Haaga-Helia
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# Course plan for Basics of Passenger Services

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# Abstract

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Prior to the outbreak of Covid-19, the airline industry was growing at a high pace, and the industry has been struggling to find enough talented and motivated long-term employees to work in the field. It is likely that the same challenge still needs to be tackled once the industry gets back on its feet. Ground handling, a crucial part of the aviation industry, also struggles with this problem. There is a high need to find more motivated and skilled people to work especially in the passenger service sector, where the employees assist passengers throughout their journey at an airport: all the way from check-in to boarding and finally in arrival services upon the arrival. The strict rules and regulations of the industry, as well as demanding customer encounters in a hectic terminal atmosphere, demand these passenger service employees to have a great set of skills, competencies and qualifications.

To decrease the impact of the talent gap, cooperation between educational institutions and the industry stakeholders plays a key role. That´s why a course plan for a course called Basics of Passenger services was created for Haaga-Helia University of Applied Sciences. The aim of the course is to provide bachelor students with the basic knowledge in passenger services to make it easier for them to start their internships or work life in airport environment, for example in ground handling companies. As departure control systems are widely used in passenger service units when processing airline passenger data, one of the most popular departure control systems, Amadeus Altéa, was selected to be taught on this course.

In spring 2020, representatives of the three biggest ground handling companies at Helsinki airport were interviewed and six European universities were benchmarked. Interviews and benchmarking results showed that ground handling companies in Helsinki would appreciate if new employees would know basic skills required for the role already before starting in their company, but for students, so future employees, to learn Altéa or passenger service skills in universities is not so much available.

Based on the results from benchmarking and interviews, literature reviewed as well as the industry expertise of the thesis authors, the course content, together with the implementation plan, was created in Moodle.

**Keywords**
Altéa, passenger services, ground handling, skills, competencies, learning, Haaga-Helia

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# 1 Introduction

It is no secret that the aviation industry, especially the service side of it, is lacking the talent of new employees entering the industry. This has been stated recently in multiple industry publications and white papers and additionally, we have witnessed it ourselves as we both work in the middle management roles in passenger services in a ground handling company. Often the problem with new employees is that a lot of them have no prior skills and competencies which would support their learning in the new role so for them to be good at their job, takes a lot of time. This also affects their motivation as the learning process can be hard for some of them. There is a high need to educate motivated and passioned people to work in aviation in order to get more skilled employees into the business and offer better services for airline customers. We believe that well-trained and educated people become more motivated and thus, also aim higher in their careers. Consequently, they might also want to study further and apply for master programs later and develop our fascinating industry to the next level. In order for the reader to understand what this thesis is about the main key concepts are explained below in table 1.

Table 1. Key concepts

| | |
|---|---|
| Ground handling | In aviation, the term ground handling refers to wide variety of services performed at the airport to aircrafts, passengers and their baggage as well as cargo and mail. These services include both customer service and ramp service functions such as maintenance, fuel and freight handling but also passenger check-in, catering, baggage handling and transport within the airport itself. (European Commission.) Ground handling can be performed either by airport operator, airline or an outsourced ground handling company from which an airline buys the services from (Ashford, Stanton, Moore, Coutu & Beasley 2013,153). |
| Passenger services | Passenger services are part of ground handling activities and they are performed in airport departure halls, gate areas and arrival halls. Passenger services include plenty of customer service functions in ground handling operations, such as check-in, boarding, handling the special needs of passengers, irregularity coordination, rebooking and lost baggage tracing. (Skybrary 2019a.) |
| Departure control system | Departure control systems are computerized administrative tools used by airlines which are designed to automate processing an airline's airport management operations. Operations such as check-in, printing boarding cards, baggage acceptance, boarding and load control can be carried by using a departure control system. Most departure control systems can manage e-tickets and are able to identify and update reservations from an airline's computer reservation systems and for example update the reservation as checked-in, boarded, flown or another status. (DCS aero.) Departure control systems will be referred to as DCS later in this thesis. |
| Altéa Suite | Altéa suite is a passenger service system developed by Amadeus that offers a wide range of solutions which can be used for processing passengers throughout their journey: from reservation to when they receive their luggage at their destination. It is created by Amadeus. Altéa suite includes features such as reservation, inventory, ticketing and departure control system. The departure control system consists of Flight Management and Customer Management. (Amadeus 2020a.) This thesis only focuses on the Customer management system side. |

| | |
|---|---|
| Altéa Customer Management | Altéa Customer Management is a platform for airline agents to process passengers and their baggage. In Altéa, passengers can be processed in different stages of their airline experience, starting from check-in and helping them at their destination if their luggage is lost. At check-in the key steps are fully automated and offer simple steps for selecting seats, changing or updating e-tickets and performing needed checks for authorities. Altéa can also detect unpaid items and allows agents to collect extra payments or offer ancillary services for passengers. Boarding is done by using the boarding feature in Altéa. Altéa offers opportunities to set alarms for example unruly passengers or passengers who need to be contacted for reasons such as document checks at departure gate. Boarding can also be done with automated boarding devices that update customer details automatically during boarding. Altéa enables agents also to rebook and regrade customers upon irregularities. (Amadeus 2020b.) Amadeus Altéa Customer management will be referred to as Altéa in this thesis. |
| Skills | Skills are normally learned in a class or during a course and can be learned quite quickly. Skills can be for example using a computer, writing a manual, changing a light bulb and creating a power point presentation. (Beckett 2019.) |
| Competence | At its narrowest, competence is understood to mean not only knowledge and skills, but it can also be achieved by increasing insight, desire and courage. (Kamensky 2015, 159.) Competence refers to characteristic of a person that leads to superior and effective performance. Behavioral competencies, such as communication, teamworking, decision-making and leadership define the behavioral expectations. Technical competencies define what people need to be able to do and know to carry out their work effectively. These competencies are related either to generic roles such as groups, or to individual roles. Both behavioral and technical competencies are closely linked when assessing and considering role demands and requirements. (Armstrong 2012, 90.) |

These key concepts will be gone through more precisely later on in this thesis. In this chapter we will present the background for the need of this course. Additionally, we will introduce the structure of this thesis and go through what benefits the industry could achieve with the planned course.

### 1.1 Lack of talent

The International Air Transport Association (2018), later referred to as IATA, the trade association for the world's airlines, representing some 290 airlines or 82% of total air traffic, made a questionnaire for over 100 human resource professionals in the aviation business to find out the main dilemmas of the industry. As we have already seen, the industry is evolving massively, and this also brings out positive growth to the employment with new open positions. Most of the needed new work force will be in ground operations, cabin crew and in other customer service areas. As the need for new employees rises it also means a need for more talent. The problem human resource professionals tend to have is the trouble finding the right people for the positions, the ones who will have the needed skills and motivation. The new employees are considered to be highly motivated and willing to learn more and have new competencies, which means that companies need to have excellent training programs. The problem with organisations in the industry might be that they will need to get help for their training programs outside of the organisations for them to have well trained staff and to keep them motivated as well. Technology changes

will also affect the jobs but not certainly the way a lot of think, by the loss of jobs, but it will create new roles as well as it will increase the importance of customer service. More technological innovations also mean that more employees with skills to use them are needed. (IATA 2018a, 4.)

In IATAs Human resources report (2018), one of the biggest problems mentioned in the field is recruitment and how to hire talented enough people who can cope with the industry demands. The problem with recruiting is that there is an absence of skilful and qualified staff, and the salary demands of new applicants tent to be more than the industry can offer. Simply said, industry is finding it difficult to afford the people they desperately need. This means that for companies in the aviation business to keep their performance levels at their standards, they need to make sure their current employees also stay in the company as talent in aviation tents to rise as the employee gains experience. But the need for new talent is still there, not just for a specific role but seen as a raising trend in the field and especially in ground operations and customer service areas in general. (IATA 2018a, 15-16.). The solution for an organisation in the aviation business to keep their talented employees and gain new ones is to create opportunities for employees to get better. When new employees come to the industry, they already need to have a set of skills in their back pocket. Nowadays technological skills are thought of as something taken for granted which leaves room for other training opportunities that organisations can focus on, such as customer service skills and safety aspects, that are highly needed in the industry. (IATA 2018a, 19-21.)

The need to improve training program has already been seen in a lot of the organisations across the industry. This is mainly caused by the problem of not finding people who are talented enough and who can deal with learning a lot of new skills at once. The importance here however is for organisations to further develop their training and that way create a better future for their current and future employees, no matter what the background is. This helps the future workforce to see aviation industry as something they´d want to work and create a career in. (IATA 2018a, 24-26.)

The problem with ground handlers to keep their highly skilled and wanted workforce is not just competing with other companies in the industry, but also competing with several fields outside the industry. The high turnover rates in ground handling cause a lot of money for the companies, for global companies just the training costs can be around 192 million US

dollars annually. As it takes around four weeks for the new employee to be finished with all the training the process of getting new skilful employees is slow. Ground handlers also deal with the same problem as basically the whole industry struggles with the fact that the payment for new employees is not great and so the field itself doesn´t necessarily attract new employees. Also, a lot of the money of ground handling companies go in to training as they have trouble keeping old employees. According to IATAs ground handling report from 2019, if an employee stays in the company for six months, they have a higher chance in staying with the company for longer. As the industry changes a lot and there are a lot of new products airlines bring to be marketed, the importance of customer service roles rises. There is a high need to cope well with pressure, have good manners and professional language skills as well as have enough confidence to sell the new products. (IATA 2019a, 7-8.)

For ground handlers to also attract new employees and especially employees that would stay longer, they need to find a new way to market themselves as employers. They should not be just thought of as someone who is throwing the luggage to the aircrafts and doing the not so fancy jobs compared to the pilots for example. There is a need to make training more efficient and bring more talent in to the business. IATAs ground handling report (2019a,16-17) shows that ground handlers know their problem and are already trying to improve their opportunities in the field by branding themselves better. Also ground handlers believe that in order for them to be considered as a wanted employer they need to come up with better employee benefits and wages. There is a high need for ground handlers also to create career paths for the new staff in order to be considered a good employer. (IATA 2019a, 16-17.)

In March 2019, 200 participants from national aviation authorities, aerodrome and aircraft operators, ground handling service providers, various aerodrome associations, aircraft operator associations, ground handling associations and trade union associations attended the first conference on ground handling, held by EASA, the European Union Aviation Safety Agency. The conference was organised around six different improvement areas in ground handling, of which two of them were training and staff turnover. (EASA 2019.) Also, according to John Wensveen (2017), the professor of air transportation in Purdue University, aviation is suffering from a talent gap and he predicts that the gap will widen annually unless proactive measures are taken. Wensveen (2017) underlines that these proactive measures can be taken by uniting the expertise of academic institutions, training organisations, policymakers and the industry itself. For now, current complaints made by

the industry is that new graduates are not learning or acquiring the important skills required to succeed and survive in the business. The aviation industry is experiencing a fundamental shift due to productivity changes and advancing technology resulting in new needs for practical and relevant skills that were previously non-existent. (Wensveen 2017.) Doctor Nadine Itani (2019,5) from Middle East Aviation Research Centre states that global aviation agencies are concentrating on helping the industry to attract and develop massive workforce to support the growth of the industry to address this talent gap. Also, The International Civil Aviation Organization, later referred to as ICAO, keeps on engaging with countries, industry and academia on a global training standardization model. However, there are challenges such as shortage of experts and qualified teachers and non-recognition of certificates between countries and lack of harmonization of licensing requirements. (Itani 2019, 5.)

At least before the outbreak of Covid-19, the World was experiencing improving economies and the growth of aviation was evident. The amount of qualified and skilled graduates from traditional suppliers to the industry is declining due to competition from other industries, barriers associated with high costs of entry, length of time to complete studies, accessibility and affordability. In other words, the demand for aviation talent is rising but there is less supply than ever before. Traditionally, the aviation industry recruits people for example from colleges, universities and technical training providers hoping to create internal pipelines for career advancement. However, complaints from the industry state that the talent pool is not big enough due to supply and competition. Also, often traditional talent suppliers produce great products, in this case human capital, but these potential employees need to be retrained once they are hired. This can be very costly for the employers. Wensveen (2017) suggests that academic and technical training providers should shift move away from “what we know and do”-way of thinking to listening and collaborating with industry partners creating mutually beneficial programs. (Wensveen 2017.)

According to Wensveen (2017), ideally the future learning process for aviation students is seamless and practical learning experience and programs will be accelerated, exciting, inspiring, timely, flexible, collaborative, and experiential. What comes to current and future needs related to skills and competencies in aviation industry, the top themes include complex problem solving, creativity, critical thinking, people management, coordinating with others, judgement and decision making, emotional intelligence, service orientation, negoti-

ation, and cognitive flexibility. In addition to this, there are several skills related to competency which are incorporated with the above-mentioned top themes, such as security, strategic thinking and technology education. (Wensveen 2017.)

Also, for example the American airline Southwest has faced the challenge having candidates applying a job from them without fully knowing what the job is about. Thus, they conduct a what they call a career motivation interview to make sure that applicant fully understands the job the applicant is applying for in order to make sure that it is aligned with applicant's career goals. Southwest agrees that certain positions require specific skillsets but instead of hiring for skills only, they emphasize the importance of desire to excel, act with courage, persevere and innovate. Additionally, they value their current and future employees' ability to put others first, treat everyone with respect and proactively serve customers with passion and joy. (Weber 2015.)

### 1.2 A course plan for Basics in passenger services course

In order to tackle above mentioned challenges in training, education, hiring and staff retention in aviation industry, we came up with an idea that what if the most crucial skills would be learned in universities of applied sciences already, and that way new employees would already be more prepared and committed in the work life. At this stage it is important to know that we both work in middle management roles in passenger services of a ground handling company at Helsinki airport, and work closely with our new employees. With that background in ground handling and specifically in passenger services, we came up with an idea to plan a course for Haaga-Helia University of Applied Sciences to educate bachelor's degree students for airport ground handling duties, more precisely in the mentioned passenger services. Later on, in this thesis we refer to this course as a passenger service course. This thesis is commissioned by Haaga-Helia University of Applied Sciences which will later in this thesis be referred as Haaga-Helia. As a construct, we have created a course with all relevant material to Haaga-Helia's Moodle platform to demonstrate our ideas and approach on the topic.

The idea behind the course is to give students a more detailed look into passenger services and the suggestion for the content of the course to be built duly according to today's industry demands and requirements. The main focus for the course is to provide a detailed understanding of the tasks of a passenger service agent and the ability for students to work in passenger services in ground handling. As a departure control system is the most important technical tool that a passenger service agent uses, the core of the course

is based on Amadeus Altéa departure control system, one of the most commonly used departure control systems in the world (Bohmer 2018). All other parts of the course are related to the usage of Amadeus Altéa. The Amadeus Altéa DCS is divided into Flight management and Customer management but this thesis is strongly focused on the Customer management side. Altéa DCS Customer management will be referred only as Altéa later on in this thesis.

The reason why Altéa was chosen is that it's indisputably the most commonly used departure control system in Europe (Bohmer 2018). Also, we found out that for example the passenger service course which one of the key players in aviation industry, IATA, arranges, is built around Amadeus-developed departure control system, Altéa Customer Management (Amadeus 2020c).

### 1.3 Thesis structure and delimitation

Lack of talent is evident in the aviation industry. However, as we had to narrow down our topic, we decided to focus on ground handling. Ground handling in aviation industry consists of wide variety of activities at the airport and that's why we still had to delimit our approach to this topic even more and decided to concentrate only on the passenger service side of ground handling. As departure control systems play a very important role in passenger service, we decided to include one of the most used systems, Altéa, to be an essential part of the thesis and eventually the course plan. Also, as passenger services also cover a number of tasks and different positions, and they are named and formed differently in each ground handling company, we decided to focus on the very basis of passenger handling: the tasks of a passenger service agent.

Designing a completely new course is a complex and big area of study as well. With our background in passenger services we decided to focus mainly on the course content and what would be essential to teach from the industry´s point of view, and therefore we didn´t focus so much on the exact implementation nor grading. As a result of this thesis, Haaga-Helia can use our plan and create the kind of course suggested in this thesis. Our aim is to give Haaga-Helia an industry point of view on what should be taught in the University of Applied Sciences for students to be more prepared to work in ground handling and especially with passenger services.

In this thesis, reader is first introduced to ground handling more in detail. The reader gets a prompt overview of passenger services and reads about current and future trends in passenger services. Even though skills and competencies play a vital role in the planning

of the course, the basic core business of ground handling, and more detailed the passenger services, needs to be explained first in order to understand what kind of skills and competencies are important, and what has an impact on them. Then, departure control systems and especially Altéa is introduced. After aviation related theory part, reader is familiarized with teaching and learning in general, followed by the theory on how to conduct a research. We conducted interviews and benchmarked other educational institutions in Europe to get a better understanding of the current situation with teaching aviation industry related subjects and results are shared right after the theory part. Based on our findings from interviews, benchmarking and the literature we have reviewed, we then describe what kind of material we chose for the course and how are they presented in Moodle. In the final part, we will share the conclusions and suggest some ideas for future studies.

### 1.4 Industry benefits

Haaga-Helia has been offering Amadeus GDS, global distribution system course, for a long time already (Haaga-Helia a). Based on our experience in the aviation industry, the Amadeus course is not so beneficial for students who want to proceed to working in the airport environment as Amadeus GDS is not so widely used anymore directly in the airport operations and therefore, we think that students who would learn Altéa could have better advantage with it than what they get with Amadeus reservations system. The problem with education when considering the aviation business is that as the business is constantly changing, and therefore the courses provided by Haaga-Helia for example should be more up to date in order to provide students better basis for the work life. To give an example, back in the days when flights were delayed or cancelled, ticketing agents at the airport rebooked passengers using Amadeus GDS locally. Nowadays, Altéa has developed so much that there’s not much need for specialized ticketing agents anymore, when rebooking of passengers can be done basically by any employee, simply by clicking few buttons on their screens, with no need to use complex commands.

We believe that our thesis would help Haaga-Helia to integrate Altéa as a part of Haaga-Helia's Aviation curricula. Passenger service course with Altéa could either fully replace the Amadeus GDS course or be as an alternative option. As stated before, we also believe that some other basic areas of airport work should be taken as a part of the course, such as passport and visa training, TIMATIC system, dangerous goods regulations and basic knowledge of airport operations. Many times, new employees don’t even understand the difference of customs, security control and border control and they don’t understand the duties and responsibilities of each department. We strongly believe that these are the

“must knows” employees need to know when coming to the industry and so far, universities of applied sciences in Finland haven’t managed to educate them for this. We think that Haaga-Helia could be the first university of applied sciences to offer such a course and thus, get a good reputation for being the avant-garde of the industry.

Our belief is that once the student would take this type of passenger service course, they will have better chances to get an internship or directly a job from a ground handling company. The aim is to plan a course that is well-known within the industry in the future, with both the students as well as industry employers. There is an urge to plan a course that educates the students so that they will have certain level of basic knowledge of ground handling services. The learned knowledge can then be seen in the field as a benefit, as employers will have high respect for these types of skills and competencies. Not only would this course be beneficial for the work in airport passenger service duties, as an example as a passenger service agent, but also for those who wish to work in other roles for example in airline or airport operations as the knowledge of passenger service basics is highly beneficial, sometimes even essential.

Haaga-Helia, student and the employer will all benefit from this. Haaga-Helia, student and the employer will all benefit from the implementation of this course. We also think that this course could be a great advantage for those who already have a good background in tourism and customer service industry and who are willing to step to a new career in aviation industry. Also, airlines changing their current departure control system to Altéa, could be Haaga-Helia’s future clients who could buy the course from Haaga-Helia.

## 2 Passenger services in ground handling

It is safe to say that we all know what aircrafts are. To a person outside of the aviation industry it is not so clear what happens around aircrafts whilst they are on the ground. That is called ground handling. Ground handling can be performed either by the airport operator, the airline itself or an outsourced ground handling company from which the airline buys the services from. Ground handling, to put it simply, is all the tasks performed around the aircraft before departing, whether it is related to luggage, cargo, catering or handling of passengers (figure 1). Ground handling in general is performed to aircrafts between arriving to the stand at an airport and departing from the stand to the next destination. It can be divided into two different operations: operations carried out under the wing and over the wing. Under the wing operations consist mainly of aircraft loading which includes passenger baggage, cargo and mail. Above the wing operations are customer service-oriented tasks, and these are called passenger services. Passenger services are performed inside an airport in arrival and departure halls as well as in the gate area which often is also the departure area for transiting passengers. Ground handling companies are crucial partners to airlines around the world. The changing industry and changing regulations affect the industry of ground handling tremendously. (Ashford & al 2013,153-154.)

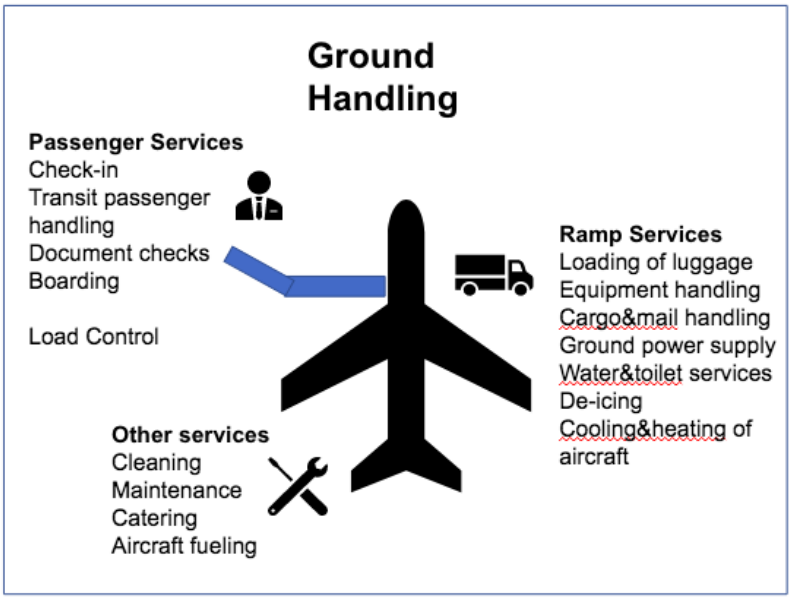


Figure 1. Ground handling (adapted from Asford & al 2013)

Now that the reader has gotten a better idea what ground handling in general is, we will next get a deeper look into passenger services. As a lot of the ground handling companies have different kinds of organizational structures and positions are named differently it is

difficult to give a full presentation on different tasks in passenger services. More often however everyone starts in very basic duties such as in the duties of a passenger service agent and then proceed their career from there. In this chapter we explain more detail what a passenger service agent more often does and what impacts those tasks and how. An agent needs to know that a passenger can't take items like big shampoo bottles in their carry-on or if a passenger leaves a power bank in their checked in luggage it will be removed by security control which will cause extra work for different sectors. Agents more often is asked where the money transfer is or where and how can a passenger get their tax refund. It is needed for an agent to understand the airport as an environment and how not to leave doors open to the apron so that passengers won't go there, or what kind of dents on an aircraft should be notified to the captain.

## 2.1 Tasks of a passenger service agent

The key tasks of a passenger service agent in passenger services include duties such as checking passengers' tickets and identification and helping passenger to check-in and drop their luggage. Passenger services are also about boarding passengers at departure gates as well as helping those with special needs such as unaccompanied minors, passengers who require specified assistance and VIP passengers. Passenger service agents are the ones who have the most responsibility for the customer service when considering representing an airline at an airport. Not only do they meet and greet passengers but offer other services too. Passenger service agent is in charge of checking that passengers have the correct travel documents they need for their destination. If a passenger has trouble with travel documents the agent must be able to contact authorities such as border control or police either at their own airport or an international one via phone or email. If a security issue with a passenger rises an agent must contact airport security or the police. All in all, passenger service agent is in contact with several stakeholders at the airport. (Türeli, Durmaz, Bahcecik & Akay 2019,1079-1080.)

After all mandatory checks, a passenger service agent provides passengers with boarding passes and baggage receipts. If a passenger loses their luggage a passenger service agent at the arrival service will help them track their bags using the baggage receipts. A passenger service agent will also have to work according to different airline standards such as baggage allowance and charge any extra costs for over-sized baggage for example. If a passenger has a ticket issue or needs to change their departure date passenger service agent is there to help them in these issues as well. Agents must also know a lot about the airport in general as passengers tend to use them for all kinds of enquiries as

they often don´t understand the difference between someone who represents the airline and someone who represents the airport. These issues can be about airport security, passport control, tax refunds and custom regularities to name a few. All these tasks require good customer service skills as well as good skills with technological innovations as these are in everyday use in the aviation industry. Not only do passenger service agents use these themselves but also need to assist passengers with machines such as different kinds of self-service devices. (Türeli & al 2019, 1079-1080.)

Passenger service agents also works at the landside of an airport which means that they will also handle transiting passengers as well as passenger boarding at departure gates. The work of a passenger service agent must be done in a very efficient way overall, but especially at the boarding gates work is done with strictly limited timeframe. For any inconvenient or security threatening situations they must know who to contact if they require security assistance or need to decide whether a passenger is suitable to travel. Passenger service agent needs to find ways to solve unexpected issues by using their competencies, but obeying rules set by airlines and regulations given by authorities. Unexpected issues such as flight delays or other irregularities require working under pressure with frustrated passengers and solve problems with good quality service in mind as well as addressing to passenger frustrations gently. (Türeli & al 2019, 1080-1081.)

One of the important skills a passenger service agent needs to have is IT skills, as one of their daily tasks is also to use different computer systems. One of them, and most crucial one is a departure control system which are used when airlines or ground handlers process passenger information. The departure control system, DCS, offers airlines the opportunity to manage all the information required for check-in and boarding processes as well as baggage handling, load control and different aircraft checks. One of the world's most popular DCS is Amadeus Altéa Departure Control system, which in this thesis is referred to as Altéa. Amadeus is the leading technology company in the travel industry and offer a wide variety of different solutions to help airlines. The departure control system is divided into customer management and flight management. (Altexsoft 2019.) This thesis discusses exclusively about the customer management side. Altéa is explained in more detail in chapter 4.

## 2.2 Airport environment

When passengers come to the airport, they usually use either public transport (train/bus/metro), taxis or they drive their own car. Once they have found their way to the terminal, they seek for signage that will take them to the next touchpoint, which usually is the airlines´ check-in area. Check-in nowadays is done in multiple ways: online, on a mobile through different applications, on the self-service machine at the airport, or even at a train station, and at the counter at the airport. Whichever way a passenger chooses to check-in the next step is to check in their luggage if they have some. This is in most places done by printing the luggage tag at the self-service machine or by going to the counter and having an agent print one out for them. If a baggage tag is printed from the machine the baggage can usually be left at the self-service baggage drop. The next step, and mandatory for all passengers and luggage, is the security control. Depending on passengers' destination, and the airport, they might still go through a passport control. Boarding process will happen at a boarding gate from where passenger will either walk to the aircraft or will be transported to a remote parking stand by a bus. After arrival, passenger will pick up their luggage, if they checked in some in the first place, and then depart the airport by different forms of transport. If a passenger receives their luggage damaged or they don't receive their luggage at all, they will contact the arrival service agents of the airline in question. (Schiphol Group 2018, 20.) This passenger journey is also presented in figure 2.

