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Improving work efficiency in Traffic Planning

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The purpose of the present thesis was to find out the most important improvement areas in the work of Traffic Planning team, which is part of Resource Management department at Finnair Plc. Finnair is a Finnish commercial airline focusing on the traffic between Europe and Asia. The team members have reported dissatisfaction about the working environment especially during the last two years. The objective of this this study was to identify the main problem areas and find solution(s) to improve the working environment and the efficiency of the whole team.

The study was carried out by using qualitative methodology. The Head of Traffic Planning was interviewed and various figures and tables describing work processes of the Traffic Planning team were studied. Two members of the team were also interviewed in order to find out whether the findings and recommendations were in line with their opinions.

A key finding in the study was that the communication within the team and with the main stakeholders was not a sufficient level. The decision-making process was leaning too heavily on the team leader and the level of empathy and respectfulness required improvements. Honesty and openness were also issues that needed to be improved.

The author recommends improvements in three areas. First of all, the level of trust needs to be increased for all the team members as well as towards the main internal stakeholders. Secondly, empathy and respectfulness should be valued better in the team's everyday work. Additionally, empathy and adding respect to the co-operation with the stakeholders is very important. Finally, honesty and openness inside the team as well as towards the key stakeholders should be paid more attention to.

Keywords	working environment, efficiency, communication, decision, empathy, respectfulness, honesty, openness, trust

Contents

1 Introduction

I have been working for Finnair since 1989 first of all in baggage handling until 1995 and then in Finnair Contact Centre as a Sales Agent and Pricing Specialist between 1995 and 2010. From the beginning of 2011 I have been working as a Scheduler and currently as a Traffic Optimization Analyst in the Traffic Planning team, which is part of Re-source Management department. The list below describes the current organisation structure of Finnair group and the position of Traffic Planning team within it.

1) Airline Business
- Sales and marketing
- Operations
- Resource management (Network Planning and Traffic Planning)
- Cargo

2) Travel Services
- Tour operators
- Travel agencies

The situation in the teams work has become difficult especially during the past two years and it means in practise that the work load of each of the team members has been very high and at the same time the quality of the work has not been sufficient. Detailed evaluation of the team objectives, responsibilities and workflow is presented in chapter five (p.18)

The target of my thesis is to analyse the current problem areas which have negative impacts on the work efficiency and profitability of the Traffic Planning team at Finnair Plc.

The objective of the research and the thesis is to improve the current work efficiency of the Traffic Planning team. First of all I will do the analysis of the teams work efficiency by conducting a SWOT analysis to all of the main responsibility areas of the team. After that I will focus on looking at the weaknesses of each of those areas. That will lead my research into finding best practises for teamwork that are presented in academic literature. The other area of theoretical study is to find economical background for the im-

portance of traffic planning, scheduling, forecasting and optimization for commercial airline.

The next step after finding best practises for effective teamwork is to choose the most important and urgent area of improvement. The results of that study will give me possible solution(s) to present my proposal for the problem area that needs to be solved or at least improved. That improvement will most likely enhance also the other problem areas which have weaknesses at the moment. My study will however focus on improving one area, since it is much easier to achieve tangible results in one area than trying to do the same to several areas at the same time.

The information, tables and figures in chapters 4,5,7 and 8 are gathered from an interview with the Head of Traffic Planning Rikke Christensen in October 2014. My personal knowledge and experience is also included in the above mentioned chapters.

Before starting the research for the thesis my personal feeling and opinion for the problem areas are that the overall communication within the team needs improvements and the same applies also to the communication with the major stakeholders. Other very likely problem concerns the decision making process within the team in various issues.

2 Conceptual framework

2.1 General

The conceptual framework begins with the process description of the whole Thesis including a step-by-step illustration. Chapter 2.3 concentrates on the economical background and importance of scheduling and planning to any commercial airline. Chapters 2.4 and 2.5 provide the theories from two different books that discuss and describe the best practises for an effective team.

2.2 Thesis process description

The first step for the Thesis research is to present the basic information about Finnair Group (ch.3). That includes e.g. the mission and strategy of the company. The next step is to introduce the main responsibilities of the Resource Management depart-ment

(ch.4), of which the Traffic Planning team is a part of. The most important and detailed research concentrates on conducting a current state analysis of the work and responsibilities of the Traffic Planning team (ch.5). That includes a SWOT analysis of the different work areas that the team members are involved in.

After the research for the Traffic Planning teams workflow and SWOT analysis is completed, I will move on to find academic literature that shows the meaning, role and importance of a scheduling team to any commercial airline. Then my research focuses on finding best practises for the team work. After finishing the academic research I will compare my own results from the SWOT analysis to the best practises for the teamwork as well as to the importance of the scheduling team to a commercial airline. Then I will choose the most important and urgent issue to be corrected and give my proposal of how to solve that particular problem. I will link my own proposal to the theories that I have found from the academic literature.

Final part of the thesis is to conclude the results and the improvement proposals to the research target and objective presented in the introduction and conceptual framework. I will evaluate how well I have managed to reach the target and also how realistic the proposal is to the current situation in the Traffic Planning team. It is also important to discuss what the next steps are in the future for the team to develop itself further, after it has succeeded to improve the issues presented in the thesis. Below is an illustration of my thesis process.

Table 1. Step-by-step illustration of the Thesis process.

1) CURRENT STATE ANALYSIS Finnair Group basic information Resource Management introduction Traffic Planning Team ->detailed description of work responsibilities and SWOT analysis
2) IMPORTANCE OF SCHEDULING FOR AIRLINES Matching supply to demand is crucial for commercial airline Forecasting is a must and needs to be executed efficiently Product planning = most important tool in matching demand to the actual supply of services an airline offers in the markets
3) MODEL OF AN EFFECTIVE TEAM Best practises for efficient teamwork from academic literature
4) RESULTS AND CHOICE OF IMPROVEMENT AREA Linking own results to theory Reason for the choice
5) IMPROVEMENT PROPOSAL Practical and realistic solution to solve problem
6) CONCLUSIONS How the results, theory and proposal match to objective Future development suggestion

2.3 Importance of scheduling to an airline

2.3.1 Trends and nature of airline operations

Airline operations have been characterized for the past fifty years by rapid and continuous growth in demand for its services. The highest growth was experienced during the 1950s and 1960s due to the fact that the airline industry was so new. The annual growth rates in passenger traffic in the 1970s was almost 10 percent, which then declined to little over 5 percent growth during the 1990s. Between the years 2000 and 2008 the average annual traffic growth was little below 4 percent. The estimated growth rate for the next 20 year period is said to be about 5 percent annually (Doganis 2010,4).

At the same time the airline industry has been very cyclical and strongly influenced by external factors, which has led to the fact that growth rates have fluctuated heavily from year to year. There is a paradox between the profitability of airline industry compared to many other industries, since the profit margins of most airlines has been under 2 per cent of the revenues, even though the traffic has been growing in at least double figures at the same time (Doganis 2010, 4-5).

2.3.2 Matching supply to demand

Due to the nature of the airline industry mentioned in previous chapter 2.3.1 and also due to the fact that an airline can be profitable either by being a so called low-cost operator or by being a high cost operator, a single airline needs basically to focus on matching its supply to the demand for its services in such a way that is both operationally efficient and financially profitable. Therefore the management of an airline must conduct good planning for its supply of services in order to be able to control them, since the demand is a factor that the management has much less influence on. (Doganis 2010, 6).

