the internal customer will be enhanced. For instance, as previously stated there is a general lacking knowledge of what information that is necessary to collect during the MUS meeting, which leads to that the case officers at the asylum examination meeting do not receive sufficient information. If personnel from both the asylum examination unit and the reception unit participate in a MUS meeting and an asylum examination meeting respectively, the understanding of each other and thereby the entire flow will increase.

False demand arises due to that the asylum seeker today often does not receive answers from the first employee he or she asks but is redirected to others within the organisation. This type of false demand could be reduced by increasing the knowledge among the employees regarding other units' work (Seddon 2010). For instance, basic questions such as the amount of daily allowance or the possibilities to receive an earlier asylum examination meeting should all employees within the organisation be able to answer without redirecting the asylum seeker. By having a recurring exchange of personnel between the different units as previously suggested, the knowledge regarding such questions will increase, which will lead to a decreased false demand. The communication must be clear from the beginning and information about the current situation should be communicated directly.

4.4.2.1. Internal communication

In order to increase the visibility within the organisation, there must be concrete communication channels between the different divisions. There is a general lack of knowledge regarding what person to contact for specific questions, which results in several unnecessary calls and long waiting time to receive an answer. Therefore, it should be clear for all employees how the board is organised on a general as well as detailed level, and what work tasks and responsibilities each division have. There should be at least one internal

contact person for each division, and the contact information should be clearly stated for each division in the organisational chart. Furthermore, an internal contact person or team from the reception should be allocated to each asylum seeker and the contact information for the employees connected to each asylum seeker should be clearly visible in Skapa.

Furthermore, there needs to be a cultural change considering how the different units communicate and support each other within the organisation. Employees experience an unreasonable response time from other units even in urgent matters, which extends the throughput time in terms of waiting. Therefore, the service level between units needs to be increased and for instance the response time on requests between different units should be reduced. In order to increase the flow efficiency this time needs to be eliminated and serving internal customers should therefore be highly prioritised in the daily work. Also, while increasing the knowledge among all employees within the organisation regarding other units work, the understanding of the importance of certain issues will also be increased, which can reduce the response time.

As mentioned in chapter 4.3.1.2. *Organisational design*, the employees experience that the work is controlled from a top-down perspective, and that there are limited possibilities to influence certain decisions. It is important to include the employees in decisions that affect their daily work, since they are the ones that are experts on the processes (Slack & Lewis 2011). Important decisions should be discussed with representatives from the different divisions, and the employees should be given the possibility to comment and raise questions about the decisions. In that way the employees receive answers and feedback to why a decision has been made, and the work satisfaction is likely to increase since the employees will have the possibility to influence their daily work. Furthermore, the management must trust the employees to make sufficient decisions, and the autonomy of the personnel must increase in order to further enhance the work satisfaction and thereby decrease competence loss (Rubenowitz 2004).

4.4.3. Flexible capacity and elimination of false demand

The asylum examination division is a bottleneck in the asylum process with queues as long as eight months. The fact that the number of asylum seekers within the system is constantly increasing directly affects the workload at the reception units. If the capacity had been more focused on the asylum examination unit, the number of asylum seekers in the system would decrease leading to less work at the reception units. Allocating resources to the asylum examination unit could also reduce the number of cases in the system from examination meeting to decision, which would reduce the workload at the asylum examination. Fewer applicants would then call with questions regarding their decision, and more beds would be available at the accommodations around the country.

The organisation of the board is today inflexible due to the functional structure with separated divisions with limited communication. Since there are great variations in the inflow of asylum seekers, both during the year and between years, it is of importance that the organisation is flexible to meet the fluctuating demands. There are employees working in for instance the supporting functions that have knowledge in the asylum process. When there is a need for

increased capacity at for instance the asylum examination it should be evaluated what work that contributes with most value at the moment. Parts of the personnel should be able to switch between divisions or work part time in different divisions if there is a lacking capacity at any division. Hence, the board will be more able to change the capacity after the demand, which will reduce bottlenecks and thereby increase flow efficiency.

Since the asylum examination is one of the bottlenecks in the process, it would be beneficial for the flow efficiency to increase the capacity in this area. However, as Seddon (2010) claims, before allocating resources to meet the existing demand it is important to separate false demand from value demand. Due to the increasing amount of open cases that is allocated to a specific case officer, the workload in terms of administrative work have increased for the case officers, leading to reduced time for their main work task of examining cases. In the current situation it is beneficial to investigate the reasons for the increased demand such as questions regarding earlier meetings. According to the employees the demand can be derived from for instance knowing that someone else has received an earlier meeting, that their family is waiting for coming to Sweden, or a need of doing what they can to fasten the process.