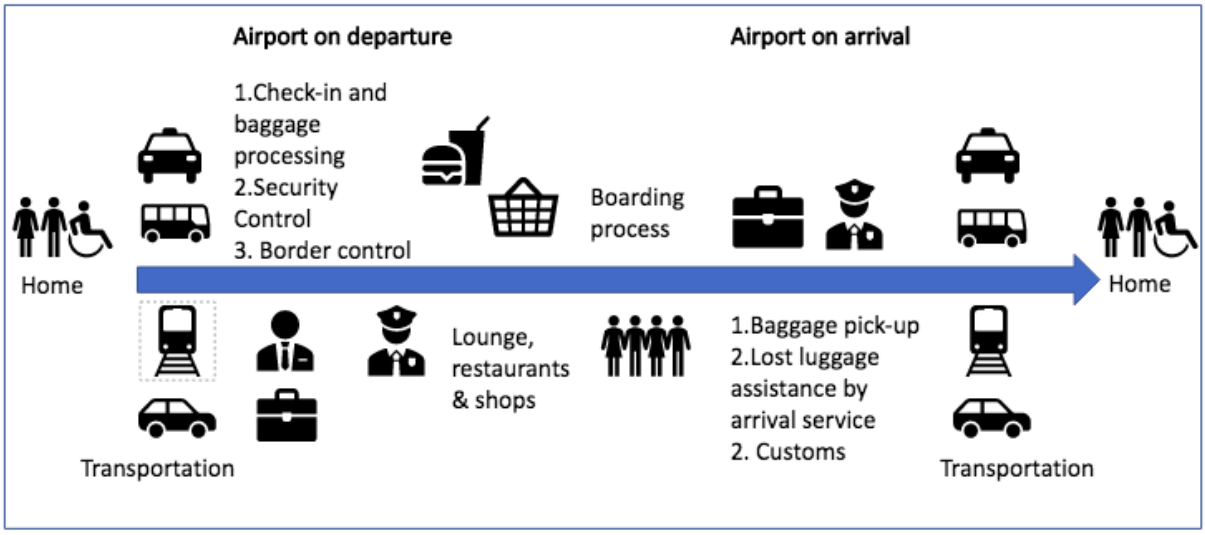


Figure 2. Passenger journey at Schiphol airport (adapted from Royal Schiphol Group 2018, 20)

For a person to work as a passenger service agent, they need to have an understanding of the different stakeholders at the airport. A stakeholder means an organization or a

group of people who are affected by policies and actions of an organization. Also, the stakeholders can have an effect on the organization. Airport stakeholders are those organizations or groups of people who have a certain interest on how the airport is doing, what is the airport doing and how is it doing it. Airport stakeholders are an important part of the airports' future as they all play a massive role in the airport operations. (Malaysia airports 2016,2.) Airport stakeholders also make sure airport passengers can travel smoothly and safely. Airport stakeholders can be seen in figure 3. (IATAa.)


Figure 3. Airport stakeholders (adapted from IATAa s.a.)

By understanding stakeholders such as border control, customs, tax refund companies, airline representatives, assistance teams for passengers who require assistance and apron control for example, they have a better chance in offering better customer service and all-in-all get a better understanding on what is happening around them: why might a passenger be late or need to do something prior to boarding for example, or who should one call if passenger has a document issue.

Border checks are performed by border guards at border crossing points. A border guard is responsible for making sure passenger has all documents needed for departing/entering the country in question. When traveling in the Schengen-area there are no official border checks performed but passengers still need to carry needed documents, such as passports or national IDs, with them. Border checks are done by a border guard at a checkpoint counter or some nationalities can use self-service border checks as well. (Raja 2019.)

Customs is a governmental body that makes sure goods brought into a country are brought there correctly according to local laws and regulations. Their aim is to make sure trade in goods is done in a correct way and that nothing illegal is brought into a country. They also make sure that not more than allowed amounts of goods are brought into a country and they will also collect necessary payments from travelers. (Tulli 2019.) Passengers who are traveling for example from Finland to Japan and are citizens of a Non-European country can get tax refunds of their purchases. These goods need to be packed and sealed in a tax-free bag in a shop and a tax refund form needs to be filled. Also, these shoppings cannot be used within Finland. In order for a passenger to claim their refund, they need to get their goods validated with a stamp from the customs. After that they can contact their tax refund company and claim their money back. These companies are represented at the airport. (Global Blue 2019.)

In Helsinki Airport, apron control services are provided by the airport operator Finavia. People working in apron service unit are responsible for example for monitoring and supervising the apron traffic, guiding aircrafts from the runways to taxiways and to their parking stands, driving instruction for the apron area and the functions of the business flight center. This unit runs 24 hours a day every day of the year. Additionally, they make plans on how all the aircrafts are parked in the airport and they use lots of different systems and programs which supports the concept of smooth operations. (Linkedin.) In general, apron control units give guidance for taxiing aircrafts, they manage gate and ramp facilities and plan the operations so that they can maximize and optimize the usage of both passenger and cargo terminal facilities and associated apron areas. Different airports have different kinds of tasks and setups for their apron control units, as sometimes some of the duties of apron control units can be taken care by air traffic control. For example, in some airports apron control unit controls aircraft operating both apron and taxiways, whereas in some other airports apron control unit controls only the apron area and taxiway operations are controller by air traffic control. Departing aircraft receive clearance information from the air traffic control but the clearance for the push-back and engine start are received from apron control unit. (ACRP 2012, 13-14.) Helsinki Airport has also a unit called APOC, airport operations center that has a significant role collecting all the situational data together and share it as one solid information package to all the stakeholders. This information is often needed by operative actors in airport, airlines and authorities. (Pystynen 2014, 41.)

In addition to the different stakeholders at the airport, a passenger service agent also works closely together with ramp staff as well as cabin and flight deck crews. Together with the flight crew agents make sure that the passenger figures are correct and that they

match the weight and balance calculation presented on a loadsheet that has been performed by load control staff. This is done for example when crew performs passenger counts on some flights or by checking that those seats that are meant to be empty are actually empty. Even though departure control systems help to minimize mistakes, there is still a high need for agents to perform different tasks in the system very carefully to avoid wrongly boarded customers for example. Together with the crew agents also check hand luggage and remove them from cabin if there is a lack of space. (Skybrary 2019b.) Nowadays hand luggage is a big issue with almost all the airlines. At the gate passenger service agent also has to monitor extra hand luggage and move it to hold if needed. This they do together with ramp staff. In general bags can be put to hold straight from the gate as they have been security screened once passengers have gone through the security control to proceed to the gate area, but as there are slightly different rules to hold baggage, additional questions need to be asked in order to make sure aircraft is safe to depart. These items include for example power banks and electronic cigarettes. (Asford & al 2013, 187.)

### 2.3 Automatization

Even though the technology has taken its' own place between the consumer and service provider, the customer still has the same needs for the good service and spotless, error-free products. These fundamental needs and expectations of the customers don't really change that much over the time and that's why also automatization and self-service products and processes need to be well thought before, during and after implementing them. It's important that consumers still have a chance to use the traditional alternatives of the service. (Hattula 2006, 68.)

Since the beginning of 21st Century, self-service technologies have started to gain more importance on airlines' agendas. Most big airlines have invested in self-service technology not only to bring down the costs and improve their services for customers but also to distinguish themselves from their competitors. Passengers use self-service technologies to book and pay tickets online, check in online either with laptops or mobile devices, pick up their boarding cards from the kiosk or have them directly on their mobile devices, and also, to receive real-time status updates on their phones. In global passenger survey, which was carried out by IATA, it was found that travelers want more self-service options such as printing their own bag tags, automated boarding gates and direct notification of up-to-date information. (Lubbe & Potgieter 2018, 333.)

The number of automatized services keep on growing constantly. One of the reasons for this is the increasing labor costs. Owing to technology development, the amount of staff can be decreased but still offer the same or even in some case more services. For example, banks started to take advantage by using self-service kiosks, automated teller machines and payment ATM´s for example. Slowly, banks started to add some service charges to services offered in their bank offices ja bank staff started to teach their customers how to use kiosks and self-services online. Now, the same change is ongoing in the aviation industry. Customers are being taught by the agents on how to use the self-service kiosks. The technology and all the developments that it allows are strongly part of the everyday life off all aviation sectors. With the help of technology, new more affordable and easily accessible services are being implemented. Self-services are thought to be good if they are easily accessible, save time and if they are cheaper compared to traditional forms of service. Some of the consumers these days actually prefer self-service over the traditional service. They think they can shape their customer journey better by themselves by using kiosks and other touchpoints for self-services instead of letting other people do it. Some people like the self-service concept simply because they are fond of the new technology and like to try out new devices for example. (Hattula 2006, 70-71.)

Not everyone is only happy about the emergence of the self-service and new automatized tools. Instead, they still hope to always have someone personally helping and serving them. Often, if the self-service product is difficult to use or if the technology is not working how it should, it leads to customer dissatisfaction. If directions for use are poor, uncertainty increases and reliability towards the service decreases. New experiences in general brings lots of uncertainty to many people and we all react on this feeling of uncertainty in different ways. If the uncertainty grows too big, the whole service can feel unpleasant. Also, the readiness of the consumers when adopting new self-service concepts to their everyday life vary a lot. What have an effect on the readiness are for example motivation, abilities and the fact how clear the role of the consumer is in the complex service entity. If the consumer has the chance to choose between traditional desk service and self-service, he needs to be well motivated to use self-service in order to choose it. Companies can offer some advantages for their customers who choose to use self-service. (Hattula 2006, 71-72.)

Airlines and airports have developed and implemented plenty of new self-service concepts lately. When being successful in implementing them, companies can gain savings for example in labor costs and the efficiency gets better. On the other hand, many of the systems are expensive to develop and if they turn out to be inoperative, lots of money and resources are being spent all in vain. Increasing self-service and decreasing traditional desk

service has also resulted some negative customer feedback and reactions. The importance of the staff presence is significant especially in cases when irregularities occur. (Hattula 2006, 112-113.)

Davenport and Kirby (2015, 59-60) suggest that rather than asking what tasks will be done cheaper and faster by machines in the future, we should ask what new feats people could achieve if they had better-thinking machines assisting them. When involving machines in our daily work, we might see growing possibilities for employment and reframe the threat as an opportunity for augmentation. In some cases, machines can allow us to take on tasks that are superior to anything we have given up. Combination of humans and computers is better than either working alone even though employers often see the people and machines as substitute goods. Today we live in an innovation era and the emphasis needs to be on the upside of people because they are always going to be the source of next-generation ideas and the part of the operations that is the most difficult element for competitors to replicate. People should consider smart machines as their partners in knowledge work and emphasize the importance of augmentation in order to remove the threat of automation. (Davenport & Kirby 2015, 59-60.)

Five different steps can be identified that today's employees might take when balancing with automation and reframing the use of machines as augmentation. Some people might step up to higher levels of cognition by for example getting MBA or PhD to gain broader perspective on their work. Others might step aside and draw on forms of intelligence that machines don't have. Some might step narrowly so that they specialize in something for which no computer program has yet been developed. Some step in by monitoring and adjusting computers' decision making and others step forward and create machines that will augment human strengths. (Davenport & Kirby 2015, 64-65.) Also, Stephanie Siouffi, Director of IATA Training, states that new technologies and automation will fundamentally change the way we perceive work. Some jobs in aviation are safeguarded whereas some others will evolve. Aviation industry needs to invest in skills and structures for future aviation leaders and workers to keep pace with changing workforce. The industry needs to come up with a new plan for influencing and educating the future airline industry employees. (Siouffi 2019, 10.)

The skills associated with the tasks replaced by artificial intelligence become unnecessary for humans, at least in practice, although not necessarily on a theoretical level. Related to this is the question of what competencies in artificial intelligence technology are difficult to replace and what tasks it performs better than humans. Both peoples' readiness for

change and learning new things should be developed, as well as the readiness of companies to innovate and support the development of employees' skills. In addition, the formal education system of society must support the continuous development of skills and lifelong learning. (Vuorenkoski, Lehikoinen, Hakola-Uusitalo & Urrila 2018.)

The competence requirements related to artificial intelligence change as the use of artificial intelligence increases. However, when artificial intelligence is widely used to replace and complement human labour, the employee must still understand what the artificial intelligence does for them. Employees must learn to utilize artificial intelligence to replace that job. The use of learning systems may also require their teaching. Even if an AI-based system does not need to be taught, its use and effective utilization requires an understanding of its operating principles, like any other tool. (Vuorenkoski & al 2018.)

Work enhanced by artificial intelligence may enable worker to do something else with the work input that artificial intelligence replaces. Employees have the opportunity and need to develop their skills to generate new added value. This means the diversification and development of the tasks involved in the professions. Companies should be able to edit employee job descriptions in collaboration with employees. Occupational regulation should also be considered in the light of these developments. (Vuorenkoski & al 2018.)

Artificial intelligence also changes competence requirements in more immediate ways. Ia. The proliferation of artificial intelligence will certainly create many jobs that we cannot yet anticipate. New professions are emerging with new and still unknown competence requirements. The best way to respond to such change is to have sufficient flexibility and responsiveness in systems for society and learning institutions. (Vuorenkoski & al 2018.)

The concept of self-service bag drop at an airport is very simple: to put the passengers in charge to check-in their bags. Traditionally, basic functions at the check-in consist of printing a boarding pass, receiving the printed bag tags, checking the baggage and then proceeding to the security. However, nowadays many passengers arrive to the airport already with their boarding passes in their hands or on their mobile phones, some of them even with home-printed bag tags as well. Rest of the passengers either check-in on the self-service kiosks, or then traditionally at the desks. At the self-service bag drop, passenger follows the instructions from on-screen prompts given by the kiosk. Once the process is complete, conveyor belt takes the bag to the sorting area and the message prompts the customer to proceed to security. Service agents are still being there nearby, either behind an open desk or behind the service desk, assisting the customers. (Colby 2019.)

According to Colby (2019), there are two major reasons why the favor of self-service bag drops has increased lately: speed and efficiency. Self-service bag drops result in shorter queues and reduced amount of stress. Additionally, self-service bag drops lead to more efficient airline staffing. With self-service bag drops being in use, less traditional check-in desks need to be manned and this allows the usage of these agents to perform duties in some other tasks, such as boarding. Colby (2019) states that it's important that all airline provides a thorough training program for all its' agents before going live with self-service products. Otherwise implementing these self-service functions can cause longer waiting times at the check-in and reduce the efficiency. (Colby 2019.)

For example, at Helsinki Airport, in addition to self-service kiosks and bag drops, there are also self-service boarding gates. The gate computers and equipment are connected to these so called e-gates and the equipment and software running behind the system can read the barcode information, seek the data from the departure control system and either open the gate for passenger to board or keep it closed if the boarding pass is not valid before some actions that passenger service agent at the gate needs to perform. According to an equipment manufacturer, boarding an Airbus A340 with 95% load factor traditional style is done by three boarding agents and it takes 19 minutes to finish it. Performing the same boarding operations with e-gates, only one agent is needed for boarding of this flight while 2 e-gates board the same number of customers and according to equipment manufacturer nine minutes faster than with the traditional style. (Lentoposti 2015.)

### 2.4 Travel documents & regulating authorities

Airlines are responsible for making sure passengers are traveling with necessary travel documents. If a passenger is for some reason returned from destination or transit point with wrong documents, it is the airlines responsibility to take passenger back to their original departure point with the airlines expense. Then again airlines hardly ever get blamed about fraudulent documents as immigration authorities do think that airlines are not trained enough for them. In addition to airlines paying the flights when these passengers are denied access to a country, they also more often face a fine from the immigration of the country in question. These fines can be up to thousands of euros. There are a lot of destinations where a passport should be valid for a certain time after arrival into the country and these conditions are sometimes not met. Airlines usually want to perform these checks, at the check-in or at the gate, rather well as it does cost them a lot when they face fines or other penalties. (IATA 2016.)

When airlines sent passengers to destinations with wrong travel documents the penalties can differ as to how the airlines have performed previously. Usually authorities suggest airlines to have better training for their employees to prevent incorrect documentations and fines. Fines in general are there to make sure airlines improve their skills. A lot of airlines do use a lot of different tools to prevent mishandling of documents as sometimes it is not enough for the passenger service agent to check documents. A lot of the mishandling issues are caused by the complexity of these documents. A visa can be a single-entry visa, and so the agent must know if it has been used or not. It is important to check how long travel documents are valid. Some countries require passengers to hold a return ticket or a ticket to a third country for the travel without visa for example to be valid. Not only are there rules that all nationalities must obey but there are rules that can be different to other nationalities too when entering the same country, so it is important for agents to do a check and not assume anything. A lot of the airlines do strict checks before boarding and already during check-in to prevent any fines or extra payments. (IATA 2016.)

Travel documents needed in Europe for European citizens are slightly different. In Schengen area, which consists of 26 countries within Europe, there are no border control checks operated on a daily basis. But even without the border control checks passengers should always carry IDs or passports. When traveling from any of the Schengen countries to a non-Schengen country, a passport or a national ID is a must as border controls are carried out once entering or exiting. A driving license for example is not a valid travel documents, but then there are exceptions like in the Nordic countries, which includes Sweden, Iceland, Norway, Denmark and Finland, when if a citizen of the mentioned countries travels to other Nordic country, they can travel with only their driving license with them. (Finavia 2019.)

The International Air Transport Association, IATA, was formed in 1944 and works together with its member airlines to support the industry standards and make sure the industry stays profitable. IATAs mission is to find ways to simplify the industry and make traveling easier and more efficient as well as keeping the industry up to the standards. IATA for example has brought electronic tickets to the industry which has made traveling a lot easier. Through the airline cooperation which IATA gives to the airline customers, it enables passengers to travel further with just one ticket. IATA is also behind the development of barcoded boarding passes which has made online check-in available. Through the changes of the industry IATA work in close cooperation with member airlines to find new innovative ways to improve the industry. (IATA 2020a.)

Ground handling is one of the important aspects of the aviation industry. IATA has created standards for the ground handling to make sure aircrafts are handled in a safe manner to keep air travel safety on a wanted level. To make sure this happens IATA has created Ground handling manuals which represent current standardized procedures. This is done to ensure that ground handling is done as efficiently as possible and to make sure tasks are performed in line with industry standards. (IATA 2020b.) Later on, in chapter 7 where we present the course content, we also give suggestions on how Haaga-Helia could integrate IATA- standards as a part of the designed course.

Together with ICAO and different authorities, IATA has created regulations for dangerous goods transported in aircrafts. As some items and substances can cause danger to passengers and crew on board an aircraft, there needs to be limitations to these to keep air traveling safe. IATAs DGR Dangerous goods regulations manual gives out up-to-date information on what can and what cannot be transported by air. Airlines use the manuals to make sure they act according to current regulations, and that is why it is important that airline staff knows what information to seek for when they come across with certain substances or items. (IATA 2020c.) There are a lot of everyday products and items that people use that are restricted or forbitten to carry, some of them forbitten in the cabin and some in the cargo hold. A lot of the times passengers carry items such as lithium battery powered devices, hairsprays and laptops for example, which are all somehow restricted. Then again items such as weapons, battery powered wheelchair and avalanche rescue bags, are not that rare either and there are restrictions on how they should be transported. (IATA 2020d.) Therefore, it is important that agents know what they are facing with in their check-in and gate duties in order to proceed in the right way. More about the regulating aviation authorities in chapter 3.2 where we discuss ground handling qualifications and other regulations in aviation.

GDPR is a General Data Protection Restriction which came into effect in 2018. It is a law that gives a better protection for persons personal data and makes it easier for companies or other parties to control received data. Organisations are obligated to inform customer what information of them is gathered and why. Organisations are also obligated to make sure data is protected and used in a trustworthy and safe manner. (Tietosuojavaltuutetun toimisto 2018.) A lot of highly secure personal data is used throughout the passenger journey in aviation. Most of passengers' information is found in the passenger name record, PNR. There are a lot of different parts of the journey where personal data is gathered and

needed such as when a passenger passport information is sent to the arriving airports authorities for them to keep track on arriving and departing passengers. Airlines are responsible to keep passenger data safe from any outsiders and according to the GDPR, passenger data can only be used to prevent terrorism. There should be no data regarding passengers' ethnicity, race or religion or political preferences. Information can only be kept for six months as it is and after that all personalized info such as names, addresses and phone numbers should be deleted. The whole PNR then needs to be deleted after five years. (Airport Technology 2018.)

### 2.5 Safety, security & human factors

There is a difference between safety and security in the aviation industry. Both play a vital role for the safety of passengers and personnel. Aviation security means the measures different stakeholders take to make sure aviation is secured of any deliberate harmful intentions by humans. It doesn't only try to prevent terrorism but to prevent those who don´t know the rules well enough from damaging aircrafts and therefore affecting aircraft safety. (Beloba, Odoni & Barnhart 2015, 341-343.) Then again when we talk about aviation safety, we talk about the precautions made by airlines and other stakeholders towards preventing accidents, technical problems and other occurrences that might have an impact on the safety of passengers and crew on board. (Beloba, Odoni & Barnhart 2015, 328-330.)

Security has always played a key role in aviation business. The nature of air transportation offers all kinds of security aspects whether it is keeping passenger information secured or ensuring the safe transportation of different kinds of passengers. As terrorist attacks are more common, the security aspects of the business are more and more important. The airlines need to focus on different aspects which are people, facilities, aircrafts and procedures. Together with airlines´ own security departments as well as security professionals, airlines can provide top security for their operations. Airlines need to come up with security programs in order to keep the high-level of security. They need to assess their vulnerabilities and concentrate on their personnel, aircrafts, facilities and customer profile. (Sheehan 2013.)

Airline vulnerabilities should be taken into good consideration. How to prevent unauthorized personnel from accessing their aircrafts? What measures need to be taken in order to

keep firearms away from aircrafts? And how to prevent for example transportation of illegal drugs on board their aircrafts? In addition to these vulnerabilities, airlines need to have a security program for their employees in order to be proactive as well as have annual security training to maintain knowledge. Facilities evolving around airline operations need to be well thought through. Simple things as lighting, fencing and security patrols need to be in place. Also, areas that should not have any unauthorized personal in it, should be locked and all persons going to the facilities or aircrafts should be identified, whether they are personal with ID patches or passengers with valid boarding passes and IDs. Emergency numbers should be visible and easy access to emergency buttons or phones should be available. Security is also very important when it comes to aircrafts. A crew member should always be present when operational functions are made around it, such as fuelling or catering. Whenever aircraft is unattended the doors should be locked. Before each departure a security check needs to take place. All the above goes also for all the procedures around aviation operations in general. Staff need to be security trained, accessibility needs to be limited with ID patches, accessible passenger manifest need to be available for staff, all luggage on board aircraft need to be matched with a passenger on board and there also needs to be an emergency plan for possible emergencies. (Sheehan 2013.)

Airports are open venues that gather huge amounts of people in them. A good security at the airport is the key to good aviation security and safety. Even though safety is first and foremost the most important thing in aviation, airlines seek for quick turnaround times and therefore security checks at airports need to be as fluent as possible. The safety and security systems at the airports need to protect everything inside the airport whether it is the passengers, staff, equipment, food safety or a matter of the airports or airlines brand. Airports need to be well prepared for possible emergencies and maintain good skills all the time with different training. During normal operations everything needs to be monitored in order to gain information for future and possible irregularities. (Ashford& al 2013, 257-258.)

Having proper security measures taken means that the safety of passengers and personal can be of high quality. Human factors are simply those aspects that have an effect how individuals perform in their work tasks. They can either be those social and personal skills that each have and have an impact on how individuals make decisions and how they communicate matters to others. Human factors play a critical role in the safety of ramp staff, aircrafts and passengers. In order to maintain a certain safety level, companies need to

look in the human factors in operations and add these factors in to training in order to prevent at least most of the mistakes that can be caused by human error. It is important to see what these human factors are, and how they can be seen throughout the shift of a staff member. By attending training that involves human factors, managers can support their teams to become more safety oriented and encourage their employees to report of any mistakes they might come across. By increasing the awareness of the human factors and that way eliminating possible human errors companies can offer safer working environment and offer high quality and safe environment for aircrafts to operate. This goes hand in hand with the open reporting and just culture in a company. Issues such as time & peer pressure, stress, troubles with memory, personal health condition and distractions in workplaces are the main causes of human errors. These need to be added in training programs as well. In addition, when new errors and mistakes occur, they need to be taken into consideration in training to develop the training programs as well. (Balk, Bossenbroek & Stroeve 2010, 30-33.)

Another important aspect of aviation industry safety is the importance of just culture in different organizations. Just culture means having a culture in a workplace that encourages people to report on mistakes and incidents. It creates a trustworthy atmosphere for the employees and gives room for improvement in cases were incidents happen. It also helps the managerial level and gives assets on the most important aspects of safety in their company. To make sure your company is really engaging the just culture you need to think about aspects such as alcohol usage in the workplace. If problems arise, are they intentionally done by an employee and is there such a risk that someone could deliberately break the rules and cause incidents? When a mistake has been done, in order to learn from it, managerial level needs to assess whether the mistake was an individual mistake or is it likely that someone else can later on repeat it. In order to take advantage of the just culture, a company needs to have their managers involved and supportive of the culture. It gives out a chance for the staff, for example ramp staff in aviation, the opportunity to report such incidents and mistakes without having the feeling of fear of losing their jobs for example. In order to fully use the just culture at a workplace it is needed to follow certain steps when an incident occurs. Reporting guidelines need to be clear and available for everyone. Company needs to have appointed persons to be in charge of reporting as well as have someone go through them together with employees in order to give feedback. In addition, there needs to be a way to then learn from these incidents and mistakes, by having ways to then communicate certain safety aspects to the employees. (Balk, Bossenbroek & Stroeve 2010, 12-16.)

## 2.6 Special passenger categories & demanding customer service

The amount of those passengers who need special assistance, conditions or equipment is growing in commercial air transport. Some of the reasons for the emergence of the different passenger profiles are for example the changes in the demographics and accessible fares. The amount of commercial flights in Europe is estimated to grow to 25 million by 2050, also the number of customers growing more than two-fold. This means that also stakeholders in the aviation industry need to adapt to an increasingly varied mix of passengers with different abilities and needs. Regulation (EC) No 1107/2006 of the European Parliament and of the Council ensures that passengers with reduced mobility or disabilities have equal access to air transport. (EASA 2014, 7.)

Airlines and airports, or their subcontractors, assist millions of air travelers with disabilities every year. When special assistance is needed and passenger informs the airline or travel agency of this, airlines add a special service request code to the booking, also known as SSR code. (Wheelchair Travel.) SSR codes are used in the aviation industry in order to communicate travelers' preferences or special needs to airlines and other stakeholders involved during the travel. The codes are delivered through in a common-format four-letter codes defined by IATA. (Choudhury 2019.) Not only passengers with disabilities have the SSR codes but also for example those passengers who are deported from a country to another are given own codes. Those can be passengers who are deported unaccompanied or then accompanied by authorized escorts. Also, passengers who have been refused entry due to insufficient documents have their own code, INAD, as inadmissible passenger. (Al-Maaytah 2019.) The most common special passenger categories and their SSR codes will be added to our Moodle platform as content of the course we are designing.

Then, for example in the U.S.A., there has been several cases where passengers have attacked airport agents with higher frequency, subjected them to verbal threats or acts of physical violence. Especially those passengers who are affected by flight delays or other irregularities may take their frustration out on a customer service agent in the airport. A survey conducted by Government Accountability Office of U.S.A., almost half of the agents had reported experiencing verbal threats, such as passengers threatening to harm the customer service agent. Roughly one-third had experienced other types of harmful acts such as taking video of agents, grabbing their id badges, and stalking them after work. The report concluded that agents face difficult working conditions and passenger

assaults including verbal threats and physical assaults are becoming more common. (Elliott 2019.) At the airport, reporting of unruly passengers is everyone's responsibility. At the check-in, agents should be encouraged to identify and report any customer whose behaviour would suggest that they might be unsuitable for carriage, for example due to intoxicated state or if their condition otherwise is not fit to fly. Sometimes passenger's state of intoxication, agitation or anxiety can be only recognized at the boarding gate where their acceptance to the flight has to be denied. (Skybrary 2018.)