The planning for matching supply to the demand for an airline requires extensive forecasting, which is said by Doganis to be the most critical area of airline management. The forecasting focuses on finding the profitable amount of supply to the demand that the airline can achieve. Nearly all strategic and tactical decisions that an airline needs to make is based to forecasts. Situation is difficult for all airlines, because forecasting is the area where mistakes are most frequently made. Reason for that is that there is no absolute truth and certainty in forecasting and none of the methods being used is able to guarantee full accuracy. The most difficult area in forecasting is to predict the changes happening to the external factors (e.g. economic climate, exchange rates and tourism trends), which very often nowadays change quite rapidly and therefore they can be said to be unforeseeable (Doganis 2010, 203-204).

2.3.3 Product planning

Every airline must decide what product and service features it offers in the markets it has decided to operate on. Product planning is vital, because it is the most important tool in the process of matching the demand for its air services with the actual supply of

services it offers in the markets. As mentioned before in the chapter, an airline is able to control its supply of services much more than it is able to influence on the demand. Product planning is a way to make a difference to the amount of potential demand. Another important issue concerning product planning is that these decisions have a direct impact on the overall operating cost level of the company.

The following list shows the key product features, which affects passengers travel decisions and on the choice of airline that they are going to use, as well as on the operating costs of the airlines. Details have been added to schedule based features, since they are the features that are affected by the work of Traffic Planning team at Finnair. (Doganis 2010, 227-228).

1) Price
2) Schedule based
    - Destinations served and routings
    - Frequency
    - Departure and arrival times
    - Connectivity to other destinations
    - Punctuality of operations
3) Comfort based
4) Convenience
5) Image

2.4 Model of an effective team

2.4.1 Definition of an effective team

According to Kohn and O'Connell in their book "Six habits of an effective team" the definition for a highly effective team is a group that has strong complementary skills and who is dedicated to common objectives and performance goals. The group also needs to hold itself highly accountable for the above mentioned issues. Very important addition is, that the group is highly interdependent, and that it sees itself as a one whole social unit which is in contact with itself constantly (Kohn & O'Connell 2007, 43-44).

Short definition for effective team said by Kohn and O'Connell is that the team is effective when it meets and exceeds the need(s) for which it was established. Also if the organization into which the particular team belongs thinks that the team has done it's work well, then the team is effective (Kohn & O'Connell 2007, 48).

2.4.2 Pyramid model

The six habits model for an effective team that is presented by Kohn and O'Connell is based from the focus on performance, efficiency, customer satisfaction and urgency. The model is built on the principle of bringing about tangible results in real teams in real time. The approach in the model is more on the practical side than academic. The focus of the model is on the elements of team effectiveness, not on the recognitions of team malfunctions (Kohn & O'Connell 2007, 68-69). Figure one on the following page presents the six habits of highly effective team model graphically.

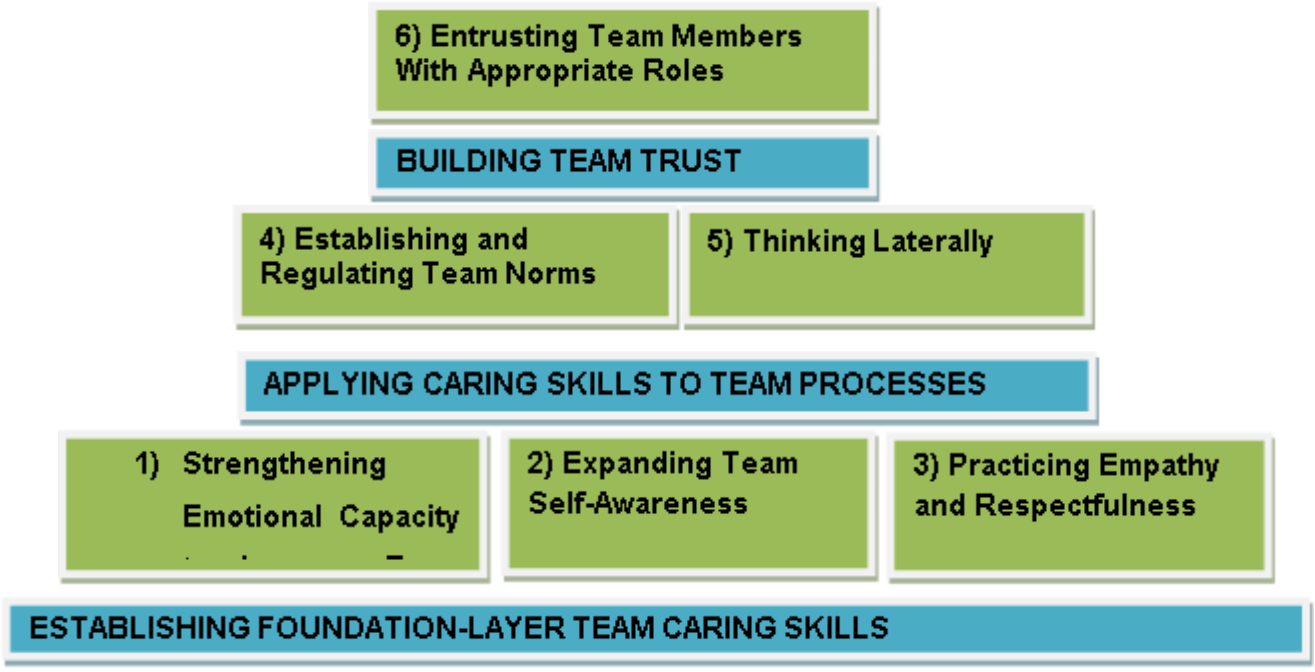


Figure 1 – The six habits of highly effective teams (Kohn & O'Connell 2007, 70)

As explained by Kohn and O'Connell the model has no hard borders between the six habits. The model by the authors is integrated and the parts have many overlaps among themselves. The team of habits creates synergies that can improve effectiveness of the whole group if they are combined with each other (Kohn & O'Connell 2007, 71-72).

The contents and meaning of habits one and three are explained in the next chapters, since they are the issues that I want to concentrate on in improving the work of the Traffic Planning team.

2.4.3 Strengthening emotional capacity to improve team relationships

Good relationship skills are a fundamental driver in any the effectiveness of any team. It is very difficult to reach success unless the relationship skills are in order and constantly being improved and taken care of. Team relationships are interconnected and there are three sets of them that need to be in good shape. First of them is the member's relationships to each other within the team. It includes also the members' relationship to the team leader. Second relationship is the members' and the team leaders' relationship to the team itself. Important in this relationship is to understand and accept the group identity. The third relationship is the teams' relationship to external groups e.g. customers, suppliers and different stakeholders (Kohn & O'Connell 2007, 75-76).

None of the relationships is more important than the other. The teams need to have the ability to know which one of the relationships requires most attention at a particular time. It is vital for any team to build up the capacity to be as smart as possible about the aspects of managing their own and interconnected relationships (Kohn & O'Connell 2007, 77).

Nevertheless all teams have important roles in the customer relationships. The success of an organization is highly dependent on its ability to satisfy well its external and internal customers. In order to achieve the highest levels of client satisfaction, the team needs to have or acquire emotionally intelligent relationship management skills (Kohn & O'Connell 2007, 87-88).

The list below about seven relationship needs (CHEEARS) is created by Kohn and O'Connell and they are imperative for any highly effective team (Kohn & O'Connell 2007, 89-99).