In order to reduce the false demand it is therefore important, except from reducing the waiting times, to establish fair waiting times (Seddon, 2010) and to be consistent when approving an earlier appointment. Furthermore, it is important that the current waiting times and the fact that they cannot be affected are communicated to the applicants throughout the whole process. In order to establish fair waiting times there are several areas that needs to be covered. First of all, the waiting times should not be affected by the time when different units make their calendars available for scheduling. Either all units have their calendars available for the same time period or the cases should be scheduled on a team rather than a specific case officer. When new employees are hired at the asylum examination, it would be beneficial to unburden the other case officers in the team by allocating already scheduled cases to the new employee instead of opening a new calendar. In the current situation this would also be a method for reducing the number of decision ready cases.

The experienced lack of meeting rooms and interpreters would be solved by a more even distribution of meetings during the week. As mentioned in chapter 4.3.2.1. *Capacity*, most of the meetings are held in the beginning of the week. A more even distribution of meetings during the week would also enable more activities related to the case to be performed directly after the meeting in a one-piece flow. Today, case officers work in batches and perform all the meetings first and then performs several of the activities related to the case, which could have been made immediately after the meeting. For instance, if a meeting with a PUT presumption is held on a Monday, it might be possible to write the decision already the day after if there are no other appointments booked that day.

4.4.4. System control and value related performance measurements

In order to increase the flow efficiency the control of the system must focus on how the work is conducted, i.e. the method used, instead of productivity, i.e. the outcome (Liker 2004). Initially the focus should be on reducing the inventory levels between the asylum examination and writing the decision, wherefore a sufficient method to apply would be to finalise cases

before conducting new asylum examination meetings. The processes should therefore be controlled in a pull system, and not according to the amount of handled cases that the employees should produce. The performance measurements should instead be used only to evaluate the current system, and how close to the desired future state the system is. If the productivity level is insufficient, it is the method that should be modified.

The number of cases in the system can be used as an indicator of how the current process diverges from the desired state. The goal should be to eliminate the non-value adding time from examination to decision, wherefore the number of cases in the system needs to be reduced. The case officers should have the autonomy to decide when a case is finalised and when the next asylum examination can start. This will increase the legal security, since the case officers are not pressured to make precipitated decisions due to productivity goals. Also the humane reception in terms of service-minded treatment will be enhanced due to the reduced workload and thereby reduced stress levels among the employees. Finally, decreasing the amount of cases in the system and focusing on a one-piece flow will enable a reduction of the non-value adding time in the system and thereby result in a reduced throughput time according to Little's law (Slack et al. 2010).

The performance measurements need to be related to the purpose of the organisation rather than focusing on resource utilisation, such as number of meetings held and finalised cases. In the current system employees are rewarded while making a decision and not while performing an accurate examination. As Seddon (2010) claims, the performance measurements should be related to what constitutes value, which in this case are *the legal security, a humane reception and a fast process*. It should however be emphasised that focus should not be on a fast process, but on short waiting times, in order to not reduce the value adding time and thereby risk a decreased quality. The performance measurements should also reflect the direction into achieving the desired future state. However, the performance measurements only show how the current system performs and there needs to be other operational measurements that should be used to control the system, for instance the number of cases in the system, explained above.

First of all, the performance related to legal security should be evaluated with internal investigations of conducted cases where the equality throughout the country as well as the quality of the examinations are being assessed. Secondly, the performance of the humane reception can be evaluated first when the board has defined the meaning of it. Finally, the performance related to a fast process should be evaluated by measuring the non-value adding time within the process. Therefore several waiting times have been identified that contain solely non-value adding time, and should therefore be strived to be eliminated. In order to reduce these times all units within the organisation needs to collaborate and prioritise activities that affect these measurements. The waiting times can be seen in figure 24.

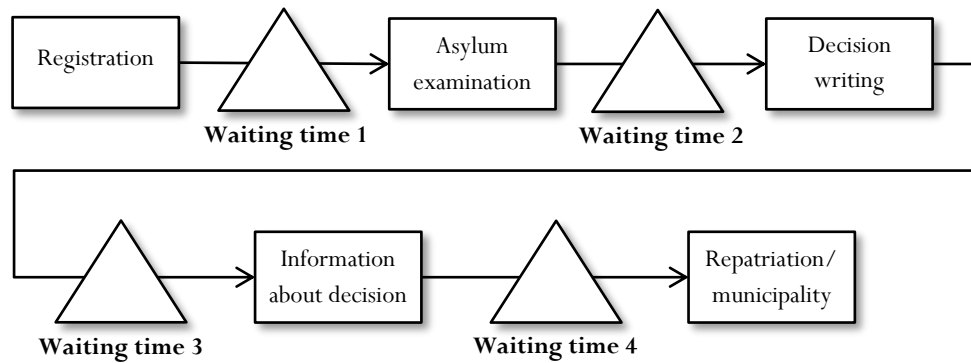


Figure 24. The identified waiting times that should be measured and controlled.