All the companies have their own idea and concept of what good customer service is. However, eight service principles can help any company to think of their customer service: patience, attentiveness, clear communication, positive communication, ability to act, ability to stay calm, empathy, closing the service encounter. Customer service agents need a lot of patience as often details need to be explained to a customer multiple times and go through the same procedures and topics twice or more. Customer service agents need to pay lot of attention to listening what the customer says. It's not only about listening to words but also mood and expressions, and perhaps some hidden meanings. It's important to speak clearly with the customer and leave out all the professional language that is only used between you and your colleagues. (Digizer 2017.)

Customer service agents should also think about the ways on how to communicate with a customer in the best possible way. Instead of telling that some product or service is out of stock, why not adding few lines on when it would be available again or would there be something else that customer would be interested in. Sometimes, it's impossible to make customer happy or make him understand why something has gone wrong. That's when customer service agent needs "acting" skills. Agents needs to be able to keep their positive attitude visible throughout the service situation. This also applies in the situation when customer is stressed or even shocked. In these situations, it's important to stay calm to show to customer that everything will be alright. Being empathetic is a fundamental skill to have in customer service too. Good customer service agents can put themselves in the customer's shoes. If the service situation is on-going or will probably continue in the near future, it's necessary to tell about the next steps for the customer, and make sure that they understand and agree with the next steps. (Digizer 2017.)

Most service situations require interaction between the customer and the service provider. The customer's perception of the interaction influences the customer's opinion about the service provider and the service they receive. Interaction situations during the service event are very important and have a great impact on the customer's perception of quality. (Grönroos 1991, 49.) During the service, events have an important impact on how the

customer experiences the service. However, there isn't much research done yet, on what factors support behaviour in customer service situations, and how customer-focused behaviour or customer service attitudes affect customer satisfaction in a service situation. (Susskind, Borchgrevink & Kacmar 2003, 179-180.) In many service events, the service provider and the customer might not meet during the service event. Interaction between the service provider and the customer might occur even if it does not appear to exist at all. However, success of interaction situations is important because they help the customer to create their image of the company. If something does not work, the customer will notice it immediately. (Grönroos 2010, 77-78.)

The service is created during the service event. Because service is a series of acts which are produced and consumed simultaneously during a service event, it is difficult to advance the quality of the service. Customers are also a production resource at the service event themselves because they are participating in it. The customer is involved in providing the service. All this leads to heterogeneous services. Each service event is different, exactly the similar kind of service that the previous customer experienced cannot be provided to the next customer. Heterogeneity is therefore a big challenge in the service industry. (Grönroos 1991, 51-52.)

### 2.7 The future of ground handling and aviation

As this thesis was almost ready but not yet published before the outbreak of Covid-19, our views regarding the future are mostly relying on the expected views the industry had prior to the virus which then pretty much took down a lot of the air traffic around the world. In this part we have gathered theory both what was expected before Covid-19 and what is expected now, as we believe that there are still valid points in both predictions. Also, the predictions how the Covid-19 will impact the aviation in the long run changes as the virus continues to impact our daily life, so it is impossible to know the actual impact just now, as what was predicted yesterday can be turned over today.

Prior to the outbreak of Covid-19 it was expected that passenger volumes will most likely double in the next 15 years. This will create pressure to airlines, airports and ground handlers. There will be less time to concentrate on service quality as turnaround times for aircrafts are made shorter. It will also affect airport operations as there will be more delays with growing passenger numbers and more high paced operations at the airport. The key is to keep ground handling services as united as possible and to find personnel that are highly skilled and flexible. Ground handlers need to find ways to maximise the usage of

their workforce and how to make staff work well with new digital innovations that are being used more and more in ground handling. This creates the opportunity for airports to run smoothly and offer good passenger satisfaction by creating smooth passenger handling. Ground handlers need to find new ways to improve the usage of their workforce by creating diverse employees who can be used in different positions and tasks. (Dassault Systemes 2018,3.)

As passenger numbers rise the airports tend to be more congested than ever. Not only does this effect on the number of passengers going through the transit area but also creates congestion for parking positions of the aircrafts. This means that there can be last minute gate changes for flights which creates more pressure for ground handlers as equipment and staff needs to be moved quickly from one place to another. It also creates pressure to whoever oversees the employee allocation as staff can be late from their tasks and new tasks need to be allocated constantly. This creates the need to have highly diverse and talented staff, as it benefits the organisations when employees can be used in different kinds of tasks. Not only does this create pressure to the allocator but also to the management who plan resources. The management need to make sure they have enough of the right talent working daily to ensure smooth operations. The more talent there is the easier and beneficial it will be for the organisation. (Dassault Systemes 2018, 4-6.)

Jobs and skills are one of the factors that will affect digital transformation and vice versa. Digital transformation sets new kind of demand for different skill set from workers in economy, and it will also create new kinds of positions. Challenges to tackle with digital transformation are for example reskilling the industry workforce for the digital economy, managing the impact of automation on employment and creating a safety net for workers in a flexible workforce. (World Economic Forum 2017, 9.) To maximize the value of digitalization in aviation, ecosystem participants should support the transition of the workforce. This would involve reskilling current employees through training and empowering educational institutions to plan and create a curricula, that would prepare the next generation for the digital economy. (World Economic Forum 2017, 5.) When doing a research on the new skills needed for the new smart occupations, the opinions of both academia and aviation organizations must be considered and the need for interdisciplinary qualifications outlined. Consequently, study programs must focus on interdisciplinarity, for example aviation and IT, as more smart technologies and smarter operations are about to be part of everyday

work life in aviation. Education institutions and universities must apply new training strategies in order to prepare their students to be skillful next generation aviation employees. (Zaharia & Pietrenau 2018, 98.)

IATA (2020e) says that "Airlines were hit by a sledgehammer called Covid-19 in February", as the outbreak of Covid-19 has caused a lot of trouble to the aviation industry (IATA 2020e). There has been a lot of cancellations as airlines struggle with operating empty planes. This has been the result of several travel bans to countries from the different countries or regions where the virus has spread tremendously. Eventually several countries also restricted travel to/from the country in order to prevent the spread of the virus. This has caused severe overall decline in air traffic and therefore also a big impact on the loss of revenue for airlines. (ICAO 2020a, 6.) The Covid-19 has also a major impact on all the aviation jobs. British airways have said to lay off around 80 % of their employees in order to cut down costs. This is done to make sure the airline could recover from the massive impact of the virus as around 40% of the airlines´ cost is from employee wages. IAG which is the owner of British airways is in a slightly better financial situation than most of its competitor which gives room for hope. (BBC News 2020.) ICAO has created different scenarios regarding the impact of Covid-19 to the aviation industry. They estimate passenger figures to drop 401 to 528 million passengers within the first half of 2020, compared to what was estimated prior to Covid-19. Seats offered by different airlines are estimated to drop by 37 to 47 % of original estimations. (ICAO 2020a, 15.)

Airports Council International, later on referred to only as ACI, is one association that has looked in to the possible affects the spread of Covid-19 can have on the industry. It is safe to say that the impact on airlines is tremendous but the whole situation puts airports also in difficult situations, as a lot of their revenue comes from the non-aeronautical revenues received by passenger as well as airport fees paid by airlines. Due to the amount of cancelled flights and airlines having low passenger figures airports have decided to loosen their rules regarding the usage of slots. In normal situations airports obligate airlines to keep flying their original routes to keep their position in the airport schedule. However, the spread of Covid-19 has made airports loosen these strict rules in order to make sure certain routes can be provided still as well as help airlines with these difficult times. This is also considered to be sustainable as airlines do not have to fly empty planes just to keep these slots. It is not easy to predict the total effect on the industry and therefore a lot of the impacts are all the time changing. ACI has at the moment estimated that at airports the

passenger volume will decrease by at least 12%, during the first quarter of 2020, compared to what was predicted before the spread of the virus. (ACI 2020.) It is also estimated that airports overall will face approximately losses of 46 billion US dollars (ICAO 2020a, 26).

The aviation industry was expecting again another victorious year with record breaking passenger figures. The outbreak of Covid-19 has made a lot of airlines question their existence and whether or not they can make it out alive after the crisis. Some airlines say that their volume will be changed by the crisis and others are saying that they will shortly run out of money. It is expected that those passenger figures that were likely to be recorded in the year 2020 will most likely be breaking in two to three years now. A travel analytics company Forwardkeys says that during the week of 30 March till 05 April 2020 passenger figures have gone from 44.2 million (2019) to now 10 million. (Freed & Shepardson 2020.)

As the world is still heavily living in the crisis which the Covid-19 has caused, it is difficult to say what the future will be like and what will the impacts on aviation eventually be. In China were the virus was first discovered the drop for the aviation traffic was around 80% of the normal situation. As the virus started to spread in China a lot of airlines around the world started to cancel their flights to China and a lot of countries started to restrict passengers arriving from China. Not only were a lot of international flights cancelled but also it had on impact on the domestic flights in China. China is slowly showing signs of recovery after being pretty much in lockdown since the middle of January. As the load factors were as low as 40% at some point during the lockdowns, they are slowly growing and have been around 60% now. But still international flights are also been restricted by the Chinese government so it will still be a while before the aviation will get back on its feet in China, let alone in other parts of the world. But the fact that there is a slow rise in domestic travel within China gives hope for the whole aviation industry. (Airlines IATA 2020.)

# 3 Skills and competencies

Now that we have in the previous chapter explained the key tasks of a passenger service agent and those aspects that have on impact on the tasks, we will go into the definitions of skills and competencies more. The competencies and skills play a key role in this thesis as there are plenty of competencies and skills that are especially needed when working in the demanding aviation industry as the industry is highly regulated.

There are certain topics and skills that can be taught prior to working as a passenger service agent but it is important to know that a lot of the competencies are learned in the work life too. As explained in IATAs study (IATA 2019a), regarding the lack of talent, the problem with the business is also to make the experienced employees to stay, and therefore there is a need for schools to make sure they do what they can to promote the industry and the various career opportunities.

In addition to skills and competencies, this chapter deals with qualifications needed in aviation industry, of which a lot are to do with aviation safety, which was also discussed in chapter 2. As there are several aspects and standards that affect the industry, we gathered the most significant ones to ground handling in the section 3.2.

## 3.1 Definitions of skills, competencies and qualifications

Defining competence and learning is not an easy task. Competence happens and is involved in all situations where person acts. The competence in this case is said to consist of a combination of employee's acts and work. (Hätönen 2011, 9.) Kamensky (2015,159) suggests that competence should be observed in terms of business, organization and personal development. At its narrowest, competence is understood to mean not only knowledge and skills, but it can also be achieved by increasing desire, insight and courage. (Kamensky 2015, 159.)  Competence has become an important coping mechanism for individuals and can be regarded as of their only job security, especially nowadays when lots of part-time contracts are in favor of the labor market. Therefore, individuals should take good care of their competencies in order to be successful in today's labor markets. Competencies that we have often define our value in the labor markets. (Sydänmaanlakka 2012, 169.)

According to Ranki (1999, 27) there are five interrelated factors which belong to competencies:

- Knowledge (facts; technical characteristics of the product)
- Skills (for example skill to perform welding in a certain method)
- Experience (managing different options, learning from own mistakes and success)
- Beliefs and values (perception of what is believed to be right or wrong and what impacts the interpretation and perception of information; for example, insight into customer-rated product features)
- Social network (relationships, knowledge of the consultants in the industry)

Although competence is strongly personal in nature, it is also very much socially constructed. New knowledge is created as a result of interaction between the person and the environment where the individual operates. Know-how is also strongly linked to the changing requirements of the operating environment. Knowledge and skills are constantly getting old and new learners are being replaced. Past experience can be useful when assimilating a new one, but it can also be difficult to the old learner. Therefore, the content and meaning of knowledge is constantly changing and that is why everyone is eventually responsible for maintaining and developing their own expertise. (Ranki 1999, 28-29.)

As stated before, competency is a rather complex term but in short, it refers to characteristic of a person that leads to superior and effective performance. Behavioural competencies, such as communication, teamworking, decision-making and leadership define the behavioural expectations. Technical competencies define what people need to be able to do and know to carry out their work effectively. These competencies are related either to generic roles such as groups, or to individual roles. Both behavioural and technical competencies are closely linked when assessing and considering role demands and requirements. (Armstrong 2012, 90.)

What comes to practicing human resource management, there are different approaches to using competencies. For example, role-specific competencies are used by some companies for generic and individual roles and sometimes incorporated in a role profile. This approach is adopted for example in recruitment person specifications and in the preparation of learning programmes. Competencies are also used in universities, which help students to build up their understanding of the competencies they need now and, in the future, so that they can think of how they can self-direct themselves in the learning programmes. (Armstrong 2012, 94-95.)

The analysis of roles, jobs, competencies and skills provides information required to produce role profiles, job descriptions and person and learning specifications. It is of fundamental importance for example in career management and learning and development. In the job analysis, collecting and analysing information is done in order to provide the basis for job description and data for example for recruitment and training. With the help of role

analysis, it's possible to find out what employees are expected to achieve when carrying out their duties and the competencies and skills required to gain these expectations. Role analysis focuses on identifying inputs such as knowledge, skills and abilities, competency requirements and required outcomes. With role analysis, it's possible to create a role profile which defines key result areas, accountabilities and competencies for an individual role. It focuses more on the outcomes than duties and therefore provides a good overview on expectations. (Armstrong 2012, 534-535.)

Role profile focuses on the following aspects of the role: key result areas, knowledge, skills and abilities required and behavioural skills. A key result area is the element of a role that includes clear outputs and outcomes which can be defined and each one of them should make a significant contribution to achieving the wholesome purpose of the role. The amount of key result areas should be seven or eight in the role profile and generally the basic structure of the key result area definition resembles a job description task definition. Knowledge, skills and abilities can be transferred to terms such as "need to know" – the knowledge that is required in order to carry out the work in terms of techniques, systems, processes and procedures- and "need to be able to do"- the skills needed in each activity. Basically, these are the technical competencies which are required at work. Behavioural competences define how the employee is supposed to behave when carrying out the work. These competencies might cover areas such as team-working, people management and development and communication. (Armstrong 2012, 538-539.)

Competencies and qualifications are difficult to talk about separately as they are parallel concepts. Qualifications are those qualities that make it possible for an employee to work in tangible work processes. (Ruohotie & Honka 2003, 31.) The qualifications required for the job change because they are closely linked to the industry the work is done in. Changes are taking place in society, in people, in working life and in the work itself, which are reflected in the new qualification requirements. Changes in qualifications also reflect education. Vocational schools are unlikely to be able to teach new necessary qualifications effectively enough without any help from outside of the school. (Metsämuuronen 2001, 152.)

There are also certain requirements associated with the qualifications. The requirements are not stable and can be changed and processed either through the existing work processes or from the certain change they are needing. Väärälä (1995, 42) has divided qualifications into five categories:

- Production and technical

- Motivational
- Adaptive
- Sociocultural
- Innovative

Production and technical qualifications mean those individual professional knowledge, skills and competencies, that are necessary for the job. The profession is thought of as a set of tasks that can only be performed with certain set of skills and competencies. Traditionally, these types of technical qualifications are often taught in vocational training. Motivational qualifications are thought as individual and personal qualifications that often stick to the individual through their life. Motivational qualifications help the person to get new qualifications in the job by learning as tasks and qualifications change. This type of work is thought to not be possible without commitment and responsibility towards employees own doing. Adaptative qualifications refer to the basic issues of job that are needed to be adapted by the employees, whether they want it or not. Such could be basic workplace cultural aspects such as work discipline, working hours, work pace, work community and conscientiousness. (Väärälä 1995, 42–48.)

Socio cultural qualifications refer to how the employee acts around the workplace with their colleagues and also with stakeholders. Sociocultural competence is highly important, for example, in different team and network discussions, which require competences to combine different areas of expertise. It is important that employees know how they should talk to customer and how it is different from how they act around their colleagues at work. In working life, the emphasis is on social ability, attitude ability and the ability to take on and change to different roles. Innovative qualifications mean practices that are out of their normal routines, the ones which require the need to think outside the box and be creative. Innovative skills are those that make possible for the employee to learn from what was done previously, what is relevant to the situation and to be able to learn as they go forward in their working life. (Väärälä 1995, 42-48.)

### 3.2 Towards consistency in ground handling training

The International Civil Aviation Organisation, ICAO, was formed in 1944. The aim of ICAO is to make sure air travel stays efficient, safe and environmentally friendly. In order to do so ICAO, together with its 193 member states have set up several policies and standards for the industry to maintain on a certain level. These standards and regulations are all used over the world in the member states to make sure the civil aviation stays safe and efficient around the globe. These standards regulate for example the number of airplanes

in the sky at the same time as well as keep a track on different incidents and monitor different sectors to keep the standards where they should be. The regulations set by ICAO can be implemented to local procedures mainly due to local laws and restrictions but must be approved by ICAO eventually to keep standards on the same level everywhere. (ICAO 2020b.)

In accordance Annex 19 ICAO obligates as well as sets safety responsibilities to its members states and obligates them into having a Safety management system, SMS (Traficom 2018). A safety management system, SMS, is a risk-based decision-making process that makes sure risks are assessed effectively throughout the whole organization to make sure aviation stays safe. The process of an SMS (EASA) in an organization includes the following topics:

- Identifying safety hazards
- Reporting and gathering data related to safety
- Managing and controlling risks
- Measuring and analysing achieved safety goals
- Improving the quality of the process and making sure standards are met

The organizations need to identify their key hazards first in order to find solutions on how to work against them. It is also important that organizations report any safety hazards and gather data regarding safety issues. The safety management system process also requires constant work on managing the possible risks of the organization as well as controlling them in order to stay at a certain level. There is also a need to then measure achieved goals that the organization has put for itself in order to see how well they have done and if something should be improved. Therefore, the process requires constant analysing and studying how well the SMS is working in order to improve the safety of an organisation and how well they keep up with the industry standards. (EASA.) In figure 4 you can see how aviation security is managed by Traficom, The Finnish transport and communications agency. The base of the plan is ICAOs programme, but it has been adjusted to fit the Finnish standards. (Traficom 2018.)

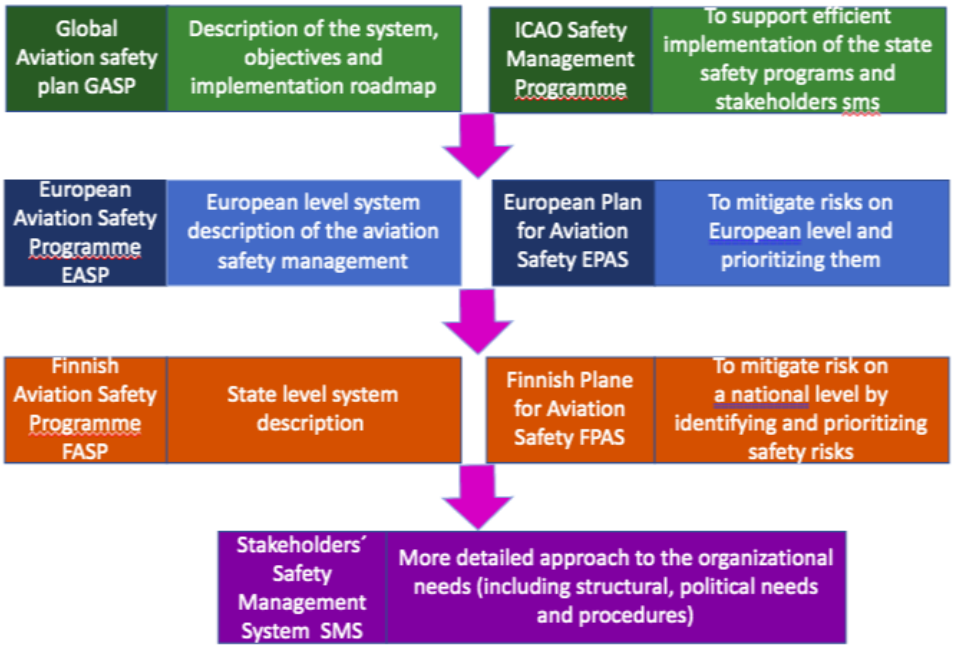


Figure 4. The global chain in aviation safety management (adapted from Traficom 2018)

ICAO has also set Annex 17, a set of standards which are created to make sure the civil aviation stays secured and safe. The annex obligates and recommends ICAO member states to form a national organization to make sure national airports are secured. This means that there needs to be someone in charge of a security program set for all airports. This program sets obligations for each member state to name each airport an authority in charge and a security committee to make sure all standards are in place as well as making sure the airports are designed so that those standards can be followed. Each of the member states as per the annex should come up with the mentioned committees and authorities, and they should plan regulations and different routines to make sure they are prepared to work in preventing any unlawful incidents and accidents. The idea is that all these set stakeholders work together to ensure the safety of civil aviation and as it is spread throughout the member states, the safety can be of good quality in several countries around the world. These standards are utilized in different countries in different ways to make sure it fits to the national situation. (Ashford& al 2013, 258.)

Several authorities around the aviation also focus on the safety at the airside of the airport. This airside includes areas such as runways, taxiways and the parking area where the aircraft is parked (Ashford & al 2013, 8-9). These airport airsides are only to be accessed by authorized personal, airline and airport staff and authorities, which means that you need to get an ID badge that allows you to access the area. Airside safety plays a key

role in aviation safety and it aims to prevent any accidents and reduce the possibility of any hazardous items around the airside area. Not only is airside safety about lowering the risk of aircraft damage but it also covers the importance of personal damage of anyone working around the aircraft as well as any material damage any hazards could cause. This way it also keeps air traffic passengers safe. Anyone who is meant to have the right to access the airside area needs to go through airside safety training. This is done to ensure that airside employers know their responsibilities in aviation safety and can perform their tasks in safe way as well as have the right knowledge and skills. Like mentioned before there are several regulating bodies in aviation and same goes for the aspect of airside safety. The concept of it is a sum of regulations and different guidelines that are made by several civil aviation authorities and ICAO standards such as the Annex 14. (ACI 2010,1.)

As we know, aviation is strongly linked to safety and security and that's why the industry is highly regulated, too. Therefore, plenty of incentives and programs have been designed and implemented to enhance and support safety and security in all areas of the industry, obviously also in ground handling and passenger services. In general, operational and safety regulations have been vastly undefined, and lots of the regulations have been left to individual airport authorities to determine policies and practices. As there are so many regulations, some of them still don't work in ground handling and are accompanied by mixed regulations which vary across countries and between airlines, there is lot of inconsistency in the ground handling operations. (Schulte-Sasse 2017.)

In 2008, IATA addressed its' concerns about this challenge of inconsistency by bringing together industry stakeholders such as airlines, ground handling companies and regulators to develop a global standard for auditing and oversight of ground handling companies. As a result, ISAGO, The IATA safety audit of ground operations, was established. (ICAO.) Today, ISAGO is a program that is an internationally recognized and accepted system for evaluating the operational management and control systems of an organization that provides ground handling services for airlines. (IATA 2018b, 3.) ISAGO is continually developed and aligned with regulatory provisions to ensure consistency and relevance of the policies, processes, procedures and oversight pertaining to ground handling operations. All interested stakeholders such as international industry representatives, regulatory authorities and associated agencies are invited to collaborate with IATA to assure a consistent and collaborative result. (ICAO.)

The reason why ISAGO is presented here is mostly due to fact that ISAGO audits provide a standardized approach to ground operations training requirements (ICAO). ISAGO manual has a detailed section for training and qualification which defines for example minimum knowledge, skills, training and experience requirements and sampled evidence of implementation for staff members who perform operationally critical functions, focusing on training records, competence, skills and continuing education. In general, most frontline operational functions for example in passenger handling are typically considered operationally critical, as well as functions that involve the training of operational personnel. (IATA 2018b 93-94.) In ISAGO manual, there is also a specific passenger and baggage operations training program section. It defines to correct policies and procedures on how to arrange training for the roles in these operations. It for example states that companies need to have a training program that ensures all staff members with duties and responsibilities within passenger and baggage operations complete safety training, job specific training for their assigned operational functions and dangerous goods training. (IATA 2018b, 161-164.) Training for staff who perform duties in operational passenger handling functions needs to address areas, as applicable operational function, such as passenger and baggage check-in policies and procedures, passenger boarding policies and procedures, passengers requiring special assistance, health and safety, data protection and security and also airline specific procedures (IATA 2018b, 168.)

### 3.3 Skills and competencies of a passenger service agent

Skills, competencies and qualifications are strongly linked to service quality as well. Service quality can be measured for example by employees, responsiveness, assurance, reliability, tangibles as well as by image and empathy. The level of concern and civility between service staff and passengers is important, meaning that service agents need to be able to listen and understand, show individual attention, and be friendly and courteous. There's also a model called SERVQUAL where the service quality results are derived by comparing customer expectations and perceptions with evaluating service quality based in five different categories: reliability, responsiveness, assurance, empathy and tangibles. Reliability category measures how well the company representatives perform the promised service dependably and accurately. Responsiveness means that representative should be willing to help customers and provide prompt service. Assurance category focuses on the knowledge and courtesy of company representatives and their ability to serve customers with confidence and trust, keep their promises to passengers, be polite and respectful, communicate effectively, and have the neat appearance when at work. Empathy category measures representative's ability to provide care and take customers' individual needs into account. Tangible category concentrates more on physical facilities

but also how service representative looks like, what kind of communication materials they use and if they can well minimize the disturbance from other customers. (Sricharoenpramong 2018.)

Airline businesses should apply these five key categories that customers use when considering service quality to determine work standards for ground staff. They should also keep the focus on human capital management and improvement and organizational development. Human capital consists of intellectual capital, social capital, and emotional capital. All the employees are equipped with these capitals which should be used for effective and efficient service, especially regarding employees providing service that requires contact with passengers. Airline businesses must develop their human capital to serve passengers professionally and train their employees to be reliable, punctual and careful at work and willing to help others and be ready to respond to users' needs. Employees should be trained to seek knowledge, be educated and courteous, be polite, be ready to serve, and to communicate effectively. Staff awareness should be increased in order to make employees more active, enthusiastic, and understanding of passengers' requirements and companies should encourage their employees to have a professional attire. (Sricharoenpramong 2018.)

For the reader to get a deeper understanding of what a passenger service agent does and what kind of skills and competencies they need, we presented the core tasks of a passenger service agent as well as the how much surrounding environment has an impact on them. As passenger service agent works in the frontline of representing an airline, they have a big role in customer satisfaction too. They need to help passengers with different enquires as well as be ready to contact related authorities if needed. Their job is also to be efficient and make sure airline stick to their schedules. Also, problem solving skills are needed whenever passengers or the operations around aircrafts face a problem that needs their attention. Working at an airport where you need to face tight schedules, it is important for the passenger service to be able to work with the given timeframes, without forgetting that security and safety is always a top priority. Passenger service agent also needs to obey rules and restrictions given by authorities and airlines, but still keep in mind how to solve passengers problems in a polity way, even though the passengers may not always be happy about it and can be rather demanding. (Türeli & al 2019, 1080-1081.) A conclusion on what skills, competencies and qualifications passenger service agent generally need to have can be seen in table 2.

Table 2. Skills, competencies & qualifications of a passenger service agent

| | |
|---|---|
| Skills | IT Skills<br>Language skills<br>(Altexsoft 2019.) |
| Competencies | Problem solving<br>Customer service<br>Calm under pressure<br>Respect for different cultures<br>Working with timeframes<br>Good communication skills<br>(Türeli & al 2019,1079-1081.) |
| Qualifications | Organization familiarization training<br>Safety Management System (SMS) training<br>In-depth job specific training<br>Dangerous goods training<br>Airside safety training<br>(Iata 2018b.) |

In addition to the above table also, a role analysis was carried out and consequently a role profile was created in order to reflect what skills and competencies are needed in the passenger services of a ground handling company. The role profile can be seen in appendix 4. Creating the role profile helped us to get understanding of the key result areas, knowledge, skills and abilities as well as behavioural competencies needed to carry out this role.