- Competence
- Honesty
- Empathy

- Easy to work with
- Accessibility
- Responsiveness
- Sharing information

2.4.4 Practising empathy and respectfulness

A truly emphatic person as well as a team needs to prioritize its actions on understanding the views and ideas of other people over its own ideas and views. Different team members and groups in an organization need to develop a mutual understanding of themselves to be efficient. Especially a team must be other-oriented and it should focus itself to foster sharing and co-operation, and work coordination. Previous chapter discusses about relationships and empathy is a skill that indicates caring, which upon all relationships are built on. When a person or a team first seeks to understand others it is building up the relationship to more effective level (Kohn & O'Connell 2007,128).

Respectfulness is also a form of empathetic behaviour, which is essential to any relationship building. That is because it can be said to be other-oriented, it seeks to understand others first and it also shows a great deal of caring (Kohn & O'Connell 2007,129).

The authors believe that team members in any organization are able to improve their skills concerning empathy. First of all the team members need to understand the fact that empathy is a key driver in the overall team effectiveness. The next thing that the team needs to do is to create their own behavioural norms keeping in mind the maximization of their team empathy. Important issue in being an empathetic team is to listen empathetically (Kohn & O'Connell 2007,130).

The following methods by Kohn and O'Connell demonstrate empathy in group communication situations (Kohn & O'Connell 2007,144-145).

- Being supportive and attentive
- Rephrasing content
- By reflecting feelings
- Through summarizing, interpreting and synthesizing
- By checking perceptions and making interpretations

- Probing issues and by giving feedback

Respectfulness towards team members, other teams and clients can also be shown with the following ways described by the authors (Kohn & O'Connell 2007,145).

- Being honest
- Fair treatment
- By embracing diversity

2.5 Model of an effective team

2.5.1 Practising empathy and respectfulness

Elaine Biech is presenting ten characteristics of a successful team which is shown below in visual model.

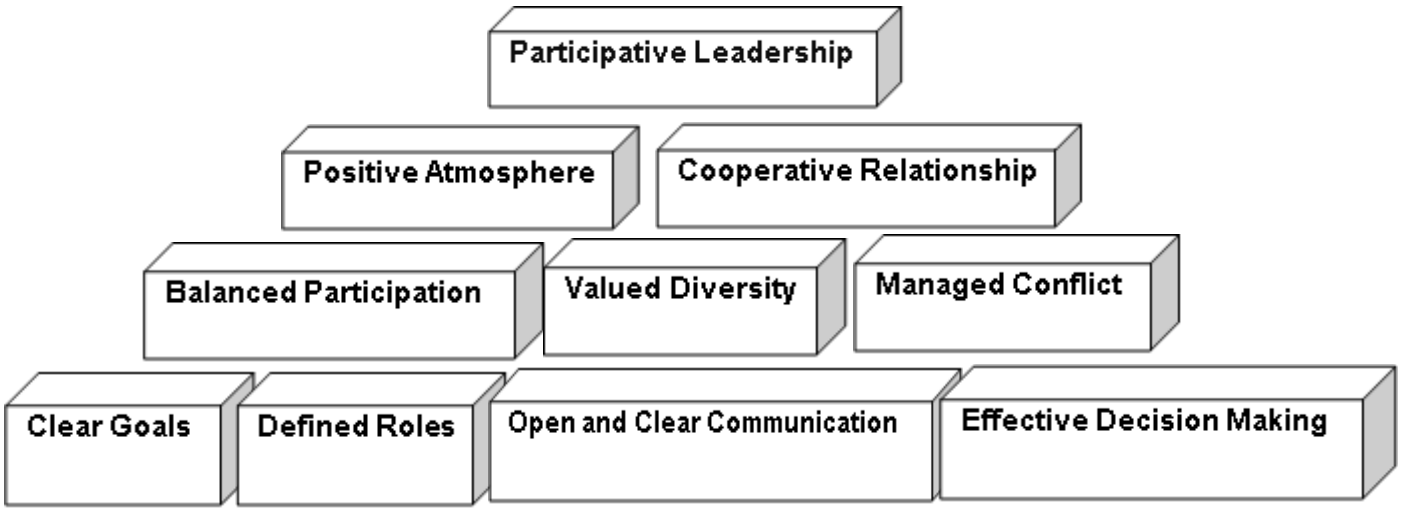


Figure 2 – Ten characteristics of a high performance team (Biech 2008, 13.)

The boxes in the model are placed in the model into a specific spot for a reason. The four boxes (Clear Goals, Defined Roles, Open and Clear Communication, and Effective Decision Making) in the bottom of the model are the foundation layer for all the rest. The bottom layer needs to be strong and in place as early as possible. The three boxes in the second layer are to be defined as soon as the foundation layer is ready and that should happen in the early stages of the formation of the team.

The two characteristics (Positive Atmosphere and Cooperative Relationships) in the third row are not vital for completing tasks, but they surely make working on a team more satisfying and rewarding. The box in the top (Participative Leadership) is said by the author to be the only one that may be removed without causing any disturbance to the other boxes (Biech 2008, 13-14).

In the following chapters I will focus on three of them (Open and Clear Communication, Effective Decision Making and Balanced Participation), since they are in my opinion the most important characteristics that need improvement in the Traffic Planning team.

2.5.2 Open and clear communication

According to Biech this “Open and Clear communication” block is the most important building block in the whole model she is presenting. If a team is able to improve its communication, several other problematic issues will disappear or at least their impact reduces (Biech 2008, 95).

Most of the problems that are happening within any teams work are due to the poor communication or due to the poor communication skills (e.g. not listening properly or not giving constructive feedback). It can be said that the most common problem in any communication situation within teams is the lack of listening skills. Biech is saying that we should allow the new information that we are hearing to form the basis for understanding, instead of letting our current biases and prejudices stop that new information. The benefits of improving the communication with other team members will very likely increase trust, reduce problems and rework and it can build healthier interpersonal relationships (Biech 2008,16).

2.5.3 Effective decision making

Decision making belongs to the basic foundation characteristics in the model that Biech is presenting. In order that the decision making is really effective, the team needs to be aware of and also use several decision making methods. It is important that the team members discuss which method they wish to use in each of the cases they are taking care of. According to Biech a team that is able to choose the correct decision making

method for each particular issue, will first of all save time and will also most likely make better decisions more often (Biech 2008, 17).

The list below describes the seven decision methods that are used by teams:

- Command decisions – team leader or expert decides
- Leader decides with input from individuals
- Leader decides with input from team
- Majority vote
- Minority rule – subject matter expert is requested to make decision
- Unanimous agreement
- Consensus – a decision which is built from the input of each and every team member

As Biech states that when a team leader is building consensus, there is a greater chance to produce a better quality decision, a more cohesive team as well as smoother implementation of the decisions (Biech 2008, 180).

2.5.4 Balanced participation

According to Biech participation within the team is the second most important characteristic, since without the participation the team does not exist rather there are just group of bodies. When the participation is balanced it makes sure that everyone on the team is totally involved. This means that each member of the team contributes his or her views and ideas when it is appropriate. It is very likely that the team will start expe-riencing higher levels of commitment and synergy by involving its members actively to participate in various activities.

Participation is the responsibility of every team member and as the team is moving from the forming stage to more mature stages it is important that each member makes sure that they are active participants within the group activities.

The role of the team leader by Biech is supposed to be more of a coach and mentor instead of being an expert in various situations. Team members will most likely be more participative if the leader admits that he or she does not know everything. The

leaders should reward risk taking, protect minority views and gather input from every member of the team.