The time from registration to asylum examination meeting (waiting time 1) should be reduced considering OH/OT cases, otherwise no direct actions should be taken in order to reduce this time initially. The time from decision ready to decision writing (waiting time 2) should be strived to be eliminated as well as the time from decision writing to information about decision (waiting time 3). The time between information about decision and repatriation or municipality placement (waiting time 4) is partly due to external operators, however it is important to consider potential actions that could be taken by the board to reduce this time.

4.4.5. Routines and priorities in the daily work

As mentioned in chapter 3.3.2.4. *Routines and priorities*, in a perfect one-piece flow routines for priorities would not be necessary. However, on the way to the future desired state the daily routines in the organisation should be characterised by a priority guide related to the overall performance objectives. The number of cases in the asylum examination process and furthermore the number of decision ready cases must be significantly reduced. Due to external operators with external lead time and variations the case officers are forced to have more than one open case at the same time, wherefore there has to be a priority routine for which case to handle first. In order to prioritise the work according to the flow efficiency the following priority for case officers at the asylum examination has been identified:

- *Priority 1*; work tasks including external operators' lead time, such as inquires to embassies, ordering language analysis, translation of documents, etc.
- *Priority 2*; work tasks related to finalising a case when it is possible, i.e. writing decisions in cases which are decision ready.
- *Priority 3*; examination with the priority of first in, first out.

Considering the value demand it could be beneficial to steer the demand into a certain time during the day (Johnston & Clark 2009). Therefore, potential solutions in order to reduce the levels of inventory at the asylum examination unit in the current situation could be that the case officers are available for telephone calls during a determined period of time every day and answer emails from applicants at certain times during the day. This would allow the case officers to work more undistractedly and focus on the asylum examinations. However, this contradicts Liker (2004) who claim that the demand should be met when it arises, but in this current situation with the asylum examination unit as a bottleneck, the solution could be beneficial. When the number of cases within the system has been decreased to a satisfactory

level, there will be more possibilities to meet the demand when it actually arises. This solution should hence be regarded as temporary.

The routines and priorities at the reception unit should also be related to the flow efficiency. Activities such as notifying decisions and repatriation activities should be prioritised before conducting for instance MUS meetings. It is important to evaluate what activities that constitute most value at the moment and shorten the waiting times. In order to enable the work to focus on the flow efficiency, the flexibility within the reception must be increased. There needs to be an over-capacity in order to enable a short lead time when notifying decisions. If there would be available capacity, the reception could call the applicant and schedule a meeting on short notice. Furthermore, in order to prevent larger restorations and ensure that the applicant still stays in the accommodation, the continuous inspections of the accommodations are necessary. Since this activity has been neglected due to the increased inflow it could be beneficial to reconsider this priority.

When introducing new methods that change how the work should be performed, it is of importance to develop routines regarding how they should be used in practice. An example is, as previously mentioned, the possibility to conduct asylum examination meetings through video. However, due to lacking practical routines related to the meetings, the employees are reluctant to initiate this type of meeting. Therefore establishing clear routines is of importance to ease the introduction of new methods. Furthermore, in order to enable working according to the routines in a long term, the conditions need to be modified according to the current situation. For instance, the routine regarding allocating applicants to certain accommodation according to the state of the process requires a sufficient capacity at these accommodations. Instead of neglecting the routine when the demand exceeds the capacity, the capacity of these accommodations needs to be modified in order to retain the routine.

4.4.5.1. Increased forward planning

The information exchange to the next internal customer in the flow often occurs late in the process. For instance, the accommodation coordinators receive information regarding which applicants that can be moved to another accommodation in the same moment as they are ready to be moved. If there instead would be an information exchange already at the point of registration, the coordinator would have information regarding constellations, including country of origin and language skills, that will be transferred within a couple of days. This would ease the work with matching and coordinating the right applicants to the right accommodations.

The routines related to accommodation exchanges must also consider increased forward planning. The time for when an accommodation is unavailable is today longer than desirable due to that all the activities that needs to be performed before the next applicants move in to the accommodation, such as cleaning and restorations, are initiated first when the applicant has moved. If these activities could be initiated already when it is known that the applicant will move, this time could be reduced. The objective should be that the activities required should be initiated as directly as possible when the applicant moves out, which requires forward planning. As previously stated the reception unit today is often not notified when an

applicant moves. Therefore clear routines needs to be communicated to both internal and external operators regarding when, how and whom to contact considering relocations. One of the most important factors in this communication can be identified as the registration of the telephone number to the responsible team at the reception, further covered in chapter 4.4.2.1. *Internal communication.*