# 4 Departure control system

In this chapter we explain how departure control systems, referred to as DCS, work and what is their role in aviation. Amadeus Altéa is explained in more detailed. As mentioned before, in this thesis the focus is on Customer management. Altéa principles and basic settings are pretty much the same with all airlines but many functions can be altered to fit airline business rules and individual needs. This creates a great advance for ground handlers that have several airlines that are using their own Altéas, this way agents can easily learn new airline procedures just by familiarizing with airline specific business rules, as Altéa is already learned in the basic training.

Altéa is explained in order to understand why it should be taught and why a student should also know basics in passenger services, such as border control formalities and dangerous goods. More detailed instruction and introduction to one airlines' Altéa has been added in this thesis as an appendix but due to confidentiality it is not attached to the published version.

## 4.1 Departure control systems in general

Airlines use a departure control system, referred to as DCS, to automatize their processes. There are several companies that provide departure control systems such as Amadeus, TravelSky, Sabre and Sita. The idea behind these departure control systems is to use a single tool that helps manage operations around the airport environment and to have a tool that contains all passenger data. By using a DCS airlines are able to include processes such as passenger and baggage check-in, printing of luggage tags and boarding passes, design flight plans, plan weight and balance for aircrafts, create flight manifests as well as use it for analyzing flight arrivals and departures. (DCS aero.) In this thesis departure control system plays a big role as it is the main IT system a passenger service agent uses in their daily work.

There are several different types of departure control systems for airlines to choose from. Others offer a variety of tasks to be performed and others are simpler to use. Implementing a DCS with a variety of opportunities for different operations is usually more expensive and therefore not so often used for smaller operators or airports. Departure control systems offer simple functions by using automated keys which can be used on a simple computer. Some DCSs offer all functions under one platform, such as Amadeus Altéa, but functions can also be divided by using different systems too. For example, you can per-

form passenger check-in with Sabre DCS and then perform the weight and balance calculations of a flight with Amadeus Altéa Flight Management. Also, it is possible that an airline uses a different DCS at different airports as a ground handling company or airport operator can have their own DCS which they use when they operate the flights of their customer airlines. (DCS aero.)

It is quite common that nowadays DCS can gather passenger information from several platforms and devices, such as airport check-in devices, online check-in applications and airline mobile applications. Passenger information can be gathered from a passenger name record (PNR), from where the information can be directly transferred to the DCS system the airline uses. Then the passenger service agent can proceed with check-in of a passenger for example. PNR can be updated during the whole passenger process, for example if an airline representative wants to see which status passenger has, for example if passenger is checked in, boarded or offloaded for some reason. By gathering the information from the various devices DCS also updates passenger's reservation, for example if a flight has been flown or not. A departure control system also more often gathers information for different authorities, in order to make sure passengers have required documentations to enter a country for example. (DCS aero.)

Passenger data is also gathered to make sure air travel is safe. The airlines are responsible to make sure they forward needed PNR information to certain authorities such as police and border controls. They generally want information on passenger's travel dates and other information related to travel plans. Due to the rise in passenger figures, also criminals have found their way to smuggling illegal items and drugs via air, and that is also one reason why authorities want to keep an eye on who travels and where. It is used to prevent terrorism and other organized crime. (Estonian Police and Border guard board.)

### 4.2 Altéa departure control - Customer management

Altéa suite is a passenger service system that offers a wide range of solutions which can be used for processing passenger throughout their journey: from reservation to when they receive their luggage at their destination. It is created by Amadeus. Altéa suite includes features such as reservation, inventory, ticketing and departure control system. The departure control system consists of flight management and customer management. (Amadeus 2020a.)

Altéa departure control customer management, referred in this thesis only as Altéa, offers a smooth working platform for airline agents to process their passengers quickly without any complicated codes as well as to offer airlines the opportunity to tailor their services better and individually recognize their customers. In Altéa passengers can be processed in different stages of their airline experience, starting from check-in and helping them at their destination if their luggage is lost. At check-in the passenger service agent can use the key steps which are fully automated and offer simple steps for selecting seats, changing or updating e-tickets and performing needed checks for authorities. Altéa can also detect unpaid items and this way creates an easy way for airlines to collect extra payments or offer different ancillary services for passengers. Boarding is done by using the boarding feature in Altéa. Altéa offers opportunities to set comments to passengers for example if an agent at check-in wants to make sure a possibly unruly passengers can be identified at the gate by her colleague, or if passengers need to be contacted for other reasons such as document checks at departure gate. Boarding can also be done with automated boarding devices that update customer details automatically in the DCS during boarding. (Amadeus 2020b.)

When a flight is late or cancelled passengers can be processed in Altéa and changed to a new flight. Customer details can be transferred automatically from an airline to another, as long as airlines have agreement with each other. This is another way of creating smooth processing for passengers when the system allows agents to work in efficient way without long waiting time. When dealing with overbooked flights Altéa offers quick processing also with passengers who are left without seats and are so called stand-by passengers. In addition, upgrading is done with ease and compensations for denied boarding, in case of overbooked flights, can also be done by using Altéa. (Amadeus 2020b.)

Ground handlers have a lot of benefits from using Altéa as their departure control system due to its simplicity. Passenger service agents can perform their job rather quickly with simple steps and therefore will have more time to serve the passengers in other ways. By collecting payments via Altéa, separate ticket offices and long processing of manual receipts are no longer necessarily needed, and airlines can receive revenue more easily. Altéa is designed to take advantage of automation and can be considered to be a very modern and up to date system. Altéa Suite also has also a self-service- solution which enables airlines to take advantage of features such as self-service check-in kiosks, web& mobile

check-in and self-service baggage drops. A ground handler can either use the airlines Altéa or use their own and that way use several airlines simultaneously which creates ground handlers the benefit of being cost efficient. (Amadeus 2020d.)

Timatic is a solution created by IATA which allows airlines and ground handlers to have a large amount of information about travel documents, custom regulations and other important information regarding passengers traveling to certain destinations. The solution creates airlines the ability to have personalized info on what type of documentation will the passenger need even with complexed situations with different document types and various visa types. In order to provide this information, IATA work closely together with airlines and different governmental bodies. Timatic is offered in different versions, in Altéa DCS, as a web solution and in paper too. These are used daily in passenger handling. (IATA 2020f.) As Timatic web and Altéa versions are constantly updated they are very useful for ground handlers and airlines. For example, now with the ever so changing situation with the outbreak of Covid-19, Timatic updates country restrictions constantly (IATA Travel Centre 2020). This means that as the information can also be included in Altéa, passenger service agents have an updated tool that will give them hands on assistance with passenger processing.

### 4.3 Altéa for the user in brief

As stated before, airlines can process their passengers throughout their whole airport journey by using Altéa. The whole customer profile can be displayed and modified easily in Altéa and that is why it supports customers' whole journey from the departure all the way to arrival. Passenger can be found either by entering last name or swiping passport for example. Other options for identification can be frequent flier cards or certain credit cards. Altéa is built so that airlines business rules can be built in it. This means that the system can automatically tell you if the passenger is for example exceeding their luggage allowance. Altéa also can be adjusted to regulatory rules, so basically whether a passenger needs a visa to a destination or not, and therefore regulatory information can be gathered by either typing the passenger details or swiping the passport or other travel documents. (Amadeus IT Group 2012.)

In Altéa you can easily change passenger seats, and if for example two passengers on separate bookings come to the counter and want to sit together, you can first link them together and change seats afterwards. Altéa also has the opportunity of automatically seating passenger on the same booking together. If an airline wants to charge for seat changes, that can also be added to Altéa so that it will ask for payment once a seat

change has been made. Same goes for extra luggage payments too. Payment can then be made by swiping a credit card and be collected directly through the system. All the payments can be automatically calculated by the system, and once payment has been made the agent can then proceed with acceptance of the passenger. (Amadeus IT Group 2012.)

Once a passenger has done the check-in and possible luggage drop, they are able to proceed to the gate. At the gate the same Altéa is also used. Basically, all the functions done at check-in can be done at the gate as well, but there are more features in Altéa which are used at the gate, such as the boarding application. Also, at the gate the agent can use Altéa to see if there are any passengers on standby, so waiting to get a seat on board, and look for other flight options for these passengers if the flight is full. The system can tell who should be transferred to another flight and what that possible flight could be. These are with the set airline business rules, so they are individually designed. Once the aircraft and crew are ready for boarding agent can board passengers through Altéa. Often nowadays passengers are boarded using the bar codes from their boarding passes, whether it is from self-service kiosk, mobile or printed by an agent. Boarding can also be done manually by using either passenger name, security number or seat number. (Amadeus IT Group 2012.)

# 5 Creating significant learning experiences

Universities should look for ways to provide students with significant learning experiences. Quality of higher education can be improved if universities can find ways to identify and create learning experiences that students and others can agree to be truly significant. Teaching should result in learning experience that is significant in terms of students' lives. First of all, students should do more than just put information given in the course to their short-term memory during the lectures. Universities should help students to connect what they learn in the courses with their "life file" instead of their "course file". Powerful learning experience enables students to be engaged in their own learning and there will be high energy level associated with it. Significant learning can improve students' lives in many ways, for example preparing students for the world of work. Significant learning can develop skills, knowledge and attitudes which are necessary for students to be effective in one or more professional fields. (Dee Fink 2013, 7-10.)

Also, in Finland, The Rectors' Conference of Finnish Universities of Applied Sciences – Arene – emphasizes the importance of working life-oriented learning in universities. This can only be achieved by utilizing and strengthening the education in bachelor´s and master's degrees. The skills needed in the working field can be developed in the universities as long as there is a strong relationship between the education institution and companies. That's why it's important that also students are taken as part of the development process right from the beginning of their studies. Private companies and operators in the public sector are important cooperation partners for universities of applied sciences, and they are also the ones who can benefit from the research, development and innovation work, RDI, done by the students and teachers in the universities. Investments in the RDI can be seen in the competitiveness, productivity and in the skills of the employees. (Arene 2017a.)

One of main tasks of universities of applied sciences is to provide a basis for the demands of working life and its development, as well as for research, artistic and cultural development based higher education for professional expertise and to support student professional development. The mission of the universities of applied sciences is also to carry out applied research, development and innovation activities and artistic activities that serve education in universities of applied sciences and promote employment and regional development and modernize the region's business structure. In carrying out its tasks, schools must promote lifelong learning. (Arene 2017b, 3.)

### 5.1 Planning a course – decision guide

Dee Fink (2013,293-298) has founded some guidelines on how to plan a course effectively. Three main phases can be recognised when observing these guidelines. In the first initial phase, teacher builds strong primary components of the course. After initial phase, comes the intermediate phase where teacher or person planning the course assembles the above-mentioned components into a dynamic, coherent whole. In the final phase it's time to take care of the important details of the course. (Dee Fink 2013, 293-298.)

Teacher can start the initial phase by asking the question "where am I?" and size up the situational factors such as number of the students and what kind of classroom is required to run the course. It's also important to make sure the course is placed in the "right" place of the curricula, and to think whether the subject in the course is convergent or divergent, stable or rapidly changing. It's also important to think of both student characteristics as well as teacher characteristics and figure out what kind of prior knowledge the students might have in the subject, and what kind of knowledge and feelings you as a teacher might have towards the subject. After thinking of where you are at the moment, it's good to consider where you want to go. What are the learning goals for the course and what would you like students to get out of this course? In order to answer these questions, it's important to understand the key content, facts, principles and concepts of the subject. Perhaps, you as a teacher want students to learn how to apply their thinking and intellectual skills, or to manage complex projects, connect ideas and information, learn how to interact with oneself or others or learn how to keep on learning after the course. (Dee Fink 2013, 293-294.)

It's also worthwhile considering how you know if the students have achieved the goals and what kind of assessment and feedback would be appropriate. Teacher should find out what information is needed to point out how the student has progressed and in which cases paper-and-pencil evaluations are needed. In the initial phase teacher should also think of how students can acquire the content, necessary information and ideas and what kind of doing and observing activities they might need. Teacher should be able to create such learning experiences that allow students to pursue several learning goals simultaneously. Reflective dialogue helps students to make sense of the content and connect it to their own lives. Multiple forms of such dialogue can help them to achieve their goals more effectively. To support all learning activities, it might be a good idea to utilize multiple resources in teaching, like people, places or other sources of information, including media. (Dee Fink 2013, 295.)

In the intermediate phase, teacher should find out what the major topics in the course are, what the students will need to do and what the overall scheme of the learning activities is. In order to create a thematic structure for the course, teacher should identify the four to seven major topics, ideas or themes and place them in an appropriate sequence, preferably built on one another so that the result is a culminating project that integrates those four to seven ideas and topics. At this point teacher should also identify the specific learning activities that support the desired kinds of learning and put them into an instructional strategy. This strategy is a combination of specific learning activities in a particular sequence. Each activity should build synergistically on students' past learning and prepare them for future learning. After identifying the learning activities, teacher should dynamically integrate the course structure and instructional strategy for the whole course. During this phase, teacher needs to think what learning activities need to come first and how the course should begin as well as what activities should the course be concluded with and how should the course end. Also, the sequence of the activities in the middle of the course needs to be well thought. Developing the design of the course is very important but it's important to remember that it is only a plan after all. Plans tend to change so it needs to be flexible from the beginning and subject to change as it is implemented. (Dee Fink 2013, 297-298.)

In the final phase of course planning, following questions should be asked: How am I going to grade? What could go wrong? How will I know how the course is going and how it went? In this phase teacher also needs to write syllabus of the course that contains for example general management information such as instructors contact details, goals for the course, structure and sequence of the class activities including due dates for tests, projects and major assignments. Syllabus should also contain information of the reading material, grading procedures and other course policies such as attendance, make-up exams and work turned in late. When developing grading system, teacher should make sure that the relative weight of each item on the grade should reflect the relative importance of that activity. Grading system should also reflect a full range learning activities and goals. In this phase teacher needs to debug the course design by assessing and analysing the first draft of the course. In general, a good course design includes higher lever learning goals, is based on an in-depth analysis of the situational factors and has all the four to seven earlier mentioned components well integrated to it. Teacher should plan an evaluation of the course itself and also evaluation of the teaching performance, both for mid-term evaluation as well as for the end of the course. Teacher needs to find the ways to figure out to which extent the goals of the course were achieved, how effective the particular learning activities were and how well did the teacher interact with the students. For example, videotapes or audiotapes of the classroom sessions, student interviews and questionnaires,

outside observers and test results can be good tools to analyse the performance. (Dee Fink 2013, 298-299.)

Aalto University has created a comprehensive checklist for their teachers on what to take into consideration when planning a course, implementing it and finishing it. It suggests that teachers should prepare themselves well for the first teaching session. Students expect the teacher to be very enthusiastic towards the subject. The cornerstones in building study motivation are emphasizing the importance of the subject to be learned and strengthening the student's beliefs about success. Students want to know about course practices, especially schedules, grading, and communication on the course. If necessary, teachers should justify their choice. Teacher should tell students about the previous year's feedback and how it has been responded to. This motivates students to give feedback. Teacher of the course should be approachable, arrive to the contact lessons in good time and create a safe learning atmosphere. Teacher needs to introduce other teachers of the course as well and tell how to connect with all of them. It’s also important to listen to students during breaks and after the event or at a separate reception time. (Aalto Yliopisto 2020.)

During the course, teacher should give enough time for students to learn the main topics of the course and support the development of their learning skills. Teacher needs to remember to give feedback during the studies. According to the student welfare survey, students want information about their learning in other forms as well and not only through points or grades. It’s good also to ask students from time to time, which promotes or makes it difficult for students to learn the course so that the information does not become apparent only when asking the final feedback of the course. If necessary, teacher can use anonymous surveys. Also, teachers should take care of themselves and the well-being of the other teaching staff of the course, too. Checklist also reminds teachers to be well aware of the practice on how to inform students of, for example, acute changes in timing, location of the teaching or implementation of the course. (Aalto Yliopisto 2020.) We believe that importance of the teacher’s skills in reacting to changes in the implementation plan is even bigger now than before due to Covid-19 virus outbreak. All teachers have been required to change their teaching plan with a short notice and inform all the students about the next steps.

Teacher also need to think of the ways how they are going to take care of communication with students during the course. Appropriate communication is polite, focuses on the issue at hand, and does not include personal factors such as religion, gender, character or age

that are generally irrelevant to study. Good communication also means that students receive, for example, information that is relevant to completing the course. (Aalto Yliopisto 2020.)

European commission has come up with a concept of ECTS, European Credit Transfer and Accumulation System, which gives universities and universities of applied sciences in Europe the opportunity to be transparent in overall learning processes and assessments. It creates the possibility for study programs to be recognized in different countries as well as have the same system in assessing qualifications and achievements. The system is based on the estimated amount of study a student does per year. This is usually around 60 ECTS per year and one ECTS is approximately 25-30 hours of work for a student. The workload consists of classroom learning as well as students own learning at home or through different courses done online for example. ECTS are counted as an estimated time for a student to learn the needed subjects but it can vary between individuals. By using ECTS it gives also the students the ability to study in different programs across the Europe. By creating a transparent assessment criterion, the commission makes sure that it doesn´t matter which school has the student taken but the level of achievement stays the same. This way also credits can be transferred between schools or study programs. (European Commission 2015.)

### 5.2 Teaching, learning & unlearning

Teaching in an university aims to provide high informative skills to a learner. It's not enough that you just learn different subjects by heart, you also need to be able to apply the information in real life and solve complex problems with these skills. Learning doesn't happen out of the blue and on its own, thus the learner needs to practice the skills actively and rehearse every now and then. It's good to remember that students' ability to absorb the information is not unlimited and therefore teacher needs to think what's the right amount of information to be taught at once. In order to help the student to learn and understand effectively, subjects should be taught so that they can be easily connected to larger entities and themes. It's rarely enough that student only listens when learning new topics. Instead, for example discussion during the learning process often helps students to understand the information better. Also writing, doing exercises or answering questions on the topic can be good ways to learn. Interaction enables the learning from others and students can learn subjects from each other and help each other to assimilate information. Students may reflect to their prior learning to the current subjects and sometimes there might be some old attitudes linked to the matter, which in some cases might even hinder learning something new. That's why it might be a good idea for a teacher to find out

before the course that if students have some background in the related topic or subject. (Hemminki, Leppänen & Valovirta 2013, 9-10.)

Learning can coarsely be divided into superficial and deep learning. Superficial learning aims for passing the course and getting a grade. Student tries to figure out what is the criteria that teacher requires for passing the course with as small effort as possible. Student might learn a lot of new information quickly just before the exam but forgets the information rather soon after that, mostly because the information is not saved in the student's long-term memory. Deep learning instead focuses on understanding. Students actively set goals to themselves and their learning is not dependant on the teacher's actions and requirements. Students aims to fulfil their own goals and get the information he wants to get. Students actively seek for information themselves, triy to combine the information learned from different courses in order to see the big picture. Nowadays the world is filled with constantly changing information and students need to perceive big entities. Teachers should with their own actions, such as planning the teaching, try to safeguard comprehensive learning of the students and lead them to be deep learners. One of the foundational tasks of a university is to produce experts who have a deep understanding of their field of studying and who have good capabilities to work in a demanding and constantly changing duties. (Hemminki & al 2013, 10-11.)

Motivation can be seen as a force that directs the action. The most important thing in studying is learning, and learning requires motivation. Building up motivation is a complex process and teachers can either ease it or complicate it with their choises. The most significant factors that teachers can affect on are generating interest and supporting students' hopes for success, in other words create an atmosphere where the students feel they have good possibilities to learn the given subject and get through the assignment. It's important the students knows why they study the subject and how they might benefit from it in the future. (Hemminki & al 2013, 14.)

In enabling deep learning it is crucial to create a motivation for students to learn. Students need to consider teaching to be meaningful and interesting and teachers should describe clearly what kind of skills and know-how they expect from the students. Instead of passively receiving the information from teachers, students should understand the content taught by grinding the information themselves in their minds. Student's active role in learning leads the learning towards deep understanding. Often group conversations with fellow students can help the students to learn the topics better. Thus, the importance of student interaction should never be underestimated either. Also, well-established theory helps students to learn better and when new information or topic is taught, it should be

somehow brought together with the content which is already in the past and build up some sort of connection between the old and new information. (Hemminki & al 2013, 26-27.)

The reform of the vocational education in Finland includes the concept of new way to educate students to be professionals in their future occupations, such as chefs or car mechanics. The aim of the reform is to improve and urge students to learn more in the work field, where the way of learning is more individualised. This reform brings the learning to workplaces which should have more and more resources to orientate the new interns and supervise their work. Teachers' role in the future is more to supervise and tutor the learning experience, not so much to teach the vocational or professional related topics. The importance of the learning in the workplace is often explained and justified with 70-20-10 model. This model suggests that 70% of the learning happens in the workplace by doing the actual job in practice, 20 % of the learning happens during the interaction with others and 10% of the learning happens in the trainings, courses or by reading. (Kupias & Peltola 2019.)

To make sure that the organizations will be successful in their business in this rapidly changing and fast-paced world, they need to be able to support employees in the constant learning. However, just as important as learning new topics and subjects, it's essential to be able un-learn oneself out from the old and keep on questioning the existing paradigms. Companies' success is based on the ability to obtain and apply new information. In order to learn and adopt new policies and ways of working, we need to be able to give up on some old habits and information. (Lahtinen 22 January 2019.)

We can un-learn by doing and reflecting. To un-learn, we need lots of curiosity and humbleness so that we can question the old ways of thinking and doing. (Lahtinen 22 January 2019.) Often, companies and organizations have grimy and old-fashioned models to work and process their duties. This is a common story for many of us who have started a new position in a new company. The newcomer doesn't yet know the working culture and the common practices of the company and might be wondering why tasks are carried out in a way they are. Therefore, it might be a good idea to interview the new employee after a while and ask what he finds odd and what he would do different. (Ala-Melkkilä 1 October 2019.)

What comes to e-learning, it has its' pros and cons. E-learning as a concept covers a wide range of applications and that's why defining it is rather difficult. Simply put, it refers to use of communication and information technologies to enable the access to online learning and teaching resources. It is learning that is internet-enabled or web-based, empowered

using digital technologies. (Arkorful & Abaidoo 2015, 29-30.) With e-learning, students can have their freedom to select the best suitable time and place for studying and it allows self-pacing. This can increase the satisfaction towards learning and decrease stress. E-learning provides opportunities for relations between students using discussion forums and it helps to eliminate barriers that can hinder participation of those students who are usually not as talkative or social in face-to-face situations. E-learning can also be cost-effective for students not needing to travel to classes and for universities not needing big facilities for teaching anymore. However, e-learning also requires good time management skills and motivation for both students and teachers. It can make students undergo remoteness, contemplation as well as lack of interaction. E-learning method can also be less effective compared to traditional methods, when students would need clarifications, explanations, and interpretations. It can have negative impact on learner's communication and socialization skills. E-learning can fit better to some disciplines than others. For example, in those fields that require hands-on practical experiences in their learning process, it can be difficult to achieve good results with e-learning. (Arkorful & Abaidoo 2015, 34-36.)

### 5.3 Best practices for creating a Moodle course

When beginning to plan a course in Moodle, it's good to consider first how can the content be designed so that the students get the best overview of the course, understands easily what they are expected to do and when. Also, teacher or the tutor of the course should also think of what blocks might be needed and delete the unnecessary ones. Teacher should also consider the use of the sections, whether sections are wanted to be created in chronological or thematic order, or according to purpose of the content, for example so that exercises are in one section, materials in one and group feedback in one section. (Åbo Akademi 2016.)

It's important to name the course material clearly on the course home page. Students should easily without any extra efforts see and understand where they can find exercises, materials or other contents or documents. When adding some more assignments and exercises, they should be marked with consecutive numbers and clear heading, so that students understand what they are supposed to do. According to Åbo Akademi (2016), the following topics should be announced for the students, when creating an assignment in Moodle:

- time frame / deadline
- aim of the assignment
- learning outcomes
- literature and other material

- length of the assignment
- assessment, what is assessed, what is the criteria, grades or passed/failed
- feedback, what sort of feedback is given, by whom, when and how
- technical instructions, for example how the assignment is submitted

Facilitating document shall be a document that contains general information about taking the course, such as learning outcomes of the course, literature and other material, course schedule, assessment and exam information, feedback and supervision guidelines, tips on how to plan studies related to workload and scientific writing instructions. In the news forum, teachers can remind the students about the upcoming assignments and deadlines, show their presence, encourage and in general facilitate the learning process. Discussion forums are also a good place to talk with the students and encourage them to have discussion with each other. (Åbo Akademi 2016.)

### 5.4 Effective training cycle in ground handling

There are plenty of challenges the ground handling companies need to tackle in order to implement effective training system. Often, variability of the service offerings required by the different airlines makes the planning of resources and training a complex task, as all the airlines require a different combination of services. A staff member who performs a task, let's say checks in a passenger, will generally perform this same task across all other airlines that the ground handling company handles. However, often it's not enough that agent has taken one training course that would provide him competence to perform same tasks also for other airlines. Instead, many times they need to take same courses from each airline and the more tasks they perform, the more trainings they need to complete. (Meagher 2015.)

This creates cost pressure for ground handling companies because of the administrative burden and hours it takes to deliver the training. This easily leads to a situation where ground handling company tries to provide only the minimum level of training in the most cost effective and often in the quickest means possible. Training is delivered to the employees in a way that it is compliant but might not be always effective in ensuring that all the employees have the necessary knowledge and skills to perform their tasks. Implementing an effective training system is financially challenging. It requires an investment of money into initially training staff but at the same time an effective training system may save money through minimising errors, reduced staff turnover and improved service delivery. (Meagher 2015.)

The toolkit of so-called effective training cycle can help ground handlers to implement effective training system by reviewing the effectiveness of training that has been undertaken. The toolkit is an ongoing cycle, and the emphasis is on the fact that all organizations must remain open to continuous improvement and feedback in order to keep the training effective. (Meagher 2015.)


Figure 5. Effective learning cycle (adapted from Meagher 2015)

Above in the figure 5, there's an adapted illustration of the effective training cycle.
In the content part of the cycle, ground handler should consider what content is required in the first place. While analysing the training needs, ground handling company needs to determine what skills and knowledge are required by different groups of workers, both technical and non-technical. Technical skills should be in line with the procedures which are documented in operator's manuals. (Meagher 2015.)

The people part focuses on identifying who will be delivering the training and who are the students. Attention needs to be paid to students' educational background, former experience and literacy skills. Ideally, the teacher should be someone who has technical competence to perform the task, experience to provide context and legitimacy for the training, and who has a background and qualification in training. Delivery section concentrates on how the training is presented to a student. Often, an effective training involves a range of different teaching methods to ensure that all abilities, skills and knowledge can be developed effectively. A wide range of delivery methods, such as podcasts, videos, simulations, roleplays and case studies can be used in training. (Meagher 2015.)

In the outcome part, companies should be able to measure if their employees have the required abilities, skills and knowledge required for the job or not. It's very important that the companies have selected their assessment methods so that they assess accurately and in a consistent and repeatable manner. The assessment methods should also fulfil the needs of an airline, ground handling company itself and the employees. Often, multiple assessment methods are used over a period of time to assess the final competence. (Meagher 2015.)