The team members should have a volunteer attitude towards taking part in different work tasks and discussions. It is excellent if all members of the team encourage each other to take part in the discussions and in decision making. Very important is that all members of the team ensure that everyone is given the chance to be an active inside the team (Biech 2008, 17-20).

3 Group Finnair

3.1 Finnair in brief

Finnair is the national air carrier of Finland and among one of the longest-operating airlines in the world. Finnair specialises in flights between Asia and Europe. The growth strategy of Finnair is based on the growing Asian markets, fast flight connections and competitiveness among the European competitors.

The business areas of Finnair group are Airline Business and Travel Services (p.15). At the end of June 2014, Finnair employed 4,461 employees. Finnair transported 9,6 million passengers in 2014 and the turnover for that year was nearly 2,3 billion euros.

Finnish government is a major shareholder with a 55.8 per cent holding. Other shareholders include public bodies, financial institutions, private companies and households (Finnair Group, 2014).

3.2 Mission and strategy

The mission of Finnair is:

- To offer smooth connections in the northern hemisphere via Helsinki as well as to offer fastest and best network to the world in the company's home markets.
- To create value for shareholders.

Finnair's strategic objectives are:

- Double Asian revenues by 2020 from the 2010 level

- Grow air traffic via Helsinki
- To be an attractive investment for shareholders

The core of Finnair's strategy is taking advantage of the growing demand for traffic between Europe and Asia. The strategy is based on the growing markets in Asia, the fastest connections between Europe and Asia, high-quality service, and cost-efficient, punctual operations. Helsinki's geographical location provides Finnair with a natural competitive advantage, as the fastest routes between many destinations in Europe and megacities in Asia go through Helsinki. In implementing its strategy, Finnair is committed to creating added value for its customers and shareholders.

In the implementation of strategy Finnair focuses in the following areas:

- Profitable growth
- Cost competitiveness
- Customer experience
- International winning team.

The strategic strenghts of Finnair are:

- Geographical location, quality and capacity of Helsinki airport
- Operational quality and efficiency
- Modern fleet
- Good financing position
- Top class service (Finnair Group, 2014)

3.3 Organisation

The reporting business areas are:

1) Airline business

This business area is responsible for scheduled passenger and charter traffic as well as cargo sales, customer service and service concepts, flight operations and activity connected with the procurement and financing of aircraft. The Airline Business segment comprises the Sales & Marketing, Operations and Resources Management functions as well as the subsidiaries Finnair Cargo Oy, Finnair Cargo Terminal Operations Oy, Finnair Flight Academy Oy and Finnair Aircraft Finance Oy. From the first quarter of 2014 onward, the Airline Business segment also includes aircraft maintenance, Finnair Travel Retail Oy and Finnair's property holdings, office services and the management and maintenance of properties related to the company's operational activities (Finnair, 2014).

2) Travel Services (Tour Operators and Travel Agencies)

This business area consists of the tour operator Aurinkomatkat (Suntours), its operating in Estonia, and the business travel agencies that were merged in December, namely Area, Finland Travel Bureau (FTB) and FTB's subsidiary Estravel, which operates in the Baltic countries, as well as Amadeus Finland, which produces travel sector software and solutions. Aurinkomatkat Suntours serves leisure travellers, offering its customers

package tours, tailored itineraries, flight and hotel packages, flights and cruises, as well as golf, sailing and skiing holidays(Finnair, 2014).

3.4 Fleet

Table below illustrates the Finnair fleet on 30 September 2014. Narrowbody aircraft (a/c) is an airplane equipped with the seats abreast one single aisle. Widebody a/c has twin aisles with the seats abreast the aisles.

Table 2. Finnair fleet operated by Finnair (Finnair, 2014).

	Seats	Number of a/c	Average age/years	Ordered	Additional options
Narrow-body a/c					
A32S					
Airbus A319	138	9	13		
Airbus A320	165	10	12		
Airbus A321	209/196	11	8		
Wide-body a/c					
Airbus A330	297/271/263	8	5		
Airbus A340	270/269	7	12		
Airbus A350	297			11	8
Total		**45**	**10**	**11**	**8**

The fleet that is owned by Finnair, but it is operated by a partner airline on 30 September 2014, is in table three on the following page.

Table 3. Finnair fleet operated by other airlines (Finnair, 2014)

	Seats	Number of a/c	Average age/years	Ordered	Additional options
ATR 72	68-72	12	5		
EMB					
Embraer 170	76	5	8		
Embraer 190	100	8	6		
Total		**25**	**6**		

The ATR and EMB fleet are operated by Flybe Finland Oy, which is a subsidiary of Flybe (UK) and Finnair.

3.5 Destinations

Finnair flies to over 70 destinations in Finland, Europa, Asia and North-America. Finnair's network is further enhanced by code-share routes based on **one**world alliance co-operation and bilateral agreements. Finnair flies leisure flights to approximately 60 destinations depending on the tour operators programs and seasons (Finnair, 2014).

4 Resource Management

4.1 Objectives and responsibilities

The objective of the Resource Management (RM) department is to plan and optimise Finnair's route network, which is operated by Finnair and its partners. Other important objective is to maximize the profit of the network in the long, medium and short term. Long term refers to the time period from three years until 18 months before flights. Medium term means the period between 18 until 12 months before flights and short term is the period from 12 months until one week before flights.

The information and figure in this chapter are the result from an interview with the Head of Traffic Planning Rikke Munk Christensen in October 2014.

RM is responsible for the following issues listed on the next page:

- Fleet planning
- Partner planning
- Network strategy

- Opening and closing of route(s)
- Network profitability
- Traffic and schedule planning
- Slot management (refer to chapter 7 Slot coordination)
- Purchased traffic (operated by partner airlines) management

4.2 Key performance indicators and organisation

The primary key performance indicators (KPI) are:

- CASK (operating costs divided by available seat kilometres)
- RASK (total revenue divided by available seat kilometres)
- ASK (available seat kilometres equals to the number of seats available that are multiplied by the number of kilometres flown)
- Aircraft utilization in block hours per day (block hour refers to the actual flight time including the taxiing time at the airport before take-off and landing)

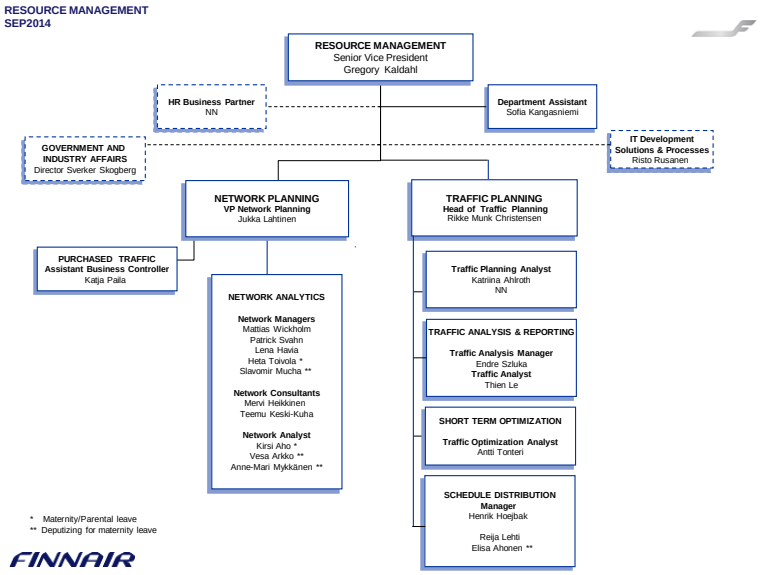


Figure 3 – RM organisation

Figure three above shows the current organisation of RM department. The department is divided to Network planning and Traffic planning teams.