4.4.5.2. Asylum examination and reception meeting routines

Cancelled meetings both extend the throughput time and imply rework for the employees. Therefore, the number of cancelled meetings should be reduced and strived to be eliminated. In the reception process there are two types of cases that are over represented among the cancelled meetings; Dublin and OH/OT, and in the asylum examination process the OH/OT cases are over represented. In order to reduce this number new routines related to the meetings must be established. When there are separated accommodations for these cases located near the reception unit and the asylum examination unit respectively, see chapter 4.4.1.2. *Categorisation of accommodations*, it is easier for the employees to contact the applicant in person if he or she misses a meeting. Furthermore, there needs to be routines for when a meeting is cancelled and the deviation report must be focused on the reasons for why the meeting was cancelled in order to enable actions to prevent it from occurring again. Moreover, if the applicant is present when the meeting is being cancelled, he or she should receive a notice to the new meeting directly in order to reduce the lead time when sending the notice by mail.

Clear routines also must be established for the MUS meetings at the reception. The purpose of the meeting should primarily be to facilitate the asylum examination and therefore the information should be pulled from the case officer at the asylum examination unit. It must also be evaluated if there is a need for conducting a MUS meeting at all. If all the information necessary for the asylum examination has been covered at the application unit, there might not be a need for a MUS meeting. All the information that is useful for the Employment Service if the applicant receives a residence permit, such as prior education and working experience, could be covered at the information meeting where the asylum seeker is notified of the decision. Employees at the reception claim that, if the applicant did not participate at the introduction group meeting, a significant part of the MUS meeting is devoted to practical information which is covered during the introduction meeting. If the introduction group meeting would be compulsory, this would not be necessary.

4.4.6. Communication with asylum seekers and external operators

The employees experience that they sometimes have limited ability to contact the applicant. Since these deficiencies extend the throughput time and affect the flow efficiency negatively it would be beneficial to improve the contacting possibilities. Both direct and indirect contact possibilities have been identified. In order to improve the direct contact it would be beneficial if mobile telephone numbers would be collected at the application unit. Applicants who do not have any mobile phone at the registration should be encouraged to notify the reception if they acquire a mobile phone. Furthermore, the notices that are sent to the applicants should be translated into English, which also would reduce the demand on the reception unit.

The main indirect contact possibility has been identified as the daily allowance payment. More frequent payments would shorten the time to contact and receive an answer from the applicant. The reception units pay 38 SEK for each transaction to the KUB card, but this is a standard amount which should cover all the costs related to the card. There is no actual cost of the transactions which means that more frequent payments would not directly lead to increased costs. If there instead would be two payments each month, the cost for the reception of each transaction could therefore be 19 SEK. It should be considered if all applicants should have more frequent payments, but it is most important in OH/OT and Dublin cases since these are more reluctant to arrive to meetings. Furthermore, applicants that have received a refusal should be given more frequent payments due to the same reason.

Since the outflow of asylum seekers are partly dependent on external operators such as the Employment Service and the police, it is important to have well established relationships with these actors. First of all, clear communication routines must be established for instance between the Employment Service and the reception unit when an applicant moves to a municipality. This since the current communication often is lacking and the reception does not receive information when applicants move. Furthermore, there needs to be discussions regarding how the operators can ease the work for each other and also what information that is needed for the next operator in the process. For instance, whether the current information collected by the reception unit regarding applicants' education and work experience is useful or not for the Employment Service should be affirmed.

4.4.7. Continuous improvements

Today, there is a limited understanding among the employees of what an improvement according to the board actually is, and the different functions have different views of this term. In order for the organisation to actually benefit from the dispersed improvements, it is of importance to have a common goal that all improvement projects should strive towards (Spear 2005). As mentioned in chapter 4.4.1. *Desired future process design*, a future state map should therefore be created, which constitutes an improvement plan that all proposals should be derived from (Rother & Shook 2003). Hence, the improvement projects should result in a process that is closer to the future state than it was before.

Continuous improvements should primarily be initiated, conducted and evaluated by the employees that are affected by them. When the employees have control over their own situation and are able to make changes that affect their daily work the feedback will be immediate. When working in a one-piece flow with reduced inventory levels, the hindrances of working towards the future state will also be more visible and actions are required to overcome them in order to proceed. Therefore, the continuous improvement work will be a natural part of the employees' daily work. When successful work methods are developed, these should be shared with other teams and units that could benefit from them. Hence, the improvement work should consist of incremental changes that are spread slowly throughout the organisation. This also corresponds with the success factors identified in an improvement project within another division at the board, which were simplicity, incremental steps towards the desired state and a bottom-up approach.

It is the management's task to create an environment which encourages improvement proposals among the employees (Liker 2004). The managers at higher levels in the organisation should be aware of the current situation within the processes and how the daily work is conducted (Liker & Franz 2011). It is of importance that managers from all levels in the organisation visit the divisions on a regular basis and take part in the daily work of the employees, see chapter 4.4.2. *Knowledge exchange within the organisation* for further discussion. This not only enables the managers to make sufficient decisions, but the trustworthiness of the management from the employees' point of view is likely to increase. Moreover, gaps between hierarchical levels in the organisation decreases, leading to an environment which facilitates creative problem solving and autonomy.