Training system should have process for validating itself to ensure that it remains relevant. In practice, this means seeking feedback from teachers and students and acting on it, benchmarking operation performance training outcomes against other handling companies, and acting on the information obtained from third party audits. An effective training system is essential for companies who want to ensure safe and reliable ground operations functions. (Meagher 2015.)

### 5.5 Industry related learning

For example, in the U.S. there's been industry and university collaboration already since 1970's, and partnerships between scientific researchers from both industry and academia to drive innovation. These mutually beneficial companionships can produce remarkable research and innovation that drives economic growth, solves complex problems, and creates a more skilled workforce. Universities and industry can bring together their technical skills, knowledge, and resources to innovate and address challenges in today's societies. It's evident that universities get valuable feedback and guidance from the industry and it is the key when taking an invention or product from conception to market. The pipeline from university student to employee is also effective PR for universities. When companies recruit these graduates, universities can point to the strength of their programs and faculty. Strong job placement numbers are also tempting to prospective students and assures other corporate partners that the university has got a lot of talent in their students and staff. (Venturewell 2019.)

Also, society benefits from the symbiotic relationship of universities and industry by gaining a trained workforce answering today's most pressing challenges and creating technology to improve lives. Students are trained to use highly skilled industrial applications, and they will impact the economy by creating a workforce that is relevant to those areas of national and industrial interest. However, also industry and university collaboration have its challenges. Collaborations can be large and difficult to organize and might need several

different partners to be involved at the same time. Universities move at measured, sometimes bit slow pace whereas industry keeps up with the frenetic energy of a fast-developing economy. To make the collaboration work, both parties need to overcome the cultural and communications gap that tends to impair industry and university collaborations. Well-functioning partnership is a combination of culture, of effort, and of talent and resources. To establish and maintain strong university and industry collaboration, universities need to think and act like entrepreneurs. They need to seek out industry partners, develop a sustainable business models, maximize tight budgets, and pitch value and ideas to potential industry partners. Universities should engage strategically and actively with industry to understand what they can bring to a potential partnership. (Venturewell 2019.)

Recently, degrees in the studies like aviation and airport management, air traffic control, and courses for cabin crews are being offered at a university level. Some universities are now also offering diplomas, which are at a lower level than a bachelor's degree, in areas like aircraft maintenance. Additionally, research in aviation has also become a study program for some universities and today many universities are engaging with the wider aviation industry to research various aspects of the aviation, from economics to safety-related topics, education and training. Aviation-related research is still under development in many areas and will be developing further in the future. When universities and industry succeed to collaborate, there will be more people available to engage in high quality industry-driven research and highly qualified people to work in many industry activities. Many of these academics are, or have been, industry professionals before becoming academics, thus the universities offer a means to keep on improving the way that the industry does its business. (Bates 2017, 11-12.)

To increase the number of new professionals entering the aviation industry, there is a need for a clear strategy based on the local needs of each country and area. Also, there's a need for cooperation between regional, national and international entities such as vocational schools and universities to agree on mutual standards in training and teaching and mutual recognized syllabus adjusted to fulfil the industry requirements. Training providers, national educational system and civil aviation industry need to raise quality of training through practical experience and to develop new training programmes. To find better solutions for mutual recognized training standards, training providers, national educational system and civil aviation regulators need to have close cooperation. (Dumitrache 2017, 15.

In Germany, the dual VET programs are being popular among the students. Dual VET can be used as a synonym for apprenticeships and it is a program that links work and learning, as well as schools and companies. A final exam is performed by chambers and it completes the apprenticeships. The chambers are authorized by the state and are acting as a public institution. After passing the final examination, students receive a chambers certificate to document that the training has been successfully completed. Apprenticeships in this dual VET program usually lasts three years and compulsory education must be completed before starting the VET program. The system is called dual because training is conducted in two places of learning, vocational schools and companies. Students attend part-time vocational school one or two days per week where they mainly gain practical and theoretical knowledge related to their occupation. Subjects such as economics, social studies as well as foreign languages are taught there. Companies instead provide process-oriented training which is more based on specific in-company requirements. After finishing the apprenticeship, students should be able to perform their duties as employees efficiently and autonomously. The competencies must be demonstrated in exams regulated by the law and final exams are geared to vocational practice, for example to the work requirements and processes of the occupation. (European Centre for the Development of Vocational Training 2018, 17-18.)

Both private enterprises as well as public institutions offer places for apprenticeships. Enterprises sign a contract with students, where they bear the costs of the in-company training and pay the trainee remuneration. The professional competencies that student needs to gain through in-company training are specified in training regulations and included by the training enterprise's individual training plan. The requirements of the training regulations guarantee a national standard. (European Centre for the Development of Vocational Training 2018, 18.) A VET teacher, Susanne Weber (Opetus-, kasvatus- ja koulutusalojen säätiö 2016, 80-82) from Institute of Human Resource Education & Management, says that VET is a collective skilling system where many stakeholders are involved such as government, trade unions, chambers of commerce and industry as well as employees' associations. She also emphasizes that VET teachers need to be all the time very aware what happens in the field but she doesn't see it as a problem because they have close connections to firms and interaction between firms and institutions takes place all the time, as teachers are involved in many different projects with companies such as BMW, Siemens and other transportation and consulting companies. (Opetus-, kasvatus- ja koulutusalojen säätiö 2016, 80-82.)

Dual study programmes aren't only offered in the vocational schools, but also in the higher education institutions. Dual study programmes were designed as a form of educational

provision offering both practical vocational and academical qualification. This system is aiming to support learning transfer and hence achieving a benefit over academic or hands-on forms of initial vocational training. For example, universities of applied sciences, offer plenty of programmes of study, many of which don't provide direct preparation for an occupation. However, practical semesters, brief practical placements and dual programmes all facilitate an insight into the work markets during the course. A general or subject-specific higher education entrance qualification is usually required for entry to training. Nevertheless, it's also possible for those with vocational qualifications to access bachelor and master education. After three years, which is usually the period of study for bachelor, students obtain a first degree in the form of a bachelor´s qualification. This is a prerequisite for entry to a master's degree, which usually takes two years to complete. (BIBB.)

Dual study programs that take place at institutes of higher education or vocational academies and higher education institutes in cooperation with companies represent a special type of program. These programs differ from conventional higher education studies in that students receive at least one qualification from the VET sector in addition to an academic degree. Academic study and occupational practice are closely linked to each other and the possibility of obtaining two degrees at the same time, one vocational and one academic, is tempting for many adolescents with university entrance qualification. Good career opportunities as well as high practical relevance are the main motives for school leavers to choose this way of studying, which requires self-organization and high degree of discipline from the students. (BIBB.) Also, Amadeus is part of the dual study programs in Germany. Amadeus has partnered with the Baden-Wuerttemberg Cooperative State University Mannheim. Together they offer a bachelor's degree program combining both theoretical studies at the university and practical experience within a company. (Amadeus.) They offer education in cyber security and applied computer science (Duale Hochschule Baden-Württemberg 2020).

Haaga-Helia in Finland is authorized to act as the Authorized Training Center of IATA. IATA has clear quality requirements for all its trainings, and now students can also participate in these trainings in Finland as offered by Haaga-Helia. IATA and Haaga-Helia have been cooperating for several years, but the authorization finally started in autumn 2017. This authorization requires evidence of expertise, high quality of training and functionality of the facilities. Haaga-Helia's competence was examined both on paper and during the visits, when the teaching staff and their professional skills were assessed in practice. Haaga-Helia can offer standardized training in the field of aviation to anyone interested,

but also utilize IATA courses in maintaining the competence of its own staff. (Haaga-Helia 2018a.)

Currently, Haaga-Helia offers six different IATA authorized courses, such as Airline revenue management, Advanced skills in journey pricing and ticketing, and Selling and managing airline reservations and travel in Amadeus (IATAb.) According to IATA, organizations gain plenty of benefits when they are IATA recognized and registered for excellence in corporate training. Organizations shall be recognized for meeting industry international standards for excellence in corporate training and they can build standardized training programs to ensure full global coverage in providing professional training. Authorized organizations can improve safety and efficiency through standardization of the training program and advance the adoption of a cost-effective competency-based training approach. (IATAc.)

Haaga-Helia is also co-operating with Airport College International Ltd, which is a strategic partner of IATA. Airport College International Ltd offers online-courses for airline, freight and airport handling. They offer different content to different kinds of companies as well as work together with universities. Their idea is also to help their customers by lowering training costs once the courses are done online. A lot of their courses are done by complying aviation authorities, IATA and ICAO for example. (Airport College International Ltd.) They offer a variety of courses related to ground handling of which Haaga-Helia (Haaga-Helia 2018b) offers e-learning in the following courses:

- Dangerous goods
- Airside safety
- Human factors
- Cargo handling
- Passenger handling
- Introduction to the airport
- Aviation security
- ULD handling
- Threatening customers
- Introduction to the airline business

Haaga-Helia aims to provide top quality learning for their aviation students and keep up with the industry standards. They are trying to develop their programs as much as possible and therefore want to offer these types of e-courses that they themselves cannot offer. By offering these courses provided by Airport college, they wish to provide current and future employees the training they need to work in the field. (Haaga-Helia 2018b.)

# 6 Research methods and results

The method for carrying out this thesis is qualitative research. With the industry background, both of us have an idea what kind of subjects and tasks should be included in the course and what are the skills and competencies needed for the newcomers. Additionally, interviews were conducted for the managers and human resource professionals working in the ground handling companies at Helsinki airport to find out the main focuses in the business and to give a wider perspective on the issue raised in this thesis. A semi-structured interview model was selected for this thesis in order to get a deeper look into the topic and possibly add more questions during the interviews. In addition, we started to look at the global market for benchmarkable universities and educational institutions as well as companies that provide similar courses to see what is being offered elsewhere. The concrete throughput in this thesis is a course plan and it is developed based on both theory as well as empiric information and therefore this thesis has been implemented as a constructive study.

In order to collect enough valid data to make conclusions and understand the need for the course, benchmarking and interviews were conducted. Three of the main ground handlers at Helsinki airport were interviewed, and eventually six European universities and education institutions that provide aviation studies were benchmarked. The process started by reviewing the literature about conducting research and data collection methods, human resources in aviation and course planning. After reviewing literature, interview themes were decided, and questions designed. Criteria selecting the interviewees were based on their experience and knowledge of passenger service in aviation and ground handling, training, introduction, familiarization of new employees and Altéa. Surprisingly, information about passenger service courses or Altéa training was definitely not easy to find and the amount of benchmarkable schools and institutions in the world was very limited.

## 6.1 Research methods and approach

Coarsely, research methods can be divided into two different methods: qualitative and quantitative method. In a scientific research, qualitative research methods have been used for studying such topics that are not very well-known in the past and that want to be understood better. When using qualitative methods, the amount of research objects is usually much smaller than in quantitative methods, but the amount of researchable material grows often bigger. In other words, aim of qualitative research is to find out and study a lot of information of a rather concise topic and this way understand the phenomenon better and in more holistic way. As the purpose of qualitative research is to produce some

new information and knowledge; the existing theories don't much lead the planning process of qualitative methods. (Ojasalo, Moilanen & Ritalahti 2014, 104-105.)

Constructive research aims to define and solve real practical problems and improve existing system or performance. The research question can be phenomenon driven or theory driven or a mix of these two. Constructive approach is related to rationalist and naturalistic paradigms. (Oyegoke 2011, 576.) Constructive research is based on a design of constructs or constructions of a solution and it can be qualitative or quantitative or both. In constructive research it's important to combine both theoretical knowledge and framework as well as practical experience. (Oyegoke 2011, 579.) Even though the problem that needs to be solved is usually very practical in constructive research, the solution can be only achieved by examining lots of existing theory as well as gathering new empirical data (Ojasalo & al 2014, 66.)

Constructive research approach can be divided to six different phases. The first phase is to find a practical relevant problem that has some potential to be researched. Second phase is to obtain a comprehensive understanding of the topic by reviewing the literature and to develop a theoretical construct. Phase three is for innovating new construct with the help of theory that has been reviewed in the phase two and this new construct should be able to focus on key aspects that will show its workability. Phase four is meant to demonstrate that the new construct works through a validation process. Phase five focuses on showing the connections between the theoretical framework and research contribution of the solution. Phase six concludes the approach and in phase six the writer examines the scope of applicability of the solution. Here, also the areas for further studies will be highlighted. (Oyegoke 580-588.) Constructive research is well suitable for projects where task is to create a concrete product, deliverable, plan or system. It can be for example completely new product or for example a new structure to some already existing working method or policy that somehow improves the existing situation. (Ojasalo & al 2014, 66.)

### 6.2 Interviews & benchmarking

Interviews are used as a data collection method for action research, case study and constructive research. Interviews are divided into four different types on interviews: Structured, semi-structured, narratives and focus group interviews. Depending on what kind of information is needed, a type of interview is chosen. The biggest differences between the types of interviews are how the questions are been made: whether they are open ended,

where the interviewer can ask extra questions, or whether they are strictly structured with yes/no answers. (Ojasalo et al 2014, 106-108.)

In a semi-structured interview, questions have been designed in advance but the person conducting interview may change the order of the questions during the interview session, and also the questions don't have to be asked exactly in the same words as they were originally designed. If there are some questions that appear to be irrelevant during the interview, they may be left out. It's also possible that in addition to the pre-designed questions, the person conducting the interview can ask other questions that come up related the topic. (Ojasalo et al 2014, 106-108.)

Classifying the collected material, analyzing it and finally interpreting it are the three different phases that all the researchers go through when conducting interviews. The importance of each phase depends a lot on the research, but all of them are definitely necessary to go through. According to Ruusuvuori, Nikander and Hyvärinen (2010, 12), there are seven stages in the analysis:

1. Defining the research problem and specifying the research questions
2. Selecting the suitable data collection method and the actual data collection process
3. Familiarizing with the collected material, sorting and narrowing it
4. Classifying the material, finding the themes and phenomenon
5. The actual analysis of the material, comparing the themes and phenomenon and creating the rules on how to interpret the material
6. Summarizing the results
7. Theoretical dialogue, evaluation of the results in the practice and identifying the need for further research and study

Even though the above-mentioned stages are presented analytically separated from each other, they are strongly related to each other and partly occur simultaneously. Often the researcher goes back to earlier stages and questions in order to defining them better and making them more precise. If the collected material has been stored as media or voice file, one way to approach the material is to transcript it. Transcription usually helps the researcher to get the material in a format that is easier to manage and process with. (Ruusuvuori et al 2010, 12-13.)

Often, companies and organizations measure the performance of their own products or services against other companies and organizations and this is called benchmarking. Usually, the target companies chosen for benchmarking are the ones which are better than the company that performs the benchmarking and these companies can be selected either from the same field of business or from any other industry. In other words, bench-

marking is a method that helps companies to learn from good examples of their best practices and this way help to achieve improvements in their own operations. Benchmarking helps companies to identify weaknesses in their own operations and create goals to improve them as well as develop ideas for improvement. (University of Eastern Finland.)

Benchmarking is often done visiting a company which the peer company wants to compare their own activities with. However, there are also other ways to do the comparison. Companies can search for best practices in publications such as books, articles or websites. The best practices can be examined for example by comparing key performance indicators of different organizations and thus finding those whose activities they want to become more familiar with. Many times, benchmarking can be performed in collaboration between different organizations that develop some activities, then compare them and exchange ideas on how to improve them. Benchmarking can also be done within the organization, whereby parts of the organization compare their processes and operations and learn from each other about good practices with a view to sharing good practices across the organization. (University of Eastern Finland.)

### 6.3 Reliability, validity and objectivity

Quality of the research strongly depends on reliability, validity and objectivity. Objectivity is important during the data collection, analysis and reporting stages (Saunders, Lewis & Thornhill 2012, 257.) Objectivity means that researcher acts openly, is truthful and promotes accuracy and conversely avoids deception, dishonesty, and misrepresentation of data or findings (Saunders & al 2012, 232.) The idea of objectivity assumes that truth exists outside of any investigation or observation and in qualitative research a realistic aim for the researcher is to remain impartial to the outcome of the research and acknowledge researcher's own preconceptions. (Holmberg 2018, 12). It's rather typical to think that in qualitative research the researcher tends to bring some unique perspective to the study. Additionally, objectivity means that data should be neutral, and findings are determined by the respondents and findings are not directed by biases, motivations, interests or perspective of the researcher. (Holmberg 2018, 11).

What comes to reliability, it's extremely important that researcher won't make up or alter primary data and won't falsify the results. Findings need to be fully and accurately reported no matter if they are in the contradiction with the expected outcome. (Saunders & al 2012, 232). Researcher needs to be methodologically rigorous in the way he devises and carries out research to seek to avoid threatening the reliability of the findings and conclusions. It's important that the research process is clearly thought through and evaluated

and that it doesn't contain any logic leaps or false assumptions. Each part of the research should be reported in a fully transparent way to allow other people to judge for themselves or carry out the same study if they wish to do so. (Saunders & al 2012, 192-193).

Validity in research usually describes whether the study actually measures the phenomenon that it was supposed to measure or how truthful the research results are. In general, researchers determine validity by asking series of questions and look for answers from other researchers' studies. (Golafshani 2003, 599).

However, concepts of reliability and validity in qualitative and quantitative research can differ a bit, and there has been lot of different opinions whether validity and reliability can actually be measured in qualitative research. Some researchers have stated that the concept of reliability is even misleading in qualitative research whereas other researchers have tried to look for different approach to these concepts: they might have admitted that reliability and validity are essential criterion for quality in quantitative paradigms, but terms such as credibility, neutrality, confirmability and dependability better describe the quality in the qualitative paradigms. When defining the concept of validity, many researchers have adopted other terms such as quality, rigor or trustworthiness. However, examination of trustworthiness is also crucial to ensure reliability in qualitative research. As discussed, validity and reliability can be sometimes difficult to define or measure in qualitative research. Triangulation is a strategy to improve the validity and reliability of research and it is sort of a validity procedure where researchers can search for convergence among multiple and different sources of information to form some themes or categories. When you engage multiple data collection methods to your study, such as observation, interviews and recordings, it might lead you to more valid, reliable and diverse construction of realities. (Golafshani 2003, 602-604).

In qualitative research, the concepts of reliability and validity can be applied to some extent. It is essential to assess the credibility and reliability of research. For example, the results of a qualitative study must not be random, and the methods used in the study must be able to examine what the study is intended to investigate. The concepts used must fit the content of the research problem and the material. Reliability can be assessed in qualitative research in many ways. One way to assess it, is to think whether the results of the research can be generalized or transferred to other similar kind of research projects or situations. (Jyväskylän Yliopisto 2010.)

### 6.4 Results of the interviews

During January and February 2020 interviews for the thesis were conducted. Before the interviews, cover letters (appendix 1) were sent to interviewees for them to get an idea what the thesis was about and why were they contacted. Cover letter was written in Finnish as all major ground handling providers in Finland use Finnish as a primary communication language. These cover letters were sent to all big ground handling providers at Helsinki airport via email. These interviewees were chosen in order to get the most out of the interviews and to get an understanding of the current situation in the industry, especially at Helsinki airport.

We believed that these interviewees not only would have had similar experiences as we had, but they would also represent the majority of Helsinki airport ground handling, and therefore we would get answers that assumedly would represent the major view in Finland on the matter as well. We wanted to know if the trends we had seen in our work could be seen in other companies as well, no matter what their airline customer profile or the company's financial status is. This way we would actually have something that would prove that the idea of universities of applied sciences teaching more field related subjects and detailed courses would actually be worthwhile. It was also important to see the interviewees views on what should be taught on the course and what are the initial skills and competencies that are needed in passenger services.

Eventually we interviewed all together five ground handling experts. These experts were from three main ground handling companies at Helsinki airport. Unfortunately, one company refused to participate. All of the interviewees work in ground handling and are involved in passenger training, recruiting, induction to work and/or in supervisor/managerial position in their company. Seven interview questions (appendix 2) were created but as interviews were conducted in a semi-structured way, some additional questions were asked to get more information on the topics discussed. Questions were sent to interviewees prior to the interviews for them to have the possibility to think about the topics beforehand in order to get more deeper discussions during the interviews.

We have divided our result into themes which can already be seen in our interview questions. The themes were chosen to create an easy way for the reader to understand what was found out of each topic. A lot of our questions had follow-up questions and as interviews were conducted in a semi-structured way, we asked some additional questions to get a deeper understanding on interviewees views. Themes in the results are divided as follows:

- Desired competencies and skills of a new employee, now and in the future
- Altéa's role in the company and need of Altéa skills
- Impact of automatization
- Content universities could teach

All interviews were recorded and later transcribed. After transcribing, the interviews were color coded according to interviewees' companies and then each answer was placed under themes which are shown above. To make sure our interviewees stay anonymous the interviewees are presented as P1, P2, P3, P4 and P5. All interviews were conducted in english and face-to-face around Helsinki airport. The main interview findings are presented in table 3.

Table 3. Key findings of interviews

| | |
|---|---|
| Which are the main competences and skills that you wish new employees would have when they start as a passenger service agent in your company? | P1:Basic knowledge of airport operations and aviation industry, overview of travel documents<br>P2: Person with correct attitude, service and open minded people, social skills are important<br>P3: Basic knowledge on customer service, language skills, Basic IT skills, Knowledge of airline rules and air traffic<br>P4: Have initiative on customer service, basic knowledge on aviation and airport, language skills, overall working experience<br>P5: Customer service skills, language skills, basic knowledge about aviation, how airports work |
| Do you think that those people who already know the basics in Altéa and passenger service duties in general are easier to get acquaint with their duties in your company? | P1: Helps of course<br>P2: Yes, definitely helps<br>P3: Yes, it is good advantage, but airline specifics can only be learned with us though<br>P4: Helps, then the biggest issue is just to get familiar with new airlines<br>P5: Helps as then everything is not new |
| Do you think Altéa will remain as your primary DCS also in the next 5-10 years and what might be the reasons it does / doesn't? | P1: Altéa will stay as primary as Amadeus develops it constantly<br>P2: Altéa is at the moment the biggest supplier and they are developing the system all the time with airlines so it will stay in use for a long time<br>P3: Actually, frankly I don't have right answer for this. I hope it stays like this. depends a lot on our customer airlines for sure<br>P4: I think yes because it's very basic I think most of airlines and ground handling companies know it and use it<br>P5: Yes, it will because they develop it so much and it is quite flexible |
| Has automatization made it more difficult to orientate new applicants to work as boarding/check-in function more and more with self-service? | P1: Has changed as 90% of passenger use self-service so some functions are not practiced as much<br>P2: Takes more time than before to get good skills. Training in classroom has been made shorter but, on the job-training longer<br>P3: It doesn't affect much new employees work, because they still need to understand the Altéa environment no matter how much kiosks are coming<br>P4&5: Our company have based our whole training around automatization at least here in Helsinki and I think it is quite easy to start with self-service and then jump into the desk service |

| | |
|---|---|
| In addition to Altéa basics, what else could be worthwhile to teach on this passenger service course in your opinion? | P1: Timatic, Travel documents,customer service,time management<br>P2: Human factors, airside safety, dgr, passport and visa, some basics aviation knowledge, passenger profiles, abbreviations,airport stakeholders<br>P3: Document checks and different types,customer service,different passenger types, abbreviations<br>P4: Amadeus GDS, different passenger service tasks,abbreviations<br>P5: Travel documents,timatic,abbreviations |

As you can see in table 3, only five of the seven questions represented to our interviewees as they present the most significant results and therefore bring the most value to the content which we will create for the passenger service course. To have a full idea on what was gathered from our interviews we will next go through all of the findings.

### 6.4.1 Wanted skills & competencies

Interviews were started with a question regarding what ground handling companies in Helsinki look for when they recruit new employees. All interviewees mentioned the importance of customer service skills and good manners and believed that the lack of those skills was due to the young age of people who seek for jobs in aviation. Having language skills was thought as a must, at least English skills. Four out of five interviewees mentioned also the importance of knowledge about the industry. (Figure 6.)


Figure 6. Wanted skills & competencies from new employees

They all thought that it is important to have some kind of knowledge on how airports work, what is customs, border control and other important functions at the airport as well as having some knowledge on travel documents, as they are thought to be really difficult amongst new agents. They also thought that as aviation has so many abbreviations it would be beneficial to know some of them too. Also, basic IT skills were mentioned as they were thought also mandatory in aviation. When asked about whether it is easy to find the people who have these skills all of them said no. One of the interviewed professional works in a regional airport in Northern Finland and stated that as they have a lot of seasonal workers they have the benefit of them mostly returning the next year. This was said to help with induction to the tasks as they had prior experience.

> If they don't have the experience before working in the industry, they don't really know we have a lot of codes and terminology. Basically, if you don't have any experience before and you come (to work in the industry) and there is basically no place that you can learn from before coming to the industry. (P1.)

The reason why interviewees said that it was tricky to find employees who already have skills in aviation or the skills that they mentioned new employees to preferably have, was that a lot of them are so young and lack of previous work life experience. Also, two said that as these skills at the moment in Finland can only be learned in the working environment, the new agents would need to have prior experience in work life as no schools teach the essential competencies and skills.

### 6.4.2 The role of prior experience

To get an idea how beneficial it would be to have prior knowledge on Altéa and other passenger service duties, interviewees were asked if they find employees with prior experience to be easier to adapt with their new tasks. All of the interviewees agreed that prior experience is beneficial but new airline procedures can only be learned from the ground handling company. Basic knowledge would help to understand the industry and help make learning process and induction to the new work easier.

> Yes of course. It's true because then you don't have to teach everything from scratch and they don't have to learn everything from scratch because the basic course that we have if you have no knowledge, it is just 2 weeks, just theory so it's very heavy. And with the systems and everything and then you go to practice to train so if you know all the codes and you know the basis and have experience in the system or any system basically so then it's easier, the level to learn is lower. (P1.)

Also, one interviewee (P2) stated that in their company they would like to see prior experience also as an opportunity to have a financial benefit for the company also training-wise as the training period for these more experienced ones could be shortened. P2 added that having prior experience with aviation helps with understanding abbreviations which are rather vital in the field, and also needed when using departure control systems, such as Altéa. Also, P2 believed that the ones who have the prior experience are more likely to be professionals in their work quicker and therefore are also the ones who usually stay in the company longer and want to proceed in their careers.

### 6.4.3 The role of Altéa in the future at Helsinki airport

As we wanted to know how relevant for the future of ground handling would it be to teach Altéa specifically, we wanted to ask what the interviewees thought Altéa's future at Helsinki airport and in their companies would be. Altéa was a clear choice of DCS from the beginning as we knew that most airlines at Helsinki airport use it, and our interviewees also confirmed it. We wanted to know if they see Altéa being used in their companies and airline customers in the next 10 years also. All together these companies that we interviewed handle around 30 different airlines of which only 6 airlines use other DCS than Altéa. It is important to know that these 30 mentioned are the ones who have more frequent operations in Helsinki airport and all together there is a lot more airlines handled by these ground handling companies. In addition to airlines' own Altéa's and DCS systems all these three ground handling companies use their own Altéa which they use for ADHOC and charter flights too.

Altéa was mostly thought to be the primary DCS also used in the future as Amadeus was thought to keep Altéa developing constantly and bringing in new features that make ground handling easier, such as ADC, automated document check, and Disruption tool. Altéa was thought to be good also because the development is done together with airlines, airports and ground handlers, and therefore thought to be groundbreaking in the industry. Two of the five interviewees especially believed that the reason Altéa will stay is that it gives airlines, and therefore also ground handlers, financial benefit as they can cut down heavy duties, such as ticketing services, with the benefit they get from Altéa´s new applications.

> And then if you think about for instance ticketing side, Amadeus always coming up with different kind of solutions so if airlines don't want to invest in to this very heavy duty and expensive system of ,let's say the reservations side, then they have things

> like web-applications, so everything is so combined with Altéa as a whole. So, I don't see why airlines, if not money wise, make a very big change in the future. Like new implementations such as disruption tool is less expensive for the airline when they don't pay for the ticket service. (P3.)