5 Traffic Planning

5.1 Objectives, responsibilities and primary KPI's

The information and figures in this chapter are the result from an interview with the Head of Traffic Planning Rikke Munk Christensen in October 2014.

The objective of Traffic Planning (TP) team is to plan and schedule the production of Finnair by using Finnair's own and partner aircraft in medium and short term periods. Profitability is the key driver in all planning and operative actions that TP does.

The responsibilities of TP are the following issues:

- Traffic and Schedule planning (ch.7, p.29)
- Seasonality (ch.7, p.30)
- Slot management (ch.6, p.25)
- Co-operation with RMP, maintenance, crew planning and operations
- Schedule Distribution (transfer of scheduling data into sales systems and other relevant in-house systems)

The primary KPI's of Traffic planning team are:

- Aircraft utilization (p.17)
- CASK (p.17)

5.2 Organisation and workflow

5.2.1 Organisation

Traffic planning team is divided into four sub-teams:

1) Traffic Planning – two employees who create and update summer and winter seasons schedules and are responsible for the slot management for each of the seasons.

2) Traffic Analysis & Reporting – two employees who are responsible for the analysis and reporting of the past and future schedules and also for the different seasonality analysis and the adjustments that is required because of them.
3) Short term optimization – one employee who is responsible for the optimization of traffic between two months and one week before the flights. The creation and analysis of data for the monthly Demand and Supply meeting (DSM) is responsibility of this employee. Chapter 7.1.4 (p.30) has more information on the topic.
4) Schedule Distribution – manager and two employees is responsible for the publication of Finnair schedules to Finnair operative systems and to worldwide reservation systems. Additionally the team enriches the Finnair flights with essential information e.g. booking classes, meal codes, traffic restrictions, code share flight numbers and several other required data elements.

5.2.2 Workflow

The work of Traffic planning can be divided into three parts and that is described in figure four below and each of the sections are explained in the following chapters.

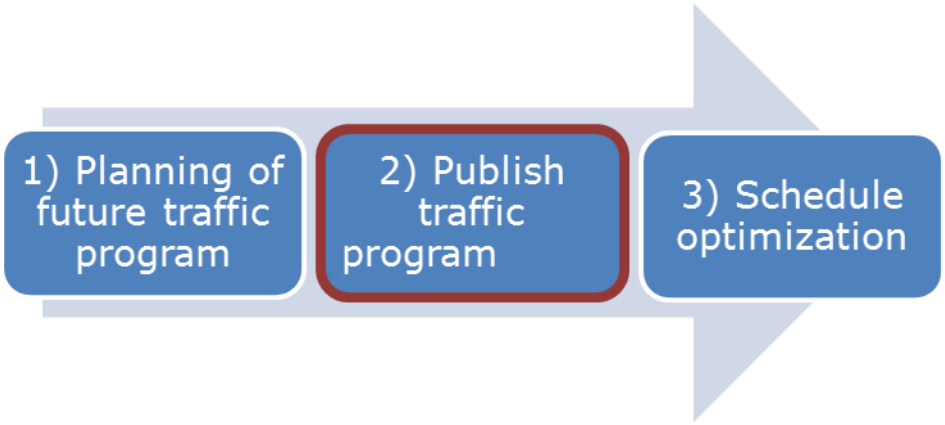
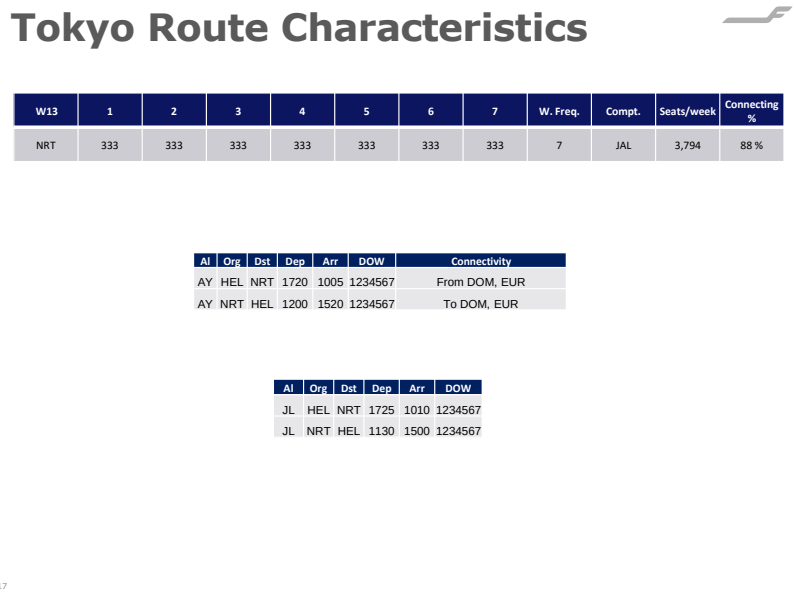


Figure 4 – RM organisation

1) Planning future traffic programs – Timetables for IATA airlines are divided to two seasons which are summer and winter. For example the current season now is winter which starts in the end of October and ends in the end of March 2015. The summer season for next year then ends in the end of October 2015. Both seasons include timetable for scheduled routes as well as for charter flights.

First of all scheduled routes are analysed individually by creating a so called “Schedule package”. Below is an example of Tokyo for this ongoing Winter 2014-15 season. The three figures shown below have the results of the analysis, which is done for all of the routes in similar way. This planning starts 18 months before the season begins.



Tokyo Route Characteristics

W13	1	2	3	4	5	6	7	W. Freq.	Compt.	Seats/week	Connecting %
NRT	333	333	333	333	333	333	333	7	JAL	3,794	88 %

Al	Org	Dst	Dep	Arr	DOW	Connectivity
AY	HEL	NRT	1720	1005	1234567	From DOM, EUR
AY	NRT	HEL	1200	1520	1234567	To DOM, EUR

Al	Org	Dst	Dep	Arr	DOW
JL	HEL	NRT	1725	1010	1234567
JL	NRT	HEL	1130	1500	1234567

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Figure 5 – Schedule Package part 1 for Winter 2014-15

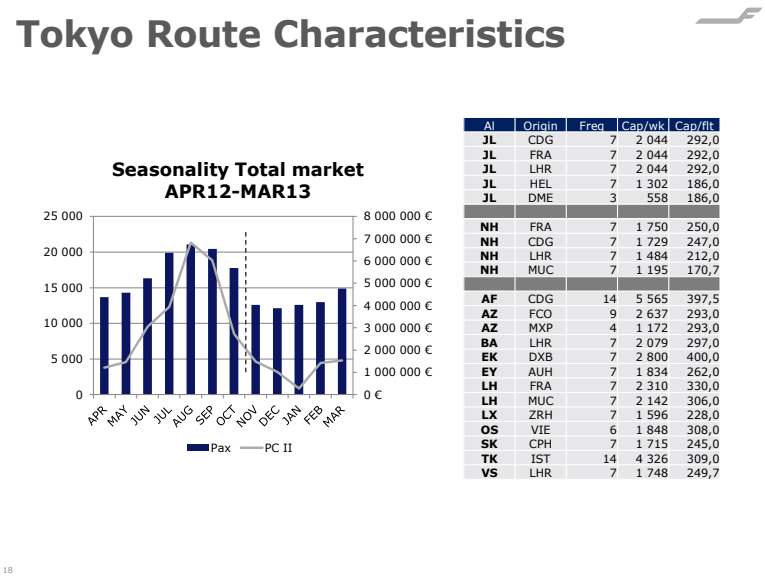
Figure five above describes the following issues:

- Operations day-by-day
- Amount of flights/week
- Competitor(s) on the same route
- Amount of seats available/week
- Amount of connecting passengers from total amount
- Own schedule
- Connections to/from different routes/areas
- Competitors schedule

The definitions in the table are:

- NRT = Narita Airport Tokyo
- W.Freq =weekly frequency
- W13= winter season 2013-14

- Compt. = competitor on the same route
- Connecting % = percentage of connecting passengers from the total passenger amount
- 333 = a/c type Airbus A330
- HEL= Helsinki airport; Dep = departure time; Arr= arrival time; DOW= day of week; DOM= domestic flight; EUR=european flight
- AY= Finnair
- JL = Japan Air Lines



Al	Origin	Freq	Cap/wk	Cap/flt
JL	CDG	7	2 044	292,0
JL	FRA	7	2 044	292,0
JL	LHR	7	2 044	292,0
JL	HEL	7	1 302	186,0
JL	DME	3	558	186,0
NH	FRA	7	1 750	250,0
NH	CDG	7	1 729	247,0
NH	LHR	7	1 484	212,0
NH	MUC	7	1 195	170,7
AF	CDG	14	5 565	397,5
AZ	FCO	9	2 637	293,0
AZ	MXP	4	1 172	293,0
BA	LHR	7	2 079	297,0
EK	DXB	7	2 800	400,0
EY	AUH	7	1 834	262,0
LH	FRA	7	2 310	330,0
LH	MUC	7	2 142	306,0
LX	ZRH	7	1 596	228,0
OS	VIE	6	1 848	308,0
SK	CPH	7	1 715	245,0
TK	IST	14	4 326	309,0
VS	LHR	7	1 748	249,7

Figure 6– Schedule package part 2 Winter 2014-15

Figure six above describes the following issues:

- Total passenger amount/month
- Profitability/month
- Competitors flights to TYO/week from European destinations
- Competitors capacity/week to TYO
- Competitors capacity/flight to TYO

The definitions in figure six are:

- PC II = Profit contribution II (ticket, traffic and other revenue - direct operating & direct fixed route costs)
- Pax = passenger amount
- Al = IATA airline code

- Origin = departure to/from Tokyo
- Freq= weekly flights
- Cap/wk= amount of seats/week
- Cap/flt= amount of seats/flight

TYO Profitability

		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	FLIGHT WEEKDAYS LOCAL
AY73	PLF% W12	70,5%	73,1%	82,7%	75,4%	87,1%	90,3%	82,6%	80,5%
17:20	Pax Yield with YR W12	€ 516	€ 486	€ 496	€ 537	€ 544	€ 610	€ 527	€ 534
10:05	Seats W12	5 412	5 396	5 683	5 954	5 946	5 962	5 944	40 297
	Pax Segments W12	3 818	3 942	4 699	4 492	5 181	5 383	4 911	32 426
	% Transit	86,89%	89,26%	89,32%	84,89%	86,25%	87,65%	88,04%	87,47%
	PC I W12	€ 28 716	€ 28 801	€ 40 979	€ 39 938	€ 55 272	€ 78 304	€ 44 692	€ 45 714
	PC II W12	€ 718	€ 344	€ 12 459	€ 11 194	€ 26 277	€ 48 527	€ 13 426	€ 16 579

		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	FLIGHT WEEKDAYS LOCAL
AY74	PLF% W12	76,7%	68,9%	62,9%	83,8%	77,5%	88,6%	86,0%	78,1%
12:00	Pax Yield with YR W12	€ 528	€ 498	€ 503	€ 502	€ 577	€ 565	€ 582	€ 540
15:20	Seats W12	5 675	5 412	5 396	5 954	5 954	5 946	5 962	40 299
	Pax Segments W12	4 351	3 731	3 396	4 991	4 615	5 271	5 129	31 484
	% Transit	86,64%	90,40%	89,18%	89,40%	90,57%	90,17%	88,62%	89,30%
	PC I W12	€ 36 216	€ 20 175	€ 15 796	€ 40 663	€ 49 071	€ 61 260	€ 59 597	€ 41 027
	PC II W12	€ 7 429	€ -8 716	€ -12 418	€ 12 138	€ 20 233	€ 32 575	€ 27 986	€ 11 932

Before	Revenue	After	Revenue
HEL-MAD v.v.	384 795	HEL-BCN v.v.	352 465
HEL-BCN v.v.	290 317	HEL-MIL v.v.	262 457
HEL-ROM v.v.	286 051	HEL-MAD v.v.	248 209
HEL-PAR v.v.	279 193	HEL-ROM v.v.	201 559
HEL-MIL v.v.	208 021	HEL-TYO v.v.	193 915
HEL-TYO v.v.	200 157	HEL-IVL v.v.	193 407
HEL-STO v.v.	144 128	HEL-PAR v.v.	164 292
HEL-RVN v.v.	136 497	HEL-BRU v.v.	137 411
HEL-BRU v.v.	115 746	HEL-RVN v.v.	134 099
HEL-IVL v.v.	95 044	HEL-STO v.v.	120 834

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Figure 7– Schedule package part 3 Winter 2014-15

Figure seven above describes the following issues:

- Passenger load factor (PLF) for HEL-TYO-HEL flights on each weekday
- The yield/passenger/day in Euros
- The amount of seats offered for each weekday/flight sector for Winter 2012 season
- The passenger amount for each sector/week day for the Winter 2012 season
- The percentage of transfer passengers/sector/day
- Profitability (PCI): total revenue - direct operating costs
- Profitability (PCII): total revenue – (direct operating cost + direct fixed route costs)
- Ten most profitable connecting routes to/from Europe or to/from domestic flight

According to this analysis Revenue Management and Pricing (RMP) department will get a proposal for the schedule of each scheduled route for the following unpublished season. RMP will then do its own analysis and the results of that are analyzed together in a working group to make final decision for the schedule.

At the same time the planning for the charter flight program begins also. First step is the demand for the charters that is provided by tour operators. The most important tour operator is Suntours (Aurinkomatkat), which is a subsidiary of Finnair. The next step is that RM evaluates the estimated profitability for each destination requested and selects and allocates capacity for each charter destination. That proposal is presented then to tour operators and after dialog with them is completed the, proposed plan is updated and ready to be published.

2) Publish traffic program – Before the schedule is finally published for sale, at the latest one year before the flights, the a/c allocation to different routes is done by using so called “LEGO-model”. Figure eight below describes a possible use of one a/c type for one calendar week.