Furthermore, it is important that statistics is frequently requested by the managers in order to identify where in the process there is a problem and what actions that should be taken in order to solve the issue. For instance, all documentation related to failures in the system should serve its purpose and should be used in order to improve the system. This will enable the managers to base decisions on facts, and thereby make sufficient decisions. For example when a meeting is cancelled, instead of only documenting who caused the cancelled meeting, the information should be focused on the reasons behind it and what actions that could be made in order to prevent it from occurring again. Moreover, statistics that can be connected to the flow efficiency, such as the levelling of asylum examinations during the week, should be used in order to increase the flow efficiency.

Today there are clear routines for how the improvement proposals that cover two or more divisions should be handled, see chapter 4.3.3. *Improvements*, although the employees experience an insufficient improvement work today. Furthermore, the employees have expressed that they receive limited feedback on suggested improvement proposals, and that they therefore experience a lacking motivation to actually work with improvements. However, the improvement work will be enhanced with an increased communication between the employees on both a hierarchical and vertical level, see chapter 4.4.2.1. *Internal communication*. In that way, the employees will understand why his or her suggestion for improvement is delayed or why it did not work. Moreover, the new performance measurements will not only reward one division despite of the entire process, but focus on goals that the entire board together will strive towards. Hence, improvements will be more focused on the entire value stream, and not sub-optimize certain processes.

4.4.8. Initial action plan

In order to increase the flow efficiency, there are several required pre-conditions that the board is recommended to consider and institute within the organisation. First of all, the control of the system must be focused on the method being used instead of the productivity of the employees. This requires that management have the sufficient knowledge of how the daily work is conducted, wherefore the distance between top management and the employees has to be reduced. The current productivity goals do not consider quality aspects and encourage to finalise simple cases rather than more complex. Furthermore, the employees experience that they are pressured to examine and finalise a certain amount of cases regardless of the actual

work required. Therefore the employees' autonomy in the asylum process must be increased. The employees must be given responsibility and trust to control the process, be able to stop the flow when quality defects are detected and not be pressured to make a precipitate decision due to insufficient performance goals. It is the employees that have the most knowledge of how the work should be performed, what activities that are required and when a decision can be made, with support from the team and management.

Secondly, the communication throughout the entire organisation must be improved. The vertical communication must be more transparent and discussions should be enabled and encouraged between the employees working directly in the process and management making the decisions regarding the process. This would both improve the quality of the decisions made and increase the work satisfaction when the employees are given feedback regarding the reasons for why a decision has been made. Also the horizontal communication must be improved, and a contact information guide to the different units should be developed where documentation of contact information to responsible employees should be clearly stated. Finally, in order to ensure a legally secure and low waiting times as well as a humane reception, the board must maintain the competences among the employees. Currently, this is hindered by the high level of employee turnover, wherefore the reasons for this must be examined.

In order to improve the asylum process there are two areas that have been identified as most urgent to initiate actions within. The first is to separate cases with presumed refusals (OH/OT) and handle these immediately at the point of registration. Capacity should therefore be allocated to enable examination already at the application unit. These applicants should remain at the arrival accommodation (ABI) until they have received a decision. Also Dublin cases should be allocated to certain accommodations. This since these two groups are more reluctant to arrive to meetings at the reception unit and for OH/OT cases also at the asylum examination unit. If these two groups are separated from the original reception system, the number of cancelled meetings at the reception as well as the workload related to repatriation activities would decrease.

The second area where actions must be initiated is considering the current inventory levels in the asylum process, where the inventory levels from asylum examination to finalised decision must be reduced primarily. The queues of cases cause an extensive workload for the case officers at the asylum examination unit as well as at the reception unit. Reducing the number of decision ready cases can be made by several means. First of all, when increasing the capacity at the asylum examination unit the new employees should be allocated to already scheduled asylum examination meetings and hence unburden the rest of the team, who can focus more on writing decisions. This will also eliminate the unfair waiting times when a new calendar is opened. Furthermore, existing capacity within the supporting functions should be allocated temporarily to the asylum examination unit, preferably those who have been working at the asylum examination unit previously and hence have the required competence.

5. Concluding discussion

Qualitative data have been collected through several interviews during this research process which has been supported with quantitative data. In some cases the quantitative data and the qualitative data were not consistent. For instance, the employees in the asylum process expressed a work load that was not supported by information provided by the management combined with quantitative data. The issue in this case was furthermore that the management does not have a unanimous estimation of the number of employees in the asylum examination division, and particularly the number of case officers and decision makers. There were as many answers to the question regarding the capacity of case officers and decision makers as there were people asked. Moreover, there is no registered information regarding the number of employees currently working with other projects than their actual core tasks. The actual capacity in the asylum examination division can today therefore not be correctly stated, but has to be estimated. Hence, the management's apprehensions of the actual annual workers that actively examine asylum applications differ and there is no one that actually has the correct number.