Sabre, another departure control system, was mentioned by P2 as to be Altéa's possible competitor pricewise, but P2 still thought that it would be in the far future as she thought that Sabre was not of as high quality as Altéa. Altéa was also thought to give the possibility of good customer service when you have one platform that you can use for all, especially in smaller airports. Then again interviewees said that as they are ground handlers it is often up to airlines to choose whether or not Altéa will be used, so ground handlers will have to go with whatever their customer airline uses. All of the companies however also have their own Altéa which they use also for training purposes.

### 6.4.4 Future of passenger services

One of the themes in the interviews was to discuss what the interviewees think the future of passenger services will be like and how has the industry changed in the past decade. All interviewees said that the industry has changed a lot in the past 10 years. Especially training for new employees were thought to be very different nowadays in two of the big ground handling companies in Helsinki. There used to be more time for training and agents would start from the very basics such as helping passengers with self-service machines and after a while they would then move on to working at the check-in counter with the DCS. Nowadays, it is more about learning a lot and proceeding to the next step quicker. One interviewee said that back in the days moving from check-in agent to work at the departure gate as a gate agent was thought to be more "glamorous" and a big step on your career as nowadays it is more of a norm to proceed quicker, and new skilled agents are needed quicker. When interviewees were asked about what they believe the industry will be like in the next 10 years they were unsure but believed that more and more self-service will be spread around different operations in the aviation.

> I think, well passengers say we will not be needed anymore, but I think we will all be, because I mean everything will not be automated. (P4.)

> Maybe there will be less persons but there will be still some persons at the check-in as well. But now when we think that we will get the e-tags here in Helsinki as well with the whole renovations so that will also reduce our staff. (P5.)

The rise of self-service has been a big trend over the years and was mentioned by all of the interviewees. Also, two interviewees mentioned that there are a lot of different kinds of IT tools being used by airlines and ground handling nowadays such as iPads, handheld bag tag printers as well as self-service boarding gates. One interviewee said that the job has changed a lot for someone who has been working in the field for 25 years and used to just sit behind the counter. It used to be so that the customer would come to the counter to meet the agent, but nowadays the agent has to go to the customer and predict the need for help in advance. Interviewee P1 said that as everything will be done so easily, for both by the passenger and the agent, it will cause lack of knowledge for the agents as you don't need to know much anymore to answer passengers' questions as they know so much themselves, and therefore passengers will not have such high expectations anymore. Then again, as technical applications will be simpler to use, P1 believed that technical skills might be less important and customer service skills will be more appreciated. One interviewee had a differing opinion as P2 said they believe that due to automation IT skills will be key. Automated systems were also thought to help give better customer service as different tasks can be done more simply and easily by the agents and therefore service is smoother. P4 & P5 said that they believe the same set of skills will also be needed in the future as they are now.

### 6.4.5 The effect of automatization on induction

We wanted to get a deeper understanding on what challenges ground handlers face in induction to work with the changed industry and the usage of self-service, and if they were similar to what we had experienced. As it was important to find out if teaching basics in a university of applied sciences would benefit the industry, interviewees were asked if automation has made it harder for new employees to get acquainted with their new duties or if they get enough changes to practice the new skills.

> Some functions basically, maybe. Because if you are seated at the counter then basically, let's say, if 90% of the people on the flight have done online or kiosk check-in or whatever, and you don't really do all the functions in the system, so you don't, on a daily basis, probably get as much experience like let's say a few years ago when it was not so self service oriented, the industry. (P1.)

> I can see that there is a big risk that the applicants are not so professionally skillful let's say in one months' time than they were before. Automatization has shortened our training, but we have to focus on the on the job training part. It's important that

> we allocate the new employees to the desk functions too and supervisors in terminals have a very significant role when making sure that all the new employees get enough Altéa experience. (P2.)

> Our volume with one airline in the peak hours is still quite big so there is a lot of people still using the counters the check-in desks, so I think that they get a lot of people checked in and we try to take care of that during the on the job training, they don't just stand at the check-in area, they go to charter flights and at the end of the on the job training they will go with the instructor to go through all the special cases. (P4& P5.)

The answer for this theme varied a little bit as the client airlines for these three ground handling companies use slightly different kinds of concepts. Others use self-service more and due to higher volumes, some airlines were said to still have quite a lot of the desk check-in duties too. Also, two interviewees who worked in the same company said that as their biggest passenger volume comes with one airline, which is mainly using self-service, their training is built around those functions. Also, the big volume was thought to also give the opportunity for employees to have enough training at least during the peak hours. One of the interviewees said that even though automation is little bit of challenge in the induction phase, with a good induction plan mixing both automation and traditional check-in duties it's not impossible to have comprehensive training. Then again in the interviews also Altéa features such as ADC was mentioned, which was thought to give help for new employees with the ever so tricky document checks. One interviewee said that it used to be more about the employee having the skills and knowledge towards a lot of different types of travel documents, but now as ADC helps agents, there are fewer fines from authorities for example.

### 6.4.6 Insights on course content

All of the interviewees said that it would benefit the industry in general if basics of Altéa and passenger services would be taught in schools. When they were asked what should be taught on that specific course, the topics were unanimous regarding travel document training, including Timatic in Altéa, teaching abbreviations and customer service, as they all thought those should be on the course. All the interviewees also mentioned that it would be important to understand the airport operations and how they work, what is border control and customs for example. Also, different passenger service duties and tasks,

such as arrival service duties would be good to explain, as well as make students understand how working at the gates for example requires working under pressure and against time. P2 also mentioned human factors, airside safety and dangerous goods. P2 also mentioned that in order to understand the airport operations it would be good if the course would involve a visit to Helsinki airport for example as then student would actually understand where certain tasks are performed and what the surroundings are like. One interviewee also pointed out that for this course to benefit all airlines and ground handlers the topics and the context should be kept on a generic level so that the airline specifics would be easier to learn on the job.

> Encourage people to be confident and overcome difficult customer situations. Teach that the customer is not always right. Confidence is very important in our job! (P3.)

> Also that you have to be able to handle stressful situations and work under pressure and then you have to like... you don't have time to think everything through so you have to be like able to make decisions, especially at the gate cos you´re running on clock so you have 45 minutes to have a turn around so can't just be like hmmm. You need to know where to draw the line with someone, when arguing about luggage for example. And then all that combination you have to look at the time and be friendly and remember airline rules and products and what not. (P1)

As customer service skills were thought to be very important and somehow what new employees were seen to lack off, we asked additional question on how customer service should be taught. Three said that a consultant would be a good extra to teach for example how a customer should be faced and what kind of difficult situations could there be and how should those be handled.

> It would be good to go through customer complaints and situations, what had happened, and how you should act in situations (P3).

Interviewees also thought that as there are several types of passengers in aviation, such as unaccompanied minors and passengers with disabilities, these special categories should be discussed as well to understand why certain tasks are done in a specific way in Altéa.

### 6.5 Results of the benchmarking

We started our benchmarking process by going through the websites of different universities and schools around the world, to see which teach aviation related subjects, and if Altéa is taught anywhere. We also used Amadeus webpages as they offer different kinds of cooperation with universities and other academic institutions. We decided to delimit our

benchmarking only to university and university of applied sciences level institutions as the course we plan is designed for a university of applied sciences. Two of the universities we chose to be benchmarked were IATA's academic partners Ecole Nationale de l'Aviation Civile ENAC and University of Geneva. We also benchmarked American University in Switzerland which is IATAs authorized training center. Also, Bad Honnef University of Applied Sciences, Cranfield University and Frankfurt University of Applied sciences were benchmarked.

IATA has partnered with some academic institutions for these universities to have detailed courses that are designed for aviation specifically. The idea behind this academic partnership is to offer university students courses that are mix of getting a detailed industry sights added to academic teaching. (IATAd.) IATA also has plenty of authorized training centers, accredited training schools and regional training partners which also offer passenger services course with Altéa included. These IATA authorized training centers are independently working educational or training institutions that are authorized to teach IATA specified courses and hand out IATA authorized diplomas for their students. (IATAe.)

All of the universities were contacted either through the contact forms on their webpages or by e-mail. These universities were mainly selected based on their connection with IATA, course offerings in aviation and their level of teaching. We were hoping to find out how, and if, universities teach Altéa, what other passenger services-related topics they have in their curricula, how comprehensive those courses would be, and perhaps find out what kind of IT-solutions they have chosen to use when implementing their courses.

Ecole Nationale de l'Aviation Civile ENAC is the leading school of teaching aeronautical and aviation related programs. As we were not able to receive answers to our emails our content relies on their webpages. For bachelor level studies in ENAC finding information was rather difficult even though they claim to also have bachelor level programs. One program we found was a bachelor level Aviation management program that is taught together with Toulouse Business school. First two years of the study are done in Toulouse and the third year is done in ENAC where the aviation study part is taught. The course consists of learning the airport environment and safety aspects as well as flight operations of an airline. The program also includes training periods in the industry. (ENAC.)

ENAC offers a variety of Master level courses as well as smaller courses related to aviation that can be taken as individual courses. Together with IATA, ENAC offers a wide range of different modules for Master students, which are mostly recommended for example for flight and ground operations managers or local airline representatives. The offer

business-oriented courses in which you can for example improve managerial skills and strategic thinking. Also, the module teaches the student to run their own airline and focus on revenue and marketing managements. Overall, their courses focus on the managerial point of view whether it is about safety related SMS programs, analyzing fuel and carbon budgets, optimizing airline flight operations or planning an emergency program and a response plan for an airline. Only one module closer to the more general level was aircraft turnaround coordinator and load supervisor course which gets a more detailed look into simpler tasks so to say as it evolves around optimizing the use of loading staff and equipment and focusing on on-time performance too. (IATAf.)

IATA´s authorized training center American University in Switzerland, AUS, was also one of the benchmarked universities. AUS offers both bachelor and master level degrees in aviation management and specific IATA certified training courses. These courses will give real-industry insight to support the academic knowledge. AUS is also partnered with PrivatPort which is a company backed by global ground handling company Swissport Ltd. This cooperation supports students in their internship placements. (American University in Switzerland 2020.) They offer all together five courses together with IATA, such as Air transport fundamentals, Aviation security awareness and Airline marketing. (IATAg.)

Bad Honnef University of Applied Sciences offer bachelor program in aviation management and master program in business administration in aviation. In bachelor level, students will learn specifics of the aviation industry, deal with financing of airlines and airports, learn about aviation laws as well as marketing and sales in aviation. Students will also work on other skills such as computer applications and business communications. The course offerings vary from financial accounting, airline business models and mathematics to ground handling. (Bad Honnef 2020.)

Cranfield University, located in United Kingdom, offers Master of science in aviation. The program is suitable for those students who have a degree in economics, business studies, geography or aeronautical engineering or for those who have demonstrable experience in the air transport industry. They have both compulsory and elective modules, which consist of areas such as Introduction to the Air Transport Industry, Air Transport Operations and Aviation Safety Management. For example, the syllabus of Air transport operations contains subjects from commercial planning and maintenance management to operations control. (Cranfield.)

University of Geneva is offering Diploma of Advanced Studies in collaboration with IATA. Objective of this program is to give students an overall understanding of the aviation industry, equip them with management tools and help them to understand what the financial drivers in the industry are and how to identify, analyze and find solutions to everyday challenges. Studies vary from safety management systems to finance, cargo management and environmental studies. (University of Geneva.)

In the theory framework of this thesis, in chapter 5, we wrote about the dual VET system of Germany. A good example of this dual VET model is the bachelor's degree of aviation management offered by Frankfurt University of Applied Sciences. They offer it in collaboration with large German airport operators, airlines, air traffic control authorities and other aviation related companies. Students need to apply at a cooperating company and conclude a study training agreement themselves in order to study in this program. Studies consist of lectures, tutorials and in-depth training during practical study phases at a cooperating company from the aviation industry. Many of the study phases are completed within a company and close to reality-case studies which promote the interdisciplinary, networked thinking and enables you to implement theoretical knowledge into operation practice. (Frankfurt University of Applied Sciences 2020.)

For the benchmarking to have the most benefit for this thesis we wanted it to be done by discussing in detail about what kind of course offering do the six chosen universities have. Unfortunately replies were received only from two universities out of six: American University in Switzerland and Cranfield University. Cranfield doesn’t have any Altéa related courses but representative from American University in Switzerland actually replied that they do have a course where Altéa is included. Unfortunately, we didn’t manage to get any more detailed course content description nor implementation plan of the course despite several attempts. Additionally, we also tried to contact Amadeus through different channels to ask if they collaborate with other universities and to which extent, but we didn’t receive any reply from them either. So, apparently benchmarking turned out to be very difficult and information received through the process was left rather superficial. We believe that the current Covid-19 situation might have affected on the amount of the replies received as all the education institutions have been undergoing massive changes now.

### 6.6 Assessing quality of the research

One of our biggest challenges was the fact that as we had strong opinions regarding the thesis topic it was difficult for us to make sure it wouldn´t affect the structure of our questions or how they were presented. However, we had read quite a lot about objectivity prior to designing the questions so we had a clearer mind about how we should build them. Our thought was that we would most likely get rather similar opinions from the interviewees than what we had, but luckily, we got quite a few new aspects to the topic. Three of our questions started with the phrase “do you think” which we realized only when conducting the first interview. As we conducted the interviewees as a semi-structured we were able to ask more detailed questions, such as why or how, in addition to the ready-made questions, which made the answers be more valuable, so we believe that eventually this didn´t affect our results that much.

We think that we were quite successful when selecting the interviewees because three out of four of the biggest ground handling companies operating in Helsinki Airport wanted to participate in our study. Perhaps the study would have been a little bit too one-sided if we got interviewees for example only from one company. As we got answers from three different companies, we think it pretty well represents the industry’s general view in Finland. One thing that is important to notice is that all the interviewees work in Finland and their answers reflected the operations in Finland. Perhaps our study is not as valid in some other airports as it is in Finnish airports, also because training can vary in companies as well as a country's culture can have an effect on the wanted quality in training and education. What makes this thesis more reliable is the fact that all interviewees have been in the industry for a long time and have all worked in passenger service and are still very much in the center of the daily operations.

When we first started planning our thesis, we were thinking about interviewing also some new employees that have just started their career in the industry. However, we came to the conclusion that first of all the new employees don´t actually really know what skills they are lacking as everything is new to them. They would also then need to know how much they should know and how much they will learn throughout the years of working in the industry. Then, we also thought about observation as one option but as we both work as middle managers and trainers, we together with our interviewees, have a lot of valuable information and experience as we see a variety of the new employees in our daily routines and can have a deep understanding of the current situation. Therefore, observation that points out the problem behind the thesis has already been done by us throughout the years of experience in the field.

In general, the interviewees views were rather similar. However, when we asked for example about automation and what they believe the future will be like the answers varied a bit. We think that this was because of the different working cultures and scope of services. For example, the level of automation is different in all the companies and they all serve different airlines operating with several different business models. We believe the most important results regarding our thesis were not affected by that, as our main point was to see whether the course, we are planning, would be beneficial for all the companies and the industry in general.

The subject of this thesis is very specific and has not been studied much, at least in Finland. One of the challenges was that for example when searching for information of different departure control systems most of the information is commercial and provided by the DCS providers themselves. This means that there is really no criticism on whether a DCS is good or not and why. That´s why our decision to choose Altéa to be taught was based mainly on the fact that we knew that it is the most common one also at Helsinki airport.

When we were thinking of the confirmability and dependability of this thesis, we started to think that had we been little too determined when deciding that Altéa is the departure control system which should be taught. Should we have first investigated which departure control system should be taught and only then think of what else should be involved? Maybe, but on the other hand we don't see much point to teach another departure control system at least in Haaga-Helia University because Altéa is dominantly the most commonly used departure control system in Helsinki airport. Even though this course is built around Altéa, it will still be valuable for a student who might be working with some other departure control systems as there are lots of similarities between the systems. Then again, Altéa is also popular across Europe. Students will gain also lots of other relevant knowledge during this course and can definitely utilize learned skills in their roles regardless of the departure control system. We also want to bring to attention the fact that all the interviewees were from Helsinki Airport. Thus, the results from the interviews reflect only the situation in Helsinki airport and the conclusions can't be generalized nor transferred to reflect the situation in all the airports around the world. It is important to remember that Altéa isn't the only departure system in the world, and, there are plenty of ground handling companies needing various different skillsets and the supply and demand of the labor might vary regionally. However, the lack of talent is a problem experienced around the industry, not just in Finland, so at least there is a chance that the study could, and should, be done elsewhere too.

# 7 Creating course content

The idea behind this chapter is to now go through how the course content was built in Moodle. All the theory framework as well as results of benchmarking and interviews we have presented in previous chapters are now gathered as a sum of what is to be taught on the course. Also, we reflect on the previous chapters when we explain why certain topics were chosen.

## 7.1 Planning the course

Initially, the idea for this thesis has been a sum of reviewing literature during last semesters in our courses about the lack of talent in the service side of the aviation industry, and our own views and observations from the industry, as we both work in the field of ground handling. We started to brainstorm and think of ideas what could be done to prepare and train people better to be ready to work in passenger service duties in a ground handling company. Ground handling is a low margin business and as learned in chapter 5, trainings create cost pressure for ground handling companies which often leads to a situation where ground handling companies try to provide only the minimum level of training in the most cost effective and often in the quickest means possible. That is why our believe is that cooperation with industry schools is nowadays very much needed.

First, we started to investigate if any of the schools in Finland offer ground handling basics and we figured out that no schools in Finland have a course designed for people who would be interested to work in passenger services. Also, after benchmarking the European market, as well as looking into the global market, we realized that there is not a lot of this type of studying offered.

Next, we started to review more literature in the fields of aviation in general, automatization, current and coming trends in aviation, human resources, training and education and doing the research. After reviewing the literature, we finally started to have a clear vision on how we could justify that this course is needed and what kind of methods should we use to make it valid. As a result, we decided to carry out interviews in order to know what other passenger service professionals think of the current talents in their companies and ask their opinions what should be taught on a course.

To get better understanding what should be included in the passenger service course in Haaga-Helia, also a role analysis was carried out and consequently a role profile (appen-

dix 4) was created in order to reflect what skills and competencies are needed in the passenger services of a ground handling company. In addition to using the theory framework when we created the role profile, we also used the results of interviews as well as benchmarking. We also looked into job descriptions by major ground handling companies worldwide to get a deeper understanding on the wanted skillset. Creation of the role profile helped us to select themes and content to Moodle. We read and wrote about creating a Moodle course but as we have both used it during our bachelor and master studies, we didn´t have to focus on that too much as the platform itself is rather straight forward. The content in this chapter is based a lot on the theory we have gathered in chapter 5 about teaching and learning. As we don´t know yet what kind of background will the possible teacher of this course have, we put ourselves in the position of a teacher as we still believe that industry background is crucial. This, and our backgrounds in training, helped us in planning and creating the course.

We also put lots of thoughts into how the course should be implemented. Could this course be implemented fully as e-learning? Our opinion is it couldn't. As passenger services in the airport will not yet be fully replaced by artificial intelligence and robots, there will still be need for some customer service professionals to take care of our hopes, wishes, needs, fears and concerns. Human interaction will still play a big role in passenger services even though many duties can in the future be taken care for example by artificial intelligence or by passengers themselves. Therefore, in our opinion a course about basics of passenger services needs to involve also face to face classroom teaching with discussion and interaction with other fellow students too. Teacher of the course should also be able to motivate students to tell stories of their own experiences in airport or customer service in general. Often, students can digest the information better when there is someone's personal story wrapped around the theory.

As stated in chapter 5, e-learning doesn't fit to all disciplines. When practical and hands-on experience is needed, e-learning may not be the best option. We think that many of the areas which our course covers, such as dangerous goods and human factors can be taught as e-learning. However, we think that for example Altéa, and customer service should be taught in the classroom. This way students can also learn from each other and ask more detailed questions from the teacher in real time. Our experience from the field is that often in the beginning of a course, Altéa can be confusing if student has never used any departure control system before. Students might not understand in the beginning how and why things are done in Altéa. Therefore, it's important that the teacher is present in the classroom to guide students. Furthermore, Amadeus GDS courses in Haaga-Helia are arranged as traditional classroom training, and so are many other system-oriented

courses such as SAP, which supports our view that Altéa should be taught also in the classroom.

### 7.2 Duration and implementation plan

Based on our own experience and what we found out from our interviews, a passenger service agent-training usually last about two weeks, 10 days and eight hours per day, after which new employees continue to on the job-training. As on those courses, provided by ground handlers and airlines, there are a lot of airline and company specifics being taught, we thought that the hours needed for a student to learn Altéa would be around 26 hours. We also looked into e-learning courses provided by Amadeus and they offer a passenger service course that is approximately 11 hours (Amadeus 2020c). However, it is important to know that this type of e-course only demonstrates the systems workflow by showing different keyboard entries. It is also important to know that when in real work life employee learns the basics in Altéa there are test flights used for employees to actually use the system and get a clearer understanding. We believe that Haaga-Helia should use same kind of teaching method for the students to get a full benefit of the course.

However, if Haaga-Helia decides to have Altéa as a part of a bigger course we also believe that it would be possible as long as the time of 26 hours of Altéa is included. In addition to that there would need to be hours counted for learning all the other important themes such as travel documents, abbreviations and so on. When we were considering the course length, we also looked into the current Amadeus course Haaga-Helia is providing to get an understanding how many ECTS would this course be. With that and also the theory in mind, we decided that this course should be three ECTS including all the material we have presented in Moodle and stated what should be taught.

With three ECTS this means that in addition to Altéa other subjects would get around 26 hours in classroom. To get a deeper understanding of the airport as an environment we suggest that during the course there would also be a visit to Helsinki airport, which would take one day so approximately eight hours. As there is a system, Altéa, being taught, classroom teaching is important so there wouldn´t be so much private studying but a literature review for example could be included. Therefore, we suggest 20 hours of private studying. All this will be around 84 hours, which is around three credits. Example of a timetable can be seen in appendix 5. Our suggestion is that this course would be offered separate and on its own, however, if Haaga-Helia decides to have Altéa as a part of bigger course we also believe that it would be possible as long as the time of at least 26 hours is used to learn Altéa basics.

In addition to Haaga-Helia's Amadeus course which we mentioned earlier, Haaga-Helia also provides a course called GDS Fares & Ticketing Amadeus. This course is meant to prepare the students for the IATA's Passenger Fares and Ticketing basic module. Those students, who register in IATA Learning Management System, will be enrolled in an exam session administered by IATA, and on a successful completion, will be entitled for IATA certificate. (Haaga-Helia b.) We believe that this could also be an option with the course which we have designed. Attending the Altéa course could prepare the students for the IATA's Passenger Ground Services with Amadeus Altéa DCS certificate, which is subject to confirmed registration in IATA's Learning Management System. As IATA is known worldwide within aviation organizations, we believe this certificate would help the students a lot when seeking for new job possibilities also overseas. However, at the moment GDS Fares & Ticketing Amadeus-course is only offered in an open university and students or their employers need to pay for this course. The GDS course is also five ECTS and our course aims to be three credits. Our idea would be to have this course placed in the curriculum as a free elective course as we believe that it could benefit students from different bachelor programs (appendix 6). The course should be offered especially to students in the bachelor programs of Aviation Business and Hospitality, Tourism and Experience Management.

The timing of the course should preferably be on the second semester. This way the student would have already gotten a bit of an idea of the studies and would most likely have some key interests in mind. Also, it would benefit the internship the most, if this course would be right before possible internship after first semester, or whenever it would be in the curriculum. This means that the student would have the basic knowledge gained on this course freshly in their mind and that way also not just the student but the company they would do the internship in would benefit from this course.

We created an implementation plan for the planned course (appendix 3). The plan is built around the theory in chapter 5 and we used the base from Haaga-Helia's different implementation plans for different courses, such as Amadeus GDS and basics of air travel course plan (Haaga-Helia a). As stated in the theory part it is important for the teacher to first create the main topics of the course. Those main course topics are presented in the implementation plan and presented in detail in the next chapter, 7.3. The implementation plan also tells the student what is thought to be learned during the course and to explain the content more detailed. The idea is for the student to understand the main topics and how everything happening around the industry has a big impact on what the agent is doing. Learning goals should be set and those are also stated in our implementation plan for

the student, and in the case of this thesis also the possible teacher, to get an idea what will be taught, and also what should be learned. But like mentioned in the theory work in chapter 5, this plan is only a preliminary one as the plan will be changed, not only, prior to the possible launch of this course but even during the course itself. Grading is mainly left out as that should be in the hands of the teachers at Haaga-Helia. However, we have stated the knowledge level on our implementation plan as what we feel should be learned and how well when you apply for a job in the industry.

### 7.3 Major course topics

As we have mentioned before, Altéa is the system taught on this course as departure control system is one of the main technical tools of a passenger service agent. Altéa was chosen because of its popularity. Also, the fact that Haaga-Helia is already cooperating with Amadeus as an Authorized training center, plays a role as we assume, they would get a lot of help from there too when implementing this course. As stated in our theory in chapter 5 it is important for teacher to choose major topics for the course before designing it. Our chosen topics are based on our interview results as well as reflected on the future of aviation and what kind of challenges in induction to work there are in the industry. As the main point of the course is to be based on Altéa, the main topics will be built around it. Also, the topics were chosen to be rather simple as the students who would initially take this course would assume to have no prior experience. Major topics are presented in figure 7.


Figure 7. Course themes for a passenger service course

Travel document knowledge was one of the biggest topics in the interviews and therefore chosen as one main topic. As stated in our theory part airlines struggle a lot with fines which they get from authorities when passengers travel without the right documents. Airlines create a lot of pressure for ground handlers with a set of rules to prevent these fines and therefore it is important for future employees to understand travel documents and their importance at least to some level. Also, as Altéa offers application such as ADC, automated document check, and Timatic that are designed to help with document cases, an agent needs to understand the idea behind travel documents, and the different types as well.

The different aviation abbreviations were mentioned in our interviews. There are a lot of these abbreviations such as SSR codes, which are mentioned in chapter 2.5, as well as airline codes, country codes, airport codes and other industry related codes. These codes are also used in Altéa, so it is important to know at least some of them, not by heart, but have an idea for example about how country codes are made of two letters and airport codes of three. That is why we have added abbreviations as one theme which will be linked in the introduction of passenger services.

Ground handling is obviously one of the most important subjects and should be explained in a wider perspective as well for the students to understand the general idea, before focusing on the passenger service side more detailed. For a new employee to understand why everything is done a certain way and what happens around them in their working environment, it is important for them to know how airports in genera work. As mentioned by our interviewees the airport is a complex environment and so it should be a part of this course as well. And not just the airport as an environment but as there are a lot of different stakeholder there, such as border control, customs and other airlines, it is also important that they are presented during the course. As an idea received from our interviewees, a visit to Helsinki airport would be beneficial for the students on this course, and that is why we have implemented the visit on one course day. Also ground handling and the different roles should be presented by a ground handling company as they can offer an organizational structure for that.

In our theory framework we have presented the work of a passenger service agent in general and also pointed out the fact that it is rather demanding customer service that these agents face on a daily basis, mostly due to tight timeframes as well as stressful passengers that tend to get unruly at times. One of the main topics also in our interviews was the importance of having customer service training involved. Customer service in general should be taught but as in passenger services agents have to deal with a set of special

passenger categories as well, they will be a part of the course content too. In general, all the content is built around Altéa, and so implementation will be built so that it supports how each of these topics are related to Altéa.