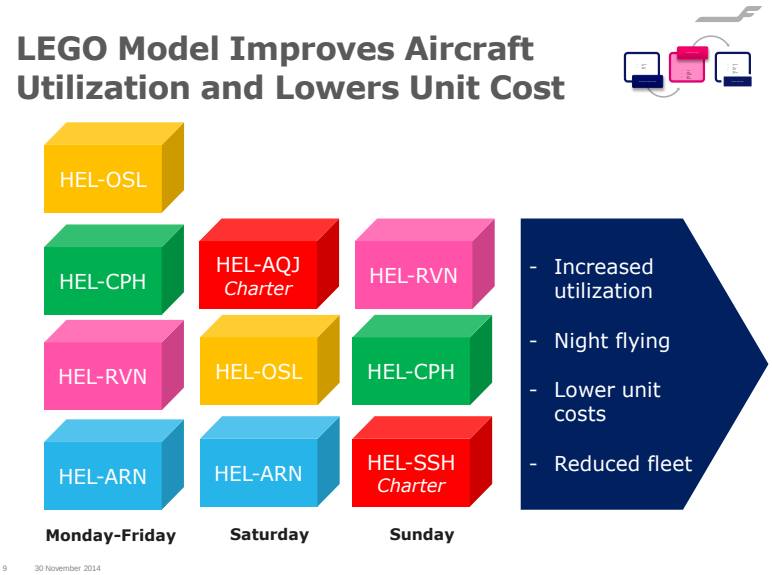

Figure 8– Lego model for a/c utilization

Before the a/c utilization can be finalized the historical slots and possible new requested slots for current and new destinations are confirmed and their impact is taken into account. It is very likely that a slot for a new destination is not exactly what Finnair

would like to have and times for one or more destinations need to be changed also. Slot coordination and management is dealt in more detail in chapter six.

1) Schedule optimization – This period begins after the schedule is published for sale and it includes the following main issues:

- Seasonality of holiday periods, which means adding or reducing flights to certain destinations during specific time period and it usually also includes capacity changes at the same time. Seasonality is explained in chapter 7.1.2 (p.30) in more detail.
- New flights for ad hoc groups (e.g. Ice Hockey World Championships in Prague May 2015) to existing and/or to new destinations. This issue will be discussed in chapter eight (p.34) more thoroughly.
- Short term optimization is done for flights within Europe operated by narrow body a/c from two months until one week before the flights. Chapter eight (p.34) will discuss this issue in more detail.

5.3 SWOT analysis of responsibilities, organisation and workflow

5.3.1 Strengths

- Compact size team, which enables efficient working in open office environment
- Strong knowledge and practical experience in scheduling issues and tools, slot coordination and analysis activities
- All employees have sufficient basic education and fluency in English
- Employees have good team working and individual working capabilities

5.3.2 Weaknesses

- Amount of employees compared to total workload is too small; one person shortage
- Difficulty to fulfil deadlines of various work assignments
- Quality of the completed assignments and projects is not good enough
- Reliability of scheduling tool
- Co-operation with the scheduling tool supplier is not at sufficient level

- Too many issues require supervisors opinion and/or decision => assignments and projects take too long to be completed
- Back up persons for regular assignments are not planned and trained well in advance
- Supervisors experience in leadership issues too “thin”

5.3.3 Opportunities

- Even small improvements in teams work will enhance efficiency of the team and therefore the whole company´s efficiency
- New employee starting in early January 2015 can reduce workload for others and improve overall work quality for the team

5.3.4 Threats

- If problems are not corrected, quality of teams work declines further
- Big workload and level of pressure can create sick leaves and/or employees moving on to other businesses
- The quality of work of other departments is being jeopardized
- Profitability will not improve, at least not enough

6 Slot coordination

6.1 Definitions of slot

The aviation industry knows two different types of slots, which are not related to each other:

- The Air Traffic Control (ATC) slot is needed by each ATC regulated departing flight on the actual day of operation to avoid congested airways. This slot is only valid for this specific flight and for a specific departure time window of 15 min. In Europe the ATC slot is centrally coordinated and allocated by EuroControl in Brussels.
- The airport slot is mandatory at coordinated airports for each movement (arrival and departure) and is valid for a specific time at a specific weekday and for a specific period applied for. The airport slot is used to plan the runway and terminal capacity and/or oth-

er capacity constraints for a whole season to minimize airport congestion and potential delays. (Slot Coordination Switzerland)

The airport slots makes the frame for the planning process and therefore the ATC slot issues are left out from this study. Below is the definition of airport slot from IATA Worldwide Slot Guidelines manual.

- An airport slot (or 'slot') is a permission given by a coordinator for a planned operation to use the full range of airport infrastructure necessary to arrive or depart at a Level 3 airport on a specific date and time. (WSG, 16)

6.2 Airport coordination, objective and stakeholders

- Airport coordination is a means of managing airport capacity through the application of a set of rules contained in the Worldwide Slot Guidelines (WSG). Coordination involves the allocation of constrained or limited airport capacity to airlines and other aircraft operators to ensure a viable airport and air transport operation. Coordination is also a process to maximize the efficient use of airport infrastructure.
- The prime objective of airport coordination is to ensure the most efficient use of airport infrastructure in order to maximize benefits to the greatest number of airport users.
- Airlines and other aircraft operators using or planning to use the airport
- The airport managing body that administers and manages the airport facilities
- The air traffic control authorities responsible for the airport and airspace
- The coordinator or facilitator responsible for coordination at the airport
- The government authorities responsible for the airport (WSG, 15)

6.3 Conditions for airport coordination

For the purposes of airport coordination, airports are categorized by the responsible authorities according to the following levels of congestion:

Level 1: airports where the capacity of the airport infrastructure is generally adequate to meet the demands of airport users at all times.

Level 2: airports where there is potential for congestion during some periods of the day, week, or season which can be resolved by schedule adjustments mutually agreed between the airlines and facilitator. A facilitator is appointed to facilitate the planned operations of airlines using or planning to use the airport.

All airlines operating or planning to operate flights at a Level 2 airport must provide and update details of their planned operations to the facilitator.

Level 3: airports where capacity providers have not developed sufficient infrastructure, or where governments have imposed conditions that make it impossible to meet demand. A coordinator is appointed to allocate slots to airlines and other aircraft operators using or planning to use the airport as a means of managing the declared capacity. All airlines operating or planning to operate at a Level 3 airport must be allocated a slot by the coordinator before operating at that airport (WSG, 15-16).

6.4 Key principles of slot allocation

a) Slots are only allocated for planning purposes by a duly appointed coordinator at a Level 3 airport.
b) Slots are only allocated to airlines and other aircraft operators.
c) An airline or other aircraft operator must have a slot allocated to it before operating at a Level 3 airport. Certain types of flight (for example, humanitarian or state flights) may be exempt or subject to special local procedures.
d) Airlines and other aircraft operators must not intentionally operate services at a significantly different time or use slots in a significantly different way than allocated by the coordinator
e) A series of slots is at least 5 slots requested for the same time on the same day-of-the-week, distributed regularly in the same season, and allocated in that way or, if that is not possible, allocated at approximately the same time.
f) An airline is entitled to retain a series of slots on the basis of historic precedence.
g) Historic precedence applies to a series of slots that was operated at least 80% of the time during the period allocated in the previous equivalent season.
h) Historic slots may not be withdrawn from an airline to accommodate new entrants or any other category of aircraft operator. Confiscation of slots for any reason other than proven intentional slot misuse is not permitted.
i) Slots may be freely transferred or exchanged between airlines, or used as part of a shared operation, subject to the provisions of these guidelines and applicable regulations.
j) Coordinators must be functionally and financially independent of any single interested party and act in a neutral, transparent and non-discriminatory way.
k) The allocation of slots is independent from the assignment of traffic rights under bilateral air service agreements.
i)Slot times are based on the planned on-block (arrival) and off-block (departure) times. Actual times of arrival and departure may vary due to operational factors.
m) All activities involving slots, including the determination of historic slots, are in UTC, unless otherwise agreed (WSG, 15-17).