In order to secure the validity of the results, it was therefore of importance to continuously verify the empirical findings with the employees and the management. Several interviews included verification of the findings so far and the report has continuously been read by a representative from the board in order to ensure that there are no factual errors. Furthermore, three presentations were conducted; one with the personnel in the asylum examination and two with representatives from the management. The main results presented during these presentations were well received and both the employees and the management agreed that the results overall reflect the current situation in the asylum process. Moreover, an interview was held with employees from the reception division in order to receive feedback on the findings as well, which was positively accepted. Hence, it can be stated that the empirical findings are recognised by the personnel and that they therefore have been verified.

The current flow efficiency in the asylum process at the board is lower than desirable. The long lead times between activities within the process that are due to high levels of inventories of cases within the process, cause increased demand on the system which further increases the throughput times. Long throughput times cause the asylum seekers extended waiting times and thereby increased contingency and anxiety. It also extends the time for those who receive a residence permit to start their new lives in Sweden as well as aggravates the repatriation process for those receiving a refusal. Furthermore, longer throughput times leads to increased costs for the society. Therefore, there are incentives to reduce the throughput time which can be done by increasing the flow efficiency. This since an increased flow efficiency would lead to decreased workload for the case officers and therefore enable them to focus more on the examination, which also would improve the quality of the examinations. The quality will also increase since reduced inventory levels visualise deficiencies in the system (Liker 2004) that therefore can be eliminated.

There have been attempts to increase the flow efficiency within the organisation and the board claim they work according to Operations Management principles in terms of the lean

philosophy. However, the study shows that there is limited knowledge of the theory behind the principles wherefore they have been misunderstood during the implementation. For instance, the organisation has mainly focused on rationalising the value adding time rather than reducing the waste in the system. One of the reasons for this might be that it is often more intuitive to focus on resource utilisation and how the actual work can be made more efficient rather than understanding the benefits of flow efficiency and how the system is affected by built in waste. Fragmented parts of the principles have been adapted, such as team work and continuous improvements. However, the organisational structure and culture which is characterised by for instance several hierarchical levels, a top-down approach and a control system focusing on resource utilisation, has not changed according to the principles. This can be considered as a reason for the unsuccessful attempt to increase the flow efficiency.

The study further shows that the board is characterised by an organisational structure with limited vertical as well as horizontal integration. The employees experience that management have limited insight in the daily work and are reluctant to understand and participate in the core activities within the organisation. The organisation is also characterised by lacking communication where the internal lead times on requests between divisions are longer than desirable. There are no clear communication channels between the divisions regarding certain cases, which increases the workload for case officers as well as the demand on the system with several contact points before reaching the right person. The false demand also arises due to unfair waiting times, inability to meet the demand directly and to be consistent in moving forward examination meetings.

The responsibility for the asylum process is divided between different divisions and there are no manager responsible for the entire asylum process which leads to sub-optimisations since a holistic perspective is lacking. The processes are controlled with a top-down approach and the employees have limited possibilities to question decisions made by management. The control of the system also focuses on productivity measurements and the employees are therefore rewarded when conducting asylum examinations fast rather than as accurate as possible. This can be identified as an example of when Operations Management principles have been misunderstood to the extent that the legal security can be affected negatively, since the employees are pressured to make decisions in cases that rather would require further investigation. The productivity goals also encourage writing granted residence permits instead of refusals since these are less time consuming. Also simple cases are being prioritised over more complex cases in order to reach the goals. There is an inventory build-up of complex cases, and as previously stated a vicious circle is thereby created since the complexity increases even further with time. Furthermore, there is a lacking control of the number of cases in the system which increases the workload for the case officers and even further extends the throughput time.

In order to increase the flow efficiency in the asylum process there are several areas that must be covered. The most important area has been identified as the distance between management and the core processes, which has to be reduced. It is impossible to control and make sufficient decisions without having knowledge regarding the current situation and how the

work is performed. Management therefore needs to participate in the daily work on a continuous basis. Furthermore, management should control the system by controlling the method used instead of the productivity in order to increase the quality of the decisions. Enhanced internal communication and increased work satisfaction, in order to keep the competence within the organisation, have been identified as other important areas to increase the flow efficiency. Considering the process design the most important initial action is to completely separate cases with presumed dismissal, i.e. OH/OT and Dublin cases, and thereby reduce the variation and re-work in the system. The board intends to separate these cases but the study shows that there is no complete separation from the rest of the process. Moreover, the number of cases in the system from examination to decision must be minimised, which would reduce the employees' workload and thereby release capacity.