Safety and security play a key role in aviation and therefore it is important for the future employee to understand the cause of their actions. They need to know that unauthorized persons cannot be let out of the terminal and on to the tarmac for example. There are a lot of detailed guidelines to be taken into consideration for example when operating the passenger bridge. For example, if there is a flight arriving from a non-EU, non-Schengen country to a gate stand, the agent needs to know to correct procedure for opening the route for passengers to terminal so that they won't be in touch with passengers who are security checked as per EU standards. This is just to name a few ideas on what safety aspects can mean. Also, as we have learned that Haaga-Helia co-operates with Airport College, and Haaga-Helia already offers e-learning in dangerous goods, airside safety and human factors training, we suggest that these e-learnings are taken as a part of this course too as they are highly linked and also mandatory to anyone working in passenger services.

### 7.4 Material in Moodle

Haaga-Helia granted us editing rights to Moodle so that we had a chance to actually create the course and to demonstrate how we thought it should be. The usage of Moodle is very straight-forward and by clicking the "Turn editing on" we were able to start editing the course, which can be seen in figure 8 below. Also, the name of the course, Basics of Passenger Services, is shown there.

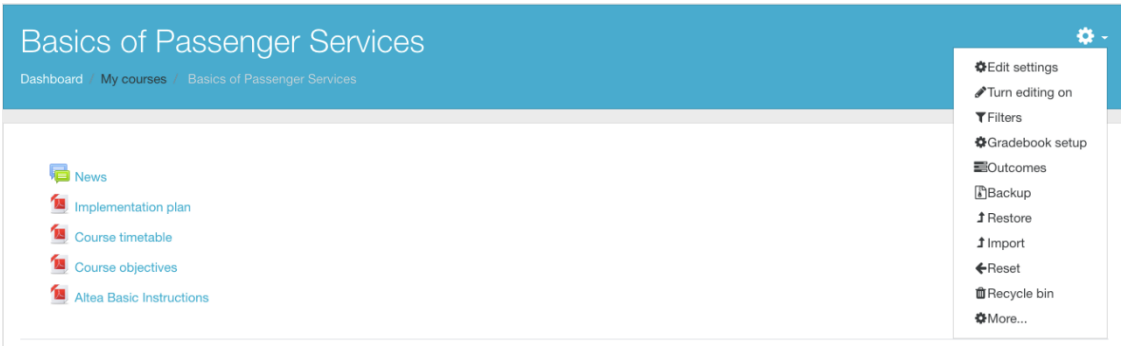


Figure 8. Editing course content

By clicking the "Add a resource", we were able to add some links to web pages or videos and with "Add an activity", we could create a quiz or an assignment for example (figure 9).

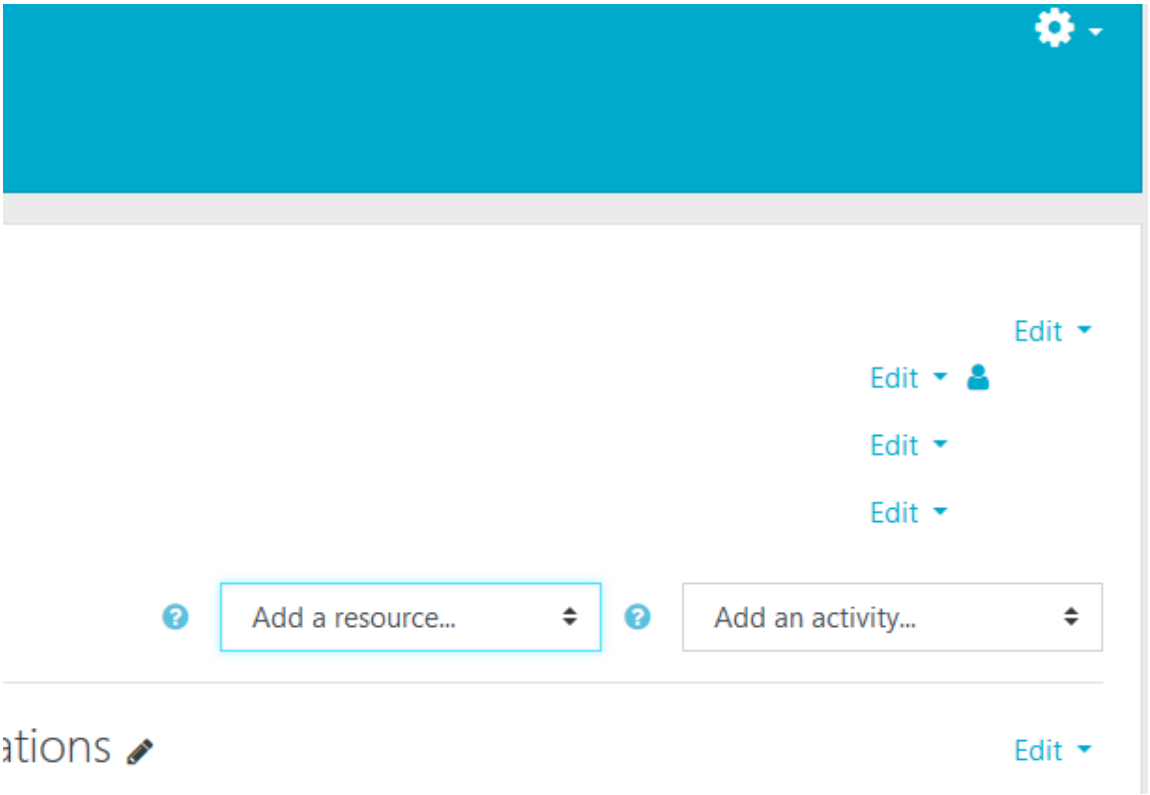


Figure 9. Adding sources to Moodle

The course starts in Moodle with the section that introduces the course to the student. It consists of the following PDF files: Implementation plan (appendix 3) , course timetable (appendix 5), course objectives (appendix 7) and Altéa basic instructions. Files are there for the reason that students and the course teacher might need to get back to them many times during the course. Having them at the top of the Moodle course dashboard means that they are easily found and accessible. (Figure 10.) Even though the Moodle content at this stage is meant mainly for the teachers in Haaga-Helia and due to the materials' confidentiality not a lot of the content is shown in this thesis. However, in addition to the implementation plan and the course timetable we have added the Course objectives slide show as appendix 7, for the reader to get an idea of how the course content is formed in real life.

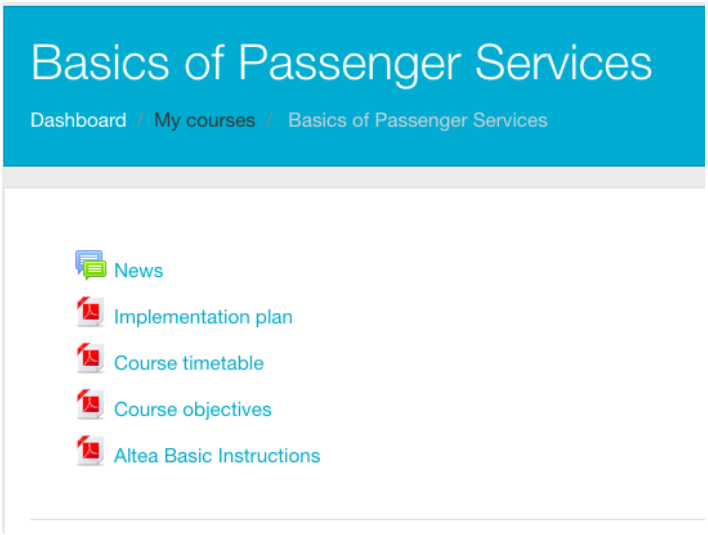


Figure 10. Introducing the course

We gathered learning material that is based on our mentioned major topics and what we believe is important to teach on a passenger services related course. As mentioned before the material is based on what is learned during the thesis process especially in the interviews. We have based a lot of our material with training material received from one ground handling company, which is why the majority of the Moodle content is confidential. At this moment, as we still don´t know whether Haaga-Helia will implement this course or not, we thought it was pointless to create course material from scratch as ground handling companies provide a large variety of excellent materials that could be used. Therefore, we think that Haaga-Helia should closely cooperate with the ground handling companies as both the school and the industry organization benefit from the situation. That is also why there was really no point in creating a manual, as the possible ground handling company could then eventually provide the materials. Also, Altéa manual often is received once the license is purchased. The idea, however, is to create a framework that will help Haaga-Helia to understand the need to teach certain topics and we wanted to point out the most important ones to be taught. Also, we believe that having someone from a ground handling company to teach or be a part of the teaching on this course would be highly beneficial for everyone. As stated in our theory framework in chapter 5 the teacher should be someone who has technical skills as well as knowledge on the content.

As stated previously, aviation industry is changing rapidly and therefore literature is mainly found online. When it comes to teaching basic knowledge regarding how ground handling for example is built, a good book to use for example is the airport operations book (Asford & al 2013) which we have added in Moodle as a source. The book explains the main points in airport operations in a rather simple way which is why it could be used to create

a better understanding for the students. This book can be also used if a literature review wants to be conducted.

In our theory framework in chapter 5 we mention that it is important to find different ways of teaching as students tend to have different ways of learning. Therefore, we have added some Youtube-videos in the Moodle material to bring the topics to live and show even rather simple tasks performed on the video as well as some useful material regarding types of airlines for example. List of the used youtube videos are shown in the figure 11 below.

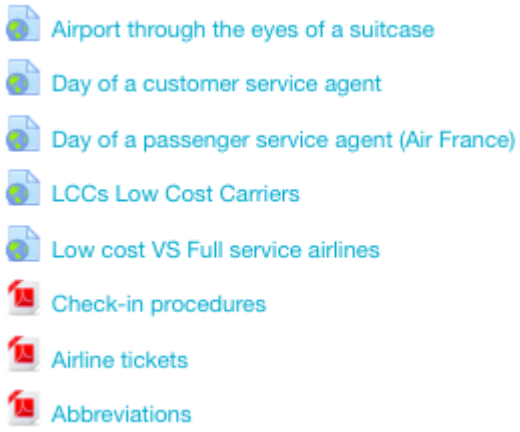


Figure 11. Youtube content on Moodle

As mentioned before, a lot of the material in Moodle is gathered from a ground handling company. These materials represent ground handling and passenger handling specifics which cannot be so easily found elsewhere. We decided to leave out other aviation and ground handling materials as Haaga-Helia has a variety of the basic materials already as they do provide aviation related courses. Our aim was to bring the ground handling and specifically the passenger handling- point of view to the course planning and offer something to Haaga-Helia that they might not know of. If this course will be implemented Haaga-Helia could commission another thesis, that could help built already existing material into this course. A lot of the course material in Moodle is based on the material of one ground handling company, but we created some of our own too. All documents in Moodle have references at the end of the presentations, stating what was used when they were created. As we knew that Haaga-Helia would most likely want to use some of the material for their future studies we did have a negotiation with the ground handling company on whether or not those could be used also if the course is actually implemented. The ground handling company was eager to cooperate, but unfortunately due to the outbreak of Covid-19 negotiations have been put to hold. Anyhow we strongly suggest that Haaga-Helia will contact ground handlers when the possible course is planned more detailed.

Then, we decided to create the sections to Moodle so that they follow the implementation plan (appendix 3) which we earlier created in order to have the content easily understandable and coherent. The section means the blank space between the lines where editor can add resources and activities, example shown in the figure 12 below. We designed the course in Moodle so that each section represents one lesson at a time and there's a short description of that particular day's learning activities. In the figure 12 below, two different sections can be seen: Day 3 which covers topics Altéa and customer service and day 4 with Altéa and special passengers.

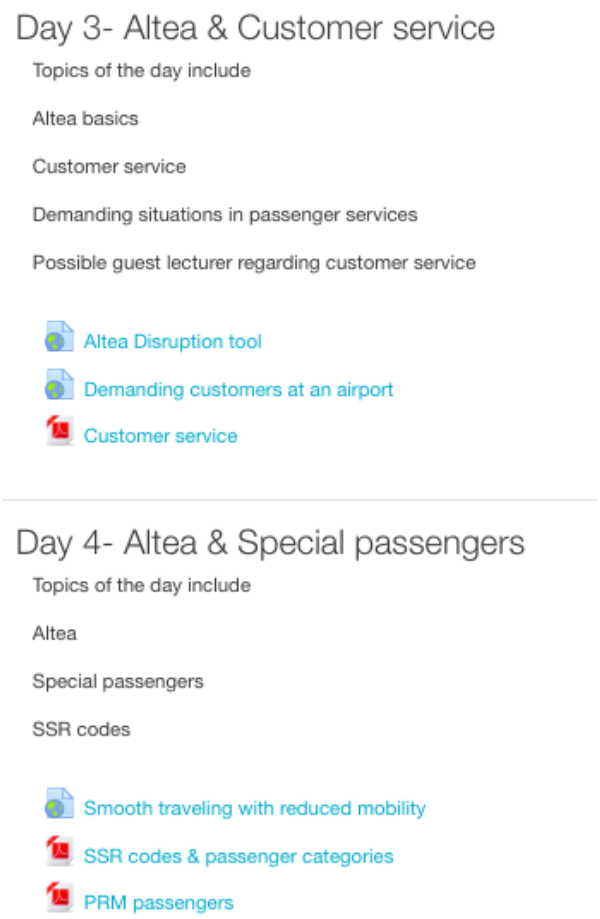


Figure 12. Sectioning daily topics

In addition to these sections shown in figure 12 above, we had the following other sections:

- Day 1: Introduction to Passenger services & Airport operations
- Day 2: Visit to Helsinki airport
- Day 5: Altéa & Travel documents
- Day 6: Altéa & Aviation safety and security
- Day 7: Altéa & DGR,Human Factors and Airside Safety
- Day 8: Final exam and course recap

For the sake of clarity, we decided to have a short list of the day's topics in the beginning of each section, which can be seen for example in figure 13. That way the students also know what will be studied during those days without necessarily having to go through the course timetable. We learned in chapter 5 that teacher can design a course in Moodle for example in chronological or thematic order. We decided to create ours in chronological order. Reason for this was that as the course includes both learning of a new computer system as well as other passenger service basics and concepts, rather strict order in timetable needs to be kept.

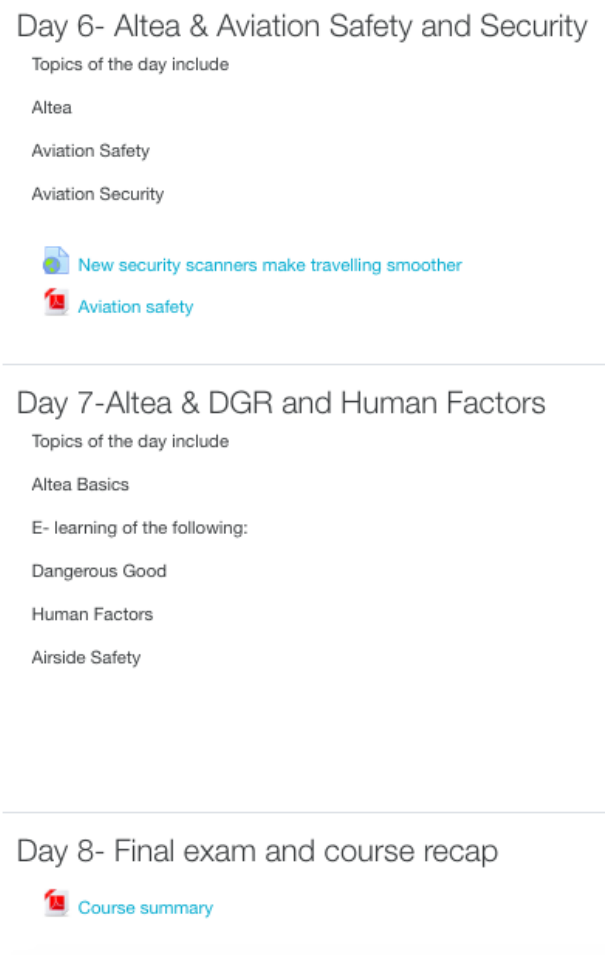


Figure 13. Daily topic listings

Figure 13 also shows that at the end of the course there should be some sort of test to see how well have the students learned the taught material and the system, Altéa. We have also added a summary of the course to go through all the topics learned so that students can have a final insight of the course. The course summary slideshow can be seen as appendix 8.

# 8 Conclusions

In this last part of our thesis we have gathered our most important conclusions. We present the reader our point of view on the future of the industry and how the course planned will benefit the industry. We have gathered some ideas on what the future studies could be like and could Haaga-Helia benefit by commissioning more thesis' evolving around aviation. We have also added our own evaluation regarding our thesis process and what we have learned during the process.

## 8.1 Analyzing interviews and benchmarking results

It was no surprise that prior experience was considered as an asset. All of the interviewees said that they believe that airline specific could only be taught in the workplace and not in universities. Our opinion was the same and we want to create a course that teaches the basics, nothing too detailed. However, we realized that for a new employee or a student to fully understand the airline industry, it is important to teach the different airline concepts as well. It is completely different to work only with charter airlines or low-cost carriers than with for example with traditional airlines that offer full service and tickets that include everything. Then again, this needs to be kept simple if taught on a university course, as the aviation industry changes rapidly so it is very importance to be able to unlearn and not be too caught up on old routines. There is a massive difference if an employee comes from working directly with an airline than a person coming to work in ground handling company from another ground handling company. The one who has worked in an airline might struggle adjusting to new procedures and rules. Then again, a person with ground handling background, has probably worked with a variety of airlines and realizes that there are different ways of working.

Our interviewees were unanimous when we asked if prior experience helps. Then again, we also believe that prior experience can be challenging in situations were for example a traditional airline that used to offer full service with ticketing and provide help for passenger in irregularity situation, changes their concept so that passenger has to contact the airline by phone for example. This can be very tricky to adapt for an agent who has worked in the industry for a long time and is used to give passengers service at the counter in different situations. Then again for someone who is new to the industry it can be rather easy just to adapt the new instructions. We were surprised that this was not mentioned by any of our interviewees.

When speaking of prior experience with our interviewees abbreviations and terminology of aviation was thought to be very important and that is why we believe they should be a big part of our course also. Up until now new employees coming to work in passenger services at Helsinki airport have had no idea about these abbreviations as they have not been taught in schools about them. We think that our interviewees have experienced rather similar situations as we have. The importance of abbreviations is inevitable. You notice this even when you work with more experienced employees, as they use a lot of abbreviations which they have learned over the years. Of course, years of experience give you the knowledge, but shouldn´t it be taught already on an industry related course as they are used on pretty much all the positions throughout the industry so there is a benefit for all.

We were slightly surprised that when we asked the interviewees about competencies and skills wished from the new employees, none of them actually mentioned Altéa skills. However, when we later on asked their opinion regarding if it would be beneficial if universities would teach Altéa they all said it would. We had quite a clear idea ourselves on what the course content would be like but didn´t even think about including customer service training in it. Then again, the fact that all of our interviewees mentioned it made us think about it even more. Now we really understand that as we are planning a course content for industry that is very service oriented, customer service is and should be a crucial part of it. We believe that as we were so focused in Altéa in the beginning we forgot to think about the fact that being a passenger service agent is also not just about knowing the system but a lot more. Then again if one knows the system well, they can focus more on the other duties that they need to carry out in their roles.

We started to think about the reason why the importance of customer service was such a high priority for our interviewees. We started to think about the industry history and how has it changed in the past, at least during our careers in the aviation. For example, back in 2007 when we both started working as check-in agents it was totally different. There was no need to argue about unpaid luggage or check-in fees as it was all included in the fare. Nowadays you need to pay for everything. It doesn’t really matter what type of airline you represent as the whole industry has moved towards concepts where ancillary services play a massive role. Additionally, this has led to the fact that aircraft cabins are completely full of hand luggage and this has created pressure for gate agents as they need to collect hand luggage at gate. A lot of the times passengers are hesitant to give out their luggage, so this sometimes leads to heated conversations and tricky situations. As it is now common that passengers have to do a lot of the key tasks themselves, the role of a passenger service agent has changed a lot. A lot of passengers are hesitant to do these tasks which

creates unhappiness among the customers as they are asked to use self-service functionalities. This means that passenger service agents need to have the right customer service-oriented skills to turns these unhappy situations positive for the passengers.

As stated in our theoretical part and in the interviews, a lot of young people seek for jobs in the aviation industry. This creates a bit of a challenge for employers as younger applicants might not have the right set of skills. This is also one of the reasons why we believe that Haaga-Helia or Universities in general should prepare these young candidates for the challenging work life more.

We believe that the reason these interviewees, and us, think that Altéa will be the primary DCS has a lot to do with the fact that Altéa offers a lot of different tools in one platform. Airlines are cutting down costs in as many ways as they can, and so they need a platform that offers them financial benefit. We were surprised that the disruption tool in Altéa was only agreed to be good addition when we asked about it as we believe it will change the work of a passenger service agent completely. Then again, the answer might be different depending on what kind of airlines the person works with. The usage of disruption tool is highly linked with the skills required from a passenger service agent. There is no longer a high need for an employee who has ticket office, such as Amadeus GDS, skills. An employee who is strongly skilled with using Altéa can in the future do everything that a former ticket office agent did as Altéa gives the tools for them. This is why we believe that if Altéa was taught in schools, future employees would have a better basis and therefore can learn more detailed and complexed skills in shorter time. We think that passenger service courses tend to be rather short, approximately two weeks, and therefore all extra learned either with prior experience or in schools, is a big advantage.

We believe that these answers varied quite a lot due to the fact that these people work in different companies that have different kinds of airlines as their customers. As the customer airlines vary from traditional IATA carriers to low cost and charter airlines, also service and IT concepts change accordingly. Automatization is definitely a trend, that will shape the industry further on even more than it already has. As we can see from these answers, there is really not a “wrong” or “right” answer to what will the future be like as there is as many ways of working as there are airlines in the world. One thing that we found from our interviews was that what they believe the future will be like is shaped on what their experience from the past is. If you have only worked with charter flights and low-cost carriers from the very beginning, you might not see change so dramatically. But if you work with traditional airlines that have in past offered all services at the counter but

have now changed to more self-oriented concept there is huge change that will also affect the future of ground handling. We also considered this when we thought about what should be taught on the course that we plan as it also needs to see far ahead in the future and it needs to be beneficial for all the ground handling companies at Helsinki airport.

Did we fail in our benchmarking attempt? We think we didn't. It is also considered a result to find out that there are not many universities in Europe, nor are there in the whole world to be honest, which offer Altéa courses and teaching in other passenger services related topics. We also tried to check if universities teach Amadeus GDS system but that was very rare too. That's why, we believe that having Amadeus GDS and Amadeus Altéa courses, Haaga-Helia can really differentiate itself to be the forerunner in the field of education providing the teaching in some of the most practical skills needed in the aviation industry. To us as ground handling professionals it is rather shocking that there isn´t much teaching available when it comes to teaching such detailed subjects as passenger services. We started to think about what the reason for that could be. When we both did our bachelor´s degrees in Haaga-Helia in the beginning of the 2010s there was hardly anything offered for someone who is into aviation. Basically, the only option to study aviation related subjects was to study in Bad Honnef for a semester. Nowadays there is a lot more offered also in Haaga-Helia for aviation students, but most of the course offerings are concentrated on more advanced subjects. Maybe the reason for that and also for why it is not so common to teach more basics elsewhere either is that everyone who studies aviation is thought to have some kind of background in the industry.

The courses in Bad Honnef offered to exchange students are also rather scientific and academic, as already stated in our benchmarking results. Definitely, there is a lot of benefit in taking these courses, but we think before learning all the academic topics, students should also understand the basics. One of us has completed exchange studies in Bad Honnef in 2009 and attended for example the ground services course there and earned the aviation certificate. Without prior knowledge in aviation basics many of the courses would have been extremely difficult to accomplish. That is why we believe that the course we are planning would be beneficial also for those Haaga-Helia students who are willing to study in Bad Honnef but have no prior experience in the field of aviation. For example, in Finland many of the students start their studies in universities of applied science right after finishing their high school. Will they have enough experience to jump on a course where the student is being taught about how to manage a ground handling company or take care of staff planning or procurement if they have never learned even the basics. As Bad Honnef offers a bachelor level study with such specific, and to be honest, rather demanding course offering, we think about the ones who want to study aviation but might not

have the working experience as they might, like stated before, be going to university straight from high school.

Still, even though we didn't get a reply from Frankfurt University of Applied Sciences whether they teach passenger services or Altéa there, we were fond of the way they implement their aviation management program. In our opinion, dual study programs operated together with companies from the field will equip students well both with academical and practical skills and competences when students will gain directly work life-related education from the companies from the very beginning. Of course, a lot has been done in Germany also in the national level to make this kind of study model possible and implementing this in Finland would need a lot of research and practical arrangements. Still, we believe that it should be looked into already on a bachelor level.

Already in the introduction, we highlighted the importance of the cooperation between schools and the work life, based on many industry references. In our opinion, the collaboration between PrivatPort and American University in Switzerland is a good example of the relation what there should be, between academia and the industry. We believe that students will be more motivated when they see how the skills learned in school reflect the work life demands and vice versa. We suggest that Haaga-Helia will also make sure they keep correspondence towards the industry active and they search for companionships from the aviation stakeholders to enrich their study programs as well as find new ways to make sure students get to do more industry related internships.

Even though there are a lot of roles in the field of aviation where passenger service experience is not necessary, there are still a lot of roles in which having the background in ground handling gives you great benefit as you have a better understanding on what is going on in the aviation business overall. We believe that as this subject is very specific part of aviation, perhaps also the reason why the course should be offered as a free elective course is because not all aviation professionals will need these skills in the future. However, definitely the ones who desire to work in airport and specifically in any function related to passenger services should attend this course.

We think that the fact that the subject of passenger services in general is not so commonly taught in schools is that in aviation the focus is mainly in teaching how aviation works in general, different airline business models and lots of other theoretical topics. It's important to remember that commercial passenger planes wouldn't fly without customers, and ground handling staff is the first face-to-face contact when customers are greeted and

met by airline representatives. That's why they have a big importance in creating a positive first impression. In addition to that, they also have a big role in passenger safety, at least in how they process passengers and how they make sure no unauthorized people get to go on board for example. It's also a matter of passenger convenience when employees are skilled enough to check that passengers have correct documentation when they travel to their destinations. In worst case, passengers could be deported back with a first available flight in case of missing the sufficient documentation.

While we benchmarked the universities, we figured out that quite many of them are also IATA's strategic partners. We believe Haaga-Helia should also keep on developing their close cooperation with IATA. What comes to collaboration between benchmarked universities and Amadeus, as told earlier, only one of the benchmarked universities had Altéa course. We could only speculate the reasons for that. In our opinion, Amadeus has quite good sales material and info sheets for airlines willing to deploy Altéa. However, there's no information for universities or other educational institutions in their web pages. We think it would be beneficial for both Amadeus and universities if Amadeus had an information page on how to arrange courses in universities.

### 8.2 Facing the challenge of ever-changing aviation industry

We agree that plenty of tasks of people working in the aviation have already been replaced by machines and there's more to come. The role of self-service has been growing significantly during the past years, especially in the passenger services, and working flows have changed remarkably. We think that automation has improved the industry and eased the operations in many ways. Let's think of ADC, automated document check, in Altéa for example. Back in the days, check-in agents were supposed to check passport and visa rules from Timatic system one by one and read long lines of text about entry regulations and specials conditions of each country. Now, ADC functions gives the answer in few seconds whether the passenger is OK to board or not. However, not all airlines have implemented ADC yet, so agents still need to have correct skills.

Automated self-service bagdrops, e-gates and border control checkpoints are very familiar sights in many airports these days. The work which back in the days was done by the trained employees is now more and more taken care of customers themselves, in cooperation with machine intelligence. Earlier, employees performed their duties behind the desks, being professionals in their own field, whereas now their role reminds more of the role of a teacher or a tutor. Today, passenger service agents' role has moved from behind the desk to be performed in front of the desk together with customers, "teaching" them

how to use the self-service appliances and advice how to stick the bag tag correctly. Additionally, ancillary and upgrade sales have lately become very important part of passenger services and agents need to perform active sales while carrying out other duties. Even though, as described above, many of the duties have been automated in the airport and in passenger services, we still believe that the importance of the skills such as Altéa or knowledge in passports and visa will not disappear anywhere in the near future. Even though it's 2020, IT often fails to be 100% reliable and often self-service appliances either gets slow or turn inoperative and that's why it's extremely important that the people working in the field still now how to use the systems designed for aviation professionals.

To understand the basic and more in Altéa or have the knowledge in passports and visa will not only help agents to perform duties in the passenger service unit of a ground handling company or an airline. These skills will definitely be valuable also in the job markets for future aviation IT gurus, consultants and ground handling specialists who maybe never intend to work in customer service duties but who are interested in for example passenger or baggage processing, IT, automatization or border control. This is one of the ways to also see automatization not only, as a threat to our jobs, but to consider it more as an augmentation to our work. In chapter 2, we wrote about the benefits of e-gates and according to Lentoposti article (2015), boarding of A340 with 95% load factor would be nine minutes faster when two e-gates and only one boarding agent would be performing the boarding. (Lentoposti 2015.) However, if we think of today's gate operations with full flights having plenty of passengers traveling with hand luggage only, we are still waiting for those e-gates which could observe and charge for excessive hand luggage too. At least at Helsinki airport we still need to observe it carefully and negotiate with passengers who are unwilling to leave their bags to be checked in. Also, still today there are plenty of travel documents and other supporting material for travel which aren't yet machine readable and valid only with some special conditions. These documents still need to be checked case by case and this might often be very time consuming. On the other hand, luckily the visa-free travel has increased a lot and it's no longer mandatory to check each and every passport for example within Schengen. Then again, we don't yet know what kind of impact Covid-19 has on free travel in the Schengen area for example, and some articles have stated that the outbreak of the virus might cause there to be more health checks at the airports, which would again make passenger service agent´s work more challenging.

Clientele in the airports get more and more diverse as traveling has become a global commodity available for more people. Also, Helsinki airport has become more attractive to different airlines so the number of flights to more exotic destinations have risen. Therefore,

there are a lot more passengers from different backgrounds with more diverse travel documents and thus the knowledge of passports and visas becomes more important. On the other hand, as most airlines operating in Schengen, prior to Covid-19 at least, hardly did any passport checks, agents get less chances to get acquainted with different travels documents. If agents of the future got the passport and visa training already in the school, ground handling companies could then focus more on the airline and destination specific details and thus optimize their trainings.

Our opinion, and as stated in our theory framework in chapter 5, is that universities need to provide course content and learning material that is considered to be creating a significant advantage for the students in their work life. The aim should be to make sure students are more prepared for their work life. Universities of applied sciences should be able to give certain specific skills for students that can be considered as their advantage when they apply for new positions, in addition to providing academic skills. To make sure this happens, universities of applied sciences should have a strong link with the different organizations in the industry. For example, for Haaga-Helia to work together with different ground handlers at Helsinki airport can create great benefit for students when they seek for internships and later full-time employment.

The outbreak of Covid-19 worldwide has shown also how the aviation industry in very vulnerable to dramatic changes and all airlines need to adapt rather quickly to new situations and change their ways of doing according to new regulations. As many countries within Schengen have implemented border checks and raised strict travel bans to other nationalities, airlines have been forced to switch from self-service operations back to desk-oriented services where all passports are being checked at the counters and passengers and bags checked in with traditional style, using departure control systems by agents. This strongly supports our statements and belief that even though many of the functions happen with the help of automation, agents still need to know the very basics well in order to perform their work well in the ever-changing aviation industry. And those future employees who will work in passenger service positions, need to be well prepared also to exceptional situations and need to understand how the system works even if all self-service functions are out of use. That is why schools need also need to teach them. Also, even though the outbreak of Covid-19 will have an impact on the expected growth in passenger figures and the industry in general, we still believe that this course is needed in the future as the companies get back on their feet they are most likely facing even more financial problems, and unfortunately lot of the times financial relief can be found with the cost of loss in training quality.

### 8.3 Future studies and development

The knowledge of Altéa DCS is definitely one of the most significant skills that agents need to have when they work in passenger service unit at Helsinki Airport. However, it's not the only one as passenger services consist of many other duties such as arrival services, operations and of course ticketing still to some extent. Thus, we believe that this course plan can be helpful for Haaga-Helia to see how a passenger service course should be designed and how it could be redefined further to other areas of passenger services.

Some universities overseas offer air transport MSc and we think Haaga-Helia could also start to provide education at least for bachelor's degree students in airport operations, and a passenger service course could be one part of it. In this thesis, the aim was to only concentrate on creating a course plan for passenger services, but also give suggestions on how to develop the studies further. As mentioned before, we also believe the future development to be in the close cooperation between the industry organizations and educational institutes. The Basics of passenger services course could be used for example for students who will do their internships with the ground handling company which Haaga-Helia would choose to cooperate with. That way Haaga-Helia creates great opportunities for their students to get appreciated work life skills and competencies, and the ground handling company would have great benefit as they could then focus on teaching airline specifics more in their own training when basics are already taught in school. Also, cooperation creates great opportunities when the work life basics are learned prior to the start of the internship, then the whole internship time can be used to improve those learned skills and competencies instead of using a lot of it on training. This way the student can also have a great opportunity to improve as well as possibly end up being hired in the organization and this way also fix the lack of talent problem at the ground handling company.

Haaga-Helia could establish an airport operations module to be a part of its' tourism management studies on bachelor level, and passenger service course could be part of it. Haaga-Helia could also commission two or three other masters level thesis in order to create a course plan for other ground handling related courses, such as airline operations, airport planning, scheduling and yield management. Courses should be designed and planned by the people who have the good know-how and knowledge of today's industry gimmicks, trends and weak signals and therefore we believe students working in the industry should be asked to be part of the creation process of these new courses. First, it will be a free service for Haaga-Helia, no need to use expensive consultants, and second of all, students can get an interesting, demanding but very hands-on theme for their thesis and learn lot of theory about pedagogy and course planning.

Our perspective comes from our expertise in ground handling and as stated previously, the reason we wanted to do this plan for the course was for ground handling companies to tackle the problem with lack of talent. So, our belief is that more basic functions and operations of aviation, such as ground handling should be taught. For aviation industry, the fact that Haaga-Helia has developed their aviation programs tremendously, is a great benefit. Haaga-Helia offers a variety of advanced industry related courses. However, universities should keep in mind, that not everyone, especially in the bachelor level, have a background from the industry and therefore it would be important to also make sure those student without the background have the same chances to learn and develop their skills to the expertise and managerial level. That's why we believe that the course we have designed is more than needed in the current educational environment. Then again it is offered as a free elective, as some might already have ground handling background and therefore might want to choose courses that they find more beneficial for them. In this thesis we have gathered only the industry opinions, but maybe Haaga-Helia should also look into how the students feel to get a deeper understanding. Haaga-Helia could perform a survey to figure out if alumni's, who have graduated as bachelor's in aviation or tourism, feel that they gained enough industry-related practical skills and competencies in school to use them in their work life. Of course, the alumni's position in the organization needs to be taken into consideration as we believe it might have an impact on their opinion. Perhaps, those alumni´s who have prior experience already before ,or during their studies, and who end up for example in managerial positions, believe that they gain more benefit than those who start their career in the industry after graduation and start working in the basic level roles of the industry.

Aviation, and even ground handling industry is extremely vast. The number of different roles and consequently need of different skills is massive and people need to learn them somehow. Even though all airlines and ground handling companies have their own company specifics that people need to learn, there are still general skills which are needed in all the companies. Altéa is a system that is used by the biggest airlines in the world and that's why we believe people who know at least the basics of it will be ranked high in the aviation industry, or at least in ground handling, labor markets. Additionally, let's imagine employees in management and expert levels in airline and ground handling industry. They definitely need to understand how the basic operations function.  On the other hand, maybe a new study related to wanted skills in passenger services could be conducted and this time interview aviation from other countries as well to get a better view what the global need is. Perhaps, in other airports for example the role of the Altéa would not be even close to as significant as it is in Helsinki. Research on the departure control systems, their

popularity and factors which impact on selecting the departure control systems is almost non-existent.

Haaga-Helia is IATA's authorized training center. IATA has a wide variety of different courses related to passenger services, from dangerous goods handling, travel document checks, passenger assessment all the way to customer service basics. We suggest that Haaga-Helia could also utilize this collaboration with IATA in developing its' curricula further. This helps Haaga-Helia also in marketing its' aviation related courses both in Finland and overseas as IATA is a well-known and appreciated player in the aviation field worldwide.

### 8.4 Evaluation of the thesis project and own learning

Once our studies progressed, we started to think about our possible thesis ideas. As we both have a big enthusiasm towards aviation, we wanted to come up with something that would also benefit the industry and give future employees new subjects in their curriculums. After going through possible topics also with our employer to see what would benefit the industry organizations, we came up with the idea of an Altéa course. We then started to think about the different ways we could do that. We had a clear mind that this would be beneficial as we had studied in bachelor level ourselves and thought that there were not enough opportunities to study aviation, at least back then. Even nowadays the possibility to learn basics in ground handling was slim to none. That is why we decided to go ahead with our plan, and we think that our results are pretty good.

The process itself went rather well. We had a clear schedule in mind and wanted to be ready during spring 2020. We started to think about the possible ways of gathering information. We came up with different opportunities, but we believed that the interviews from our colleagues in the field and from different organizations would give a clear vision on what the situation was. Interviews went in general well, even though one company was not able to participate. Schedule-vice everything went as planned, of course there is a bit of a struggle when balancing the thesis project with work-life. Actually, the fact that there were two of us writing this thesis didn´t make it difficult at all as we have studied and worked together a lot and know how each of us work and write.

One thing we found rather frustrating was when we were gathering the theory part of this thesis. As we both have a lot of information and knowledge regarding the industry it was quite difficult to look for subjects and theory about what you already know a lot about. Also, as the industry is changing in such a high pace, literature about it expires rather

quickly as the data gets old. That is why a lot of the references in our thesis, regarding aviation and ground handling, are from online articles and publications, which we however consider valid and reliable sources. The majority of the academic publications and research on aviation focus on training of pilots, cabin crew and engineers, so finding academical aviation related literature was very difficult.

As we learned earlier, Arene (2017a) emphasizes the importance of working-life oriented teaching in the universities of applied sciences (Arene 2017a). Additionally, Zaharia and Pietrenau (2018) remind that education institutions and universities must apply new training strategies in order to prepare their students to be skillful next generation aviation employees (Zaharia & Pietrenau 2018, 98.) We wanted to bring our own approach to this challenge and create a very hands-on course for people who are interested in passenger services side of the ground handling services at the airport. We were lucky to get a chance to interview other ground handling professionals and hear about their ideas of this. We learned that interviewing is not at all easy to do and it requires lots of analytical skills and preparations. We figured out that questions need to be very well thought through and designed to make sure that valuable information can be achieved from the answers and on the other hand how to protect anonymity of the interviewees.

Neither of us had previously designed a course. Reviewing literature of teaching, learning and creating a course helped us a lot on our path. To create a content for the course that you already know a lot about is not always easy. When writing the theory framework for the thesis, we learned that we needed to step out from our own professional roles and think of ourselves as teachers, and on the other hand, think of ourselves as students who know nothing about this subject. We had to spend rather much time on thinking how to design course content so that it is first of all consistent and secondly in that sort of order that earlier learned skills and information supports the new themes and topics which were learned in previous sessions can be utilized in the next ones. Also, creating a role profile helped us a lot to think of the necessary themes and topics what should be taught on this course. We had many brainstorming sessions on how the topics and tasks can be learned on a course which we mentioned in the role profile of a passenger service agent.

When we were going further with writing and studying, we also thought about implementing a test group for this course. However, due to lack of time, outbreak of Covid-19 virus and lack of the Altéa license in Haaga-Helia, it was not possible. On the other hand, the similar courses have been arranged for years in the ground handling companies so we believe that Haaga-Helia will definitely manage to create their own very efficient course based on our suggestions.

In our theory framework we learned that companies operating in the frontline of the industry and universities should do close cooperation in order to guarantee that there are also skilled employees available in the future. Even though we are glad we got to talk with many passenger service professionals during this thesis process, it was a pity to see that one of the key providers of passenger services in Helsinki Airport had no interest to participate in our interview. We also think universities and departure control system providers need to have a close relationship as university graduates are often the ones who will be using those systems. And, not only are they the ones using them but also the ones who might be developing them in the future. There is a big potential for a fruitful collaboration. We think that our thesis project will bring the industry and Haaga-Helia again one step closer to a better cooperation and understanding of each sector.

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# Appendices

## Appendix 1. Cover letter for interviewees

Teemme ylempää ammattikorkeakoulututkintoa Haaga-Heliassa englanninkielisessä Aviation business-koulutusohjelmassa ja olemme nyt aloittaneet työstämään meidän opinnäytetyötämme. Opinnäytetyön aiheena on suunnitella 'Basics of passenger services'-teemainen kurssi, toimeksiantajamme on Haaga-Helia AMK.

Ideanamme on luoda kurssi jonka "peruspilarina" on Altéan perustoimintojen hallinta, mutta kurssiin olisi tarkoitus sisällyttää myös muita osa-alueita, kuten passi- ja viisumiasioita sekä kentän toimintaympäristön ymmärrystä yleisesti.

Idea kurssiin lähti oikeastaan siitä, että itse opiskelimme myös alemman AMK-tutkinnon Haaga-Heliassa matkailualalla, päädyimme kentälle töihin, mutta totesimme että koulun kurssitarjonta ei juurikaan tukenut työelämän tarpeita, vaikka kentälle tuli koulustamme paljon virkailijoita töihin. Itsepalvelukonseptien myötä olemme ehkä itse omassa työssämme kokeneet, että perehdyttäminen on jopa hankalampaa kuin aiemmin, kun monet toiminnot toteutetaan matkustajien toimesta itse.

Aikomuksenamme on haastatella muutamia ground handling-puolen ammattilaisia työmme tueksi, kiikarissamme olisi ainakin Airpro, Finnair ja Swissport. Olemme molemmat töissä Aviatorilla, Aku matkustajapalvelun Duty managerina ja Iina Supervisorina, joten luonnollisesti tulemme haastattelemaan myös Aviatoria.

Haastattelussa haluaisimme selvittää esimerkiksi millaisia taitoja yrityksenne toivoisi uusilla työntekijöillä olevan ja miten itsepalvelun kasvu on vaikuttanut perehdyttämiseen. Haluaisimme lisäksi tietää, että jos Haaga-Helia järjestäisi meidän suunnitteleman kurssin tulevaisuudessa, mitä osa-alueita yrityksenne näkisi tärkeiksi kurssilla ja miten hyvänä ja tärkeänä järjestelmänä Yrityksenne kokee Altéan.

Haastattelusta toivomme siis pähkinänkuoressa saavamme ground handling-ammattilaisten mielipiteitä siitä, olisiko kurssi tarpeellinen ja millaisia kompetensseja alan ammattilaiset toivovat uusilla hakijoilla olevan.

Voisimmeko siis haastatella jotain matkustajapalvelupuolen ammattilaista yrityksestänne, vaikka heti ensi vuoden alussa?

Voimme lähettää kysymykset etukäteen luettavaksi mutta mielellämme kuitenkin haastattelisimme kasvotusten.

Terveisin,
Aku Pekkarinen & Iina Vitikainen

**Appendix 2. Interview questions**

1. Which are the main competencies and skills that you wish new employees would have when they start as a passenger service agent in your company? Do you think it's easy to find new employees equipped with such competencies and skills?

2. Do you think that those people who already know the basics in Altéa and passenger service duties in general are easier to get acquaint with their duties in your company?

3. Do you think Altéa will remain as your primary DCS also in the next 5-10 years and what might be the reasons it does / doesn't?

4. Has automatization made it more difficult to orientate new applicants to work as boarding/check-in function more and more with self-service? Are there less chances to practice when customers do many of the chores themselves?

5. Do you think it would be beneficial if schools such as universities of applied sciences would offer basics of Altéa and passenger service in general?

6. How has the work changed in the past 10 years& how do you think it will change in the next 10 years? How might it effect on the skills needed in the future? As an example, you can think of cryptic DCS interfaces versus Altéa today.

7. The course we are planning to design will be based on Altéa. In addition to Altéa basics, what else could be worthwhile to teach on this course in your opinion?

## Appendix 3. Implementation plan

### Implementation plan

Course name: Basics of Passenger Services

Scope: 3 ECTS

Timing: 2nd semester, preferably before internship

Language: English

Curriculum: Bachelor in Aviation Business or in Hospitality Tourism and Experience Management

Course level: Elective Advanced Professional Studies

Course type: Free Elective

### Prerequisite

No prior Aviation related learning required

### Schedule

Day 1 Haaga Campus 8.00-16.00

Day 2 Helsinki Airport 8.00-16.00

Day 3-8 Haaga Campus 8.00-16.00

### Contents

- Basics of Passenger services
- More detailed look into the role of a passenger service agent
- Understanding stakeholders and other relevant areas
    - Visa & Passport
    - DGR
    - Airport security
    - Abbreviations
    - Airport as an environment
- Basics of Altéa

### Learning assignments and competence assessment

The learning methods used on this course are theory learned during contact lessons as well as independent work on students' own time. Students will work mostly individually using Altéa DCS Departure Control System in order to learn how to process passengers in the basic scenarios of an airport check-in.

The course includes a visit to Helsinki Airport to create a more exclusive and detailed look into operations around ground handling. This also helps students to understand why certain tasks are performed in a certain way in Altéa DCS. Students are expected to understand and respect certain restrictions in the ground handling operations and gain a deeper look into Altéa.

The course requires strong interest in Passenger Services and desire to work in the field in the future. As learning Altéa requires practical practise and therefore attendance is mandatory. Grade will be based on commitment, activity and skills learned during the course. Grade will consist of individual assignments (30%) and how well a student will do in the Altéa test held at the end of the course (70%).

Competence level 1-2

- The student can identify main concepts of passenger services and roles of passenger service agent
- The student can somehow understand why certain restrictions affect their work
- With some help, the student can use Altéa DCS

Competence level 3-4

- The student can identify main concepts of passenger services and passenger service agent tasks and understands how they should be utilized in real life.
- The student can understand certain restrictions and can see how it affects the work
- The student can use Altéa DCS on a basic level

Competence level 5

- The student understands passenger services concept and the roles of a passenger service agent to a deeper level and shows good understanding in how it should be utilized in real life
- The student understands restrictions and can solve problems regarding them
- The student can use Altéa DCS on a more detailed level

**Teachers responsible**

To be announced

**Learning materials**

Literature and other materials received in Moodle

## Appendix 4. A role profile

Role title: Passenger service agent

Department: Passenger Services

Purpose of the role: to perform check-in, boarding, ancillary and upgrade sales using airlines' departure control systems, ensure travel document validity and eligibility, help customers with self-service touchpoints, assist customers when irregularities occur.

### Key result areas

- Assist passengers with self-service devices
- Assist passengers with special requirements
- Check passenger travel documents
- Issue boarding passes and baggage tags
- Assist passengers in irregularities
- Comply with airline specific rules, processes and procedures
- Comply with aviation regulations, acknowledge the different authorities and stakeholders and communicate with them
- Operate computers and specified equipment such as air-bridge and bar code readers
- Comply with the company's fair, open and honest reporting culture

### Need to know

- Departure control systems, such as Altéa CM
- Microsoft Office
- Knowledge and confidence to use different mobile devices
- Fluent in local language and English

### Able to

- Adapt to changing situations and priorities without losing sight of the bigger picture
- Adapt to working with different airlines with different concepts simultaneously
- Prioritize tasks with tight timeframes
- Ability to follow processes and procedures and apply flexible approach when required

### Behavioural competencies

- Positive service-minded attitude and excellent social interaction skills
- Show empathy
- Ability to take personal initiative
- Ability to cooperate in a diverse team and make decisions independently, also under great pressure

**Appendix 5. Basics of passenger services - course timetable**

***Basics of Passenger Services 3CTS***

Altéa Basics 26h

Others subjects 26H

HEL airport visit 8H

Private study 20h

**Day 1:**

**08:00-16:00**

Passenger service basics

Abbreviations

Airport operations

Different Airline concepts

**Day 2:**

**08:00-16:00**

Helsinki airport operations (visiting HEL Airport)

**Day 3:**

**08:00-16:00**

Altéa basics

Customer service

Demanding situations in passenger services

Possible guest lecturer regarding customer service

**Day 4:**

**08:00-16:00**

Altéa

Special passengers

SSR codes

**Day 5:**

**08:00-16:00**

Altéa

Travel documents

Timatic

**Day 6:**

**08:00-16**

Altéa

Aviation Safety

Aviation Security

**Day 7:**

**08:00-16:00**

Altéa Basics

E- learning:

Dangerous Good

Human Factors

Airside Safety

**Day 8:**

**08:00-16:00**

Final exam

Recap on course content

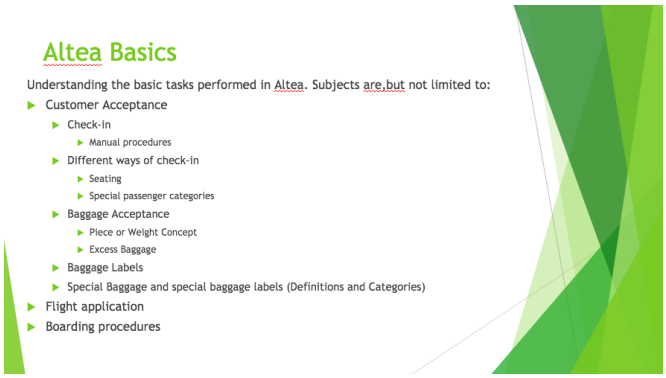
**Appendix 6. Position of the course in curriculum**

# Basics of passenger services (3 ECTS)

- To be a free elective course for students in
  - Degree Programme in Aviation Business, Porvoo, Bachelor of Business Administration (in Finnish tradenomi AMK) AND
  - Degree Programme in Hospitality, Tourism and Experience Management, Helsinki, Bachelor of Hospitality Management (in Finnish Restonomi AMK)
- The course will be suggested to all students interested to work or do their internships in airports, especially in passenger services
  - Will coach especially well those students in Haaga campus who wish to study aviation certificate in the UAS Bad Honned in Germany
    - Basics of aviation industry, also passenger services need to be familiar to student before going to Bad Honnef
  - Will give a practical and rather hands-on insight to those students in Porvoo who wish to work in airports or customer service roles
- The course could also be implemented in cooperation with a ground handling company in Helsinki Airport. Some selected students could carry out their internship in the company after getting most of the qualifications from the course.

## Appendix 7. Course objectives slides



## Abbreviations

Learning and understanding the following but not limited to:

- IATA Codes
- Special Assistance Codes
- Passengers in Wheelchairs
- PRM, MEDA and Medical Devices
- Wheelchair Equipment Codes
- Service Animals
- Seating Assignments

## Customer service (Demanding situations in passenger services)

- Describe policies and procedures and apply appropriate actions with regards to irregularities such as delays, cancellations, denied boarding, overbooking
- Demonstrate good understanding in communication procedures
- Demonstrate good knowledge of the customer service concept
- Dealing with Dissatisfied Passengers
- Customer Profiles
- Customer Rights and Obligations

## Special passengers & SSR (Codes and Passenger Categories)

- Know the different SSR codes and how to act on them
- Describe the needs of a passenger with special needs and identify the different categories
- Explain procedures for handling weapons and special baggage and demonstrate correct use of the procedures

## Travel documents & Timatic

- Travel Documentation and Identification
- To understand the different document types
- To learn different visa rules and visa waiver programs
- To understand that visa rules and restrictions to entering a country are changing constantly
- To know the airlines' and passenger service agents' responsibility

## Aviation safety & security

- Understand different security threats in aviation
- Understand the basic requirements of safety in aviation
- Demonstrate good understanding in document protection and security
- Determine when a passenger become unruly and apply correct actions in order to retain security

## Dangerous Good & Human Factors

- To understand the importance of knowledge regarding dangerous goods and the effect on aviation safety and security
- To understand how to act if a passenger is carrying dangerous goods
- Know the most common dangerous goods

- Understand what human factors are
- How human factors impact aviation
- How can individuals prevent errors caused by human factors

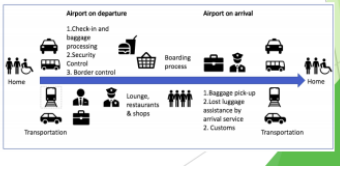
## Airside Safety

- Enhance awareness on the hazardous airside environment
- Have a basic understanding of the importance of individuals contribution to safety on the airside
- Learn to identify and reduce airside risks for personnel, aircraft and property
- Learn how to respond effectively to airside emergencies, accidents and incidents and abnormalities

## Appendix 8. Course summary slides

### Passenger services & airport operations

- Ground handling
  - Passenger services
- Airport stakeholders
  - Airlines & Ground handling companies
  - Air traffic control
  - Apron control
  - Ground Handling companies
  - Airport security
  - Border control and customs
- Passenger journey




### Summary of the course

Basics of Passenger Services

### Altea Basics

- Check-in procedures
  - Special passenger check-in (WCHC/R/S, UMNR, WEAP, AVIH/PETC etc)
    - Add special service
  - Seat changes
  - Document checks from Timatic
  - Add/delete a baggage or add a transfer baggage
  - Manual check-in procedures
- Flight application
  - Change gate
  - Add information to the information screen
  - Flight status update
- Boarding
  - Boarding with a bar code/QR code
  - Barding manually with seat/security number or by name

### Customer service

- Acknowledge different types of passengers
  - Never ignore passengers in wheelchairs even though they might stay in the background if traveling witha group. Go greet the passenger.
  - Explain who will be assisting them next (e.g.PRM assistance proceducres as each airport might have different procedures…)
  - Don't use airport slang nor abbreviations (UM = unaccompanied minor)
  - Deportees and inadmissible passengers to be treated in a same manner in customer service as anyone else
- Delays, cancellations, overbookings, lack of catering, strikes, security threats, lack of staff
  - Have a briefing before going to the counter

## Special passenger categories

- Passenger Types and Special Service
  - INF/CHD/UMNR
  - WCHR/S/C
  - BLND
  - PETC/AVIH
  - DEPA/DEPU/INAD

## Travel documents

- Types of passports
  - Normal passport
  - Emergency/Temporary passport
  - Titre de Voyage/stateless person travel document
  - Alien's passport/ Immigrant passport
  - Travel Document/refugee passport
  - Diplomatic passport
- Types of Visas
  - A sticker in the passport
  - A stamp in the passport
  - Separate document
  - Electronic

## Aviation Safety & Security

- Safety ⟺ Security
- Authorization Areas
  - Airside access
- ID Badge
- Abandoned baggage, suspicious objects and threats
- Unruly passengers
- Baggage Reconciliation & screening

## DGR & Human factors

- Human Factors
  - Know your responsibility
  - Strong reporting culture
- Dangerous Goods
  - The different classes and division
  - Hidden Hazards
  - Definition of Dangerous Goods
    - Limitations
    - Labelling,marking and classification
    - Packing

## Airside Safety

- International airside safety standards
- Induvidual responsibilities
  - FOD
  - The importance of Personal Protective Equipment
  - Reporting