Due to the variations in inflow over time, a flexible capacity at the asylum examination is crucial in order to meet the demand. Due to the size of the organisation and the fact that only 10 % of the employees work with examination of asylum applications, the organisation has an opportunity to temporarily allocate employees from for instance supporting functions to the asylum examination. Several of these have prior experience from working with asylum examinations wherefore potential challenges in increasing the capacity will be reduced. Some employees can be allocated part time and still manage their daily work in the supporting function. This should be a strategy when there is a bottleneck in the asylum process despite of where in the process capacity is needed, since increasing the throughput time with even short periods of time will result in high costs due to the high number of asylum seekers in the system.

The findings in this study to a large extent confirm what is stated in the theory about the characteristics of public organisations. First of all, there is a complexity in identifying value adding activities according to each stakeholder (Radnor & Noke 2013). Operations Management principles advocate that the customer and its needs should be in focus (Bergman & Klefsjö 2010), but when public organisations adopt the principles it might be disregarded that there is not only one customer. The end customer might be easiest to grasp, however for instance politicians and the society should be seen as equally important when defining value adding activities. Vague definitions of value result in the fact that public organisations also have vague goals, and that the personnel is unclear about what value actually is. Vague goals are insufficiently translated into the daily work which further aggravates improvement work, since the employees do not know in which direction the organisation is heading. Although there is a complexity in identifying the needs of all customers and value, this task should not be impossible. Defining value rather becomes increasingly important since the goals of the organisation should be derived from the customers' needs. When value for all parts is clearly identified, the goals of the organisation can be defined and spread throughout the organisation.

Public organisations are often characterised by a bureaucratic structure and less autonomy of the employees in their daily work (Boyne 2002). The hierarchical environment might be further fortified by the fact that the goals of the organisation are vague, and that the

management therefore do not want to delegate responsibility to the lower levels in the organisation. This results in a lacking autonomy in the daily work of the employees and an unsatisfying work environment. A lacking autonomy often results in a high employee turnover (Rubenowitz 2004) which leads to that the organisation loses important knowledge and competence. The quality of the public organisation's products and/or services thereby suffers, especially in a situation where the size of the organisation concurrently increases and new inexperienced personnel are employed. It is therefore not only important that there is a clear definition of what the goals of the organisation are, but the top management must also allow the employees to have an influence over their daily work. This is further important since it is the employees that know the processes best, and therefore must be able to influence decisions.

Public organisations are often capacity rather than demand led, since there is a tradition to focus on a high resource utilisation (Walley 2013). This results in that the daily work is controlled by productivity goals, and the process can therefore not be controlled due to the actual demand. When resources are utilised to a maximum, the flow efficiency is decreased and the number of work in process is high leading to increased waiting times. Moreover, maximising the resource utilisation in public organisations where the resources are the actual employees results in that the workload becomes unmanageable. This contradicts what Operations Management principles advocate; that the process should rather be controlled through a pull system, and that activities should be initiated first when there is a need for them. In order to increase the flow efficiency, it is therefore important to reduce the number of units in the system and not focus on resource utilisation. The resources should be allocated to the processes rather than regarding the actual resources as the processes. This requires an increasing knowledge among the management about queue theory and the relationship between process utilisation and waiting times, since managers have the authority to change focus from resource utilisation to flow efficiency.

As Brännmark (2012) states, public organisations have a tendency to adopt a few practices of Operations Management, but not the entire philosophy. This leads to insufficient results and therefore a common perception that Operations Management principles cannot be applied in public organisations. Hence, in order to achieve a long term success in the adoption of Operations Management principles, a radical change in mind set of public organisations is required where the entire philosophy is adapted to the own organisation. To reduce throughput times the management must shift focus from a resource maximising perspective to a system that pulls according to demand. This requires that the management of public organisations increases its knowledge of the theory behind the Operations Management principles in order to actually understand the philosophy. Furthermore, the bureaucracy must decrease with a shorter decision making path between the top management and the employees, resulting in an increased autonomy and trust to influence the daily work and the processes which create value. The public organisation will then have the prerequisites to actually change according to Operation Management principles and increase the flow efficiency in the processes.

5.1. Implications for future research

During the project several areas of possible future research have been identified. First of all, it is of interest to investigate how public organisations that are financed by tax allowances can allocate their budget to different parts of the organisation in order to enhance the flow efficiency. During this study it have been investigated how performance measurements can be used to measure the current state compared to a desirable future state instead of the traditional productivity based approach. However, the budget allocation is another issue that must be solved in order to decrease sub-optimisations between different units that have different budgets and therefore fewer incentives to focus on helping each other within the entire flow.

Moreover, it is of interest to research how the organisational culture in a public organisation can be changed in order to decrease complexity and bureaucratic activities. Some issues must be solved with a top management perspective, for instance regulations concerning the legal security of the processes. However, it is of importance that the employees are given possibilities to reflect and discuss decisions made by the top management.

Finally, it should be examined how the gap between managers' intentions and knowledge regarding Operations Management principles can be decreased. Several managers within public organisations are interested in Operations Management principles, but are reluctant to shift from a resource utilisation focus to a flow efficiency focus. Hence, it is of interest to analyse why a change in mind set is problematic, and what actions that can be taken to increase the knowledge and thereby overcome a hinder to flow efficiency.

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Appendix I

This appendix gives an account of the calculations and estimations made in chapter 4.2. *The current flow efficiency in the asylum process.*

- The value adding time is estimated to be two days including registration, asylum examination, decision writing, and information about decision. Possible waste within these processes is not taken into account.
- The total throughput time in the asylum process from registration to effectuation of the decision is in the example estimated to 530 days, which is based on the current situation. This throughput time consists of:
 - 240 days waiting from registration to asylum examination.
 - 30 days during asylum examination.
 - 52 days from decision ready to a decision has been written.
 - 28 days from the decision has been written to the information about the decision.
 - 180 days waiting for a municipality accommodation.
 - The flow efficiency in the asylum process is thereby $2/530 = 0.4 \%$.
- Hence, the total throughput time in the asylum examination process consists of:
 - 30 days during asylum examination.
 - 52 days from decision ready to a decision has been written.
 - 28 days from the decision has been written to the information about the decision.
 - The flow efficiency in the asylum examination process is thereby $2/110 = 1.8 \%$

Appendix II

This appendix gives an account of the calculations and estimations made in chapter 4.3.2.1. *Capacity*.

- The total number of open cases allocated to each case officer is 160 cases. Open cases constitute applicants that are waiting for an asylum examination meeting, asylum seekers under investigation, and cases that are decision ready but a decision has not yet been written.
- In the total process there are in total 47,705 open cases.
- In the total process there are 32,118 applicants that are waiting for an asylum examination meeting, hence 67.3 %.
- In the total process there are 4,604 asylum seekers under investigation, hence 9.7 %.
- In the total process there are 10,983 cases that are decision ready but a decision has not yet been written, hence 23.0 %.
- This implies that the total number of applicants that are waiting for an asylum examination allocated to one case officer is $67.3 \% \times 160 \text{ cases} = 108 \text{ cases}$.
- This further implies that the total number of asylum seekers under investigation allocated to one case officer is $9.7 \% \times 160 \text{ cases} = 15 \text{ cases}$.
- This finally implies that the total number cases that are decision ready but a decision has not yet been written allocated to one case officer is $23.0 \% \times 160 \text{ cases} = 37 \text{ cases}$.

Appendix III

This appendix gives an account of the calculations and estimations made in chapter 4.3.2.1. *Capacity*.

- The employees at the reception unit have stated that MUS meetings are conducted for all asylum seekers except Dublin cases and OH/OT cases.
- 48,983 decisions have been made between January 2014 and November 2014.
- Of all decisions made between January 2014 and November 2014 7,283 were Dublin cases and 4,535 were “other” cases, hence OH/OT and absconded.
- Hence, 37,165 decisions were made in “ordinary” cases meaning that approximately 37,165 individuals have had a MUS meeting.
- The family coefficient is 1.3, meaning that there are in average 1.3 family members in each family.
- Hence, the number of families is 29,588.
- Only one MUS meeting is held per family, and the shortest MUS meeting conducted is 1.5 hours. However, families with more than one family member take 3 hours, which is not taken into account. It can therefore be concluded that the total time allocated to MUS meetings probably are even higher.
- $29,588 \times 1.5 \text{ hours} = 42,883 \text{ hours}$.
- One full time employee works 1,792 hours during 2014.
- Hence, the total number of full time employees allocated to MUS meetings are $42,883 / 1,792 = 24$.

Appendix IV

This appendix gives an account of the calculations and estimations made in chapter 4.3.2.1. *Capacity*.

- The bottleneck in the meeting rooms is Mondays, when a total of 8,422 asylum examination meetings have been held.
- There had been 46 Mondays in 2014 when the data was collected.
- Hence, 183 meetings were held each Monday, assuming that there is no variation between the Mondays.
- It is assumed that one meeting is held in the forenoon and one meeting is held in the afternoon, hence 91.5 meetings during the forenoon and 91.5 meetings during the afternoon.
- In other words, 92 rooms are required in order to meet the demand.
- 33,273 meetings were held during the time period.
- If the demand would be leveled out during the week, there would be $33,273 / 5 = 6,655$ meetings each day.
- Hence, with 46 weeks, 145 meetings would be held one day; 72.5 meetings in the forenoon and 72.5 meetings in the afternoon.
- In other words, 73 meeting rooms would be required in order to meet the leveled demand.