6.5 IATA Slot Conferences

The IATA Slot Conference (SC) is the forum for the coordination of planned operations at Level 2 and Level 3 airports, held twice each year for the summer and winter seasons. The June SC addresses the following winter season and the November SC addresses the following summer season.
The IATA SC is convened solely for the purpose of allocating and managing slots at Level 3 airports and discussing schedule adjustments at Level 2 airports. Discussions about pooling of flights, pricing, market entry or any other competitively-sensitive activities beyond the scope of the SC are not permitted (WSG, 19).

6.6 General information

The IATA Standard Schedules Information Manual (SSIM) contains the industry standards for the exchange of airport coordination information using standard message formats. The preferred method of data exchange is email, but the same message formats can be exchanged by telex or other agreed means (WSG, 20).

Traffic planning team is responsible for the slot management at Finnair. The responsibility covers the period from one week before each flight onwards to the original slot

application. Slots are allocated twice a year for the summer and winter seasons. The process itself is a continuous process, but the application of slots for each season starts approximately six months before the season begins. The slot management is a fundamental area in scheduling and traffic planning activities, which needs to be taken care with extra attention and preciseness.

6.7 SWOT of slot coordination

6.7.1 Strengths

- Two experienced slot coordination experts
- Slot portfolio is being managed with a professional attitude aiming for the best profitability
- Finnair very rarely loses historical slots or even come close to losing them

6.7.2 Weaknesses

- Too many “major” changes done to schedule in the operative period after IATA slot confirmation deadline
- At least one extra person should be trained to most critical slot coordination issues and practicalities
- No user manual for slot coordination procedures and actions

6.7.3 Opportunities and Threats

- Possibility to do in-house training in slot coordination while doing daily activities without delays
- If one expert is “lost” the workload for one can be too much to handle for the team as a whole
- Mistakes in slot management can affect profitability of any airline very seriously

7 Traffic and schedule planning

7.1 General process for traffic planning between RM and RMP

The information and figures in this chapter are the result from an interview with the Head of Traffic Planning Rikke Munk Christensen in October 2014.

Figure nine below describes the main common traffic planning process stages that exist between RM and RMP as well as the individual responsibility areas.

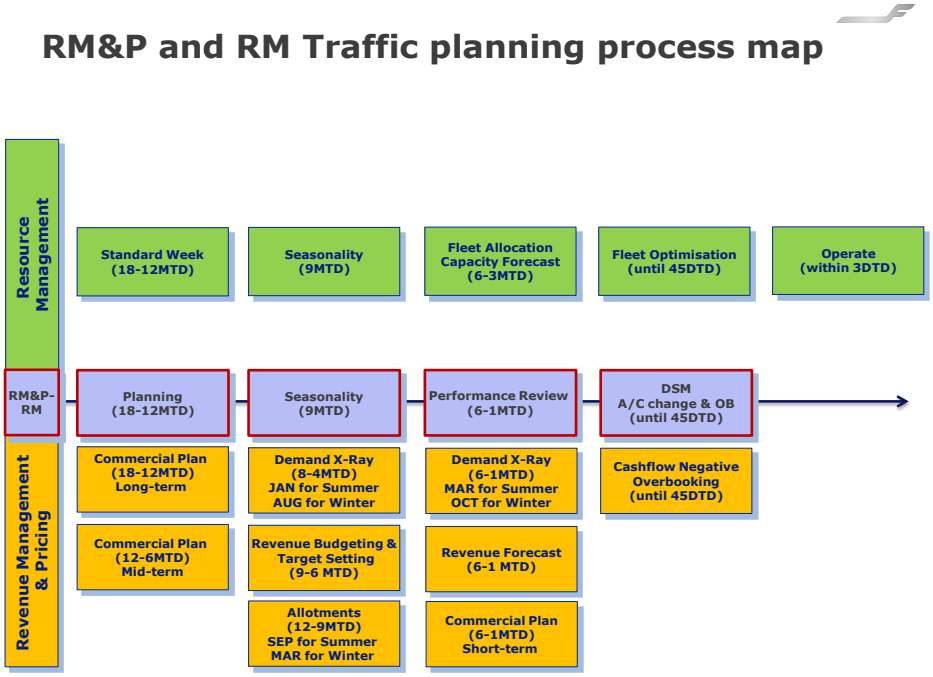

Figure 9– Process map of traffic planning between RM and RMP

The following sub chapters explain them briefly.

7.1.1 Planning

Planning stage means the creation of standard week for the next unpublished IATA season. There are two IATA scheduling/traffic seasons, which are summer and winter seasons. Summer season nowadays always starts on the last Sunday in March and it ends on the last Sunday in October. The planning is based on the results from previous season and on the forecast for the upcoming season. The analysis and suggestions that is put forward to RMP is the responsibility of RM.

RMP will in their part create long- and mid-term commercial plans, which contributes significantly to the creation of standard week for the next season.

7.1.2 Seasonality

Seasonality adjustments (p.34-37) for the next IATA season begin about nine months before the flight operations. The responsibility of RM in this process stage is data collection and analysis following a suggestion of actions to RMP.

The sub processes in RMP are to prepare the demand evaluations for summer season in January and for winter season in August. Secondly RMP will do the revenue budget and target setting for the period from nine months until six months before the flights and thirdly they will set the allotments (amount of seats given out for sale) to tour operators and travel agents in September for the upcoming summer season and in March for the winter season.

7.1.3 Performance Review

RM will check the fleet allocation according to the capacity forecast, which is influenced by maintenance and crew planning requirements and wishes.

RMP will evaluate the demand for summer season in March and for winter season in October. Revenue is forecast is added and short term commercial plan is included to the review.

7.1.4 Demand and supply meeting

Chapter 8.5.1 will explain the happenings of demand and supply meeting (DSM) in more detail, but the role of RMP is to point out the negative cash flow flights for the following month to RM and the other part of this process for RMP is to point out the overbooked flights in order to find suitable capacity.

RM prepares then PLF (passenger load factor) and PC1 (total revenue – direct operating costs), transfer passenger calculations and slot restrictions for the ongoing season

for the final decision to be made. RM will do the implementations to the traffic schedule and inform the changes to the major internal stakeholders.

7.1.5 Freeze period

Within a couple of days after the DSM meeting is held and the changes done to traffic programme, begins the “freeze” period due to crew rosters are being published for the next calendar month. Further changes to traffic programme are done only due to un-foreseen demand and maintenance changes.

This period in RM and RMP begins 45 days before flights and lasts until one week be-fore the flights. After that the responsibility of a/c changes is moved to the operations department.

Changes can be done for flights that are operated within same a/c type e.g. A32S or EMB (p.15-16) during this period quite easily, but changing across (e.g. from EMB to A32S) requires always a request to crew planning and it creates also additional cost if change is implemented.

7.2 Creation of standard week for IATA traffic season

7.2.1 General

The idea of standard week is to create a base schedule for the entire IATA summer or winter season that has certain weekly pattern for each destination. That pattern is formed by a/c type(s) used, day(s) of week operated and departure and arrival times. The availability of crew and required base maintenances is taken into account before the plan can be decided.

The previous similar IATA season and its results financially and operationally is the starting point of the planning. After about two months of inter and intra departmental work between RM and RMP the standard week is “rolled-out” to the entire season. That altogether creates the base schedule for a/c utilization, crew usage and maintenance activities. Following chapters will deal with the process stages between RM and RMP, which begins little over one year before the season starts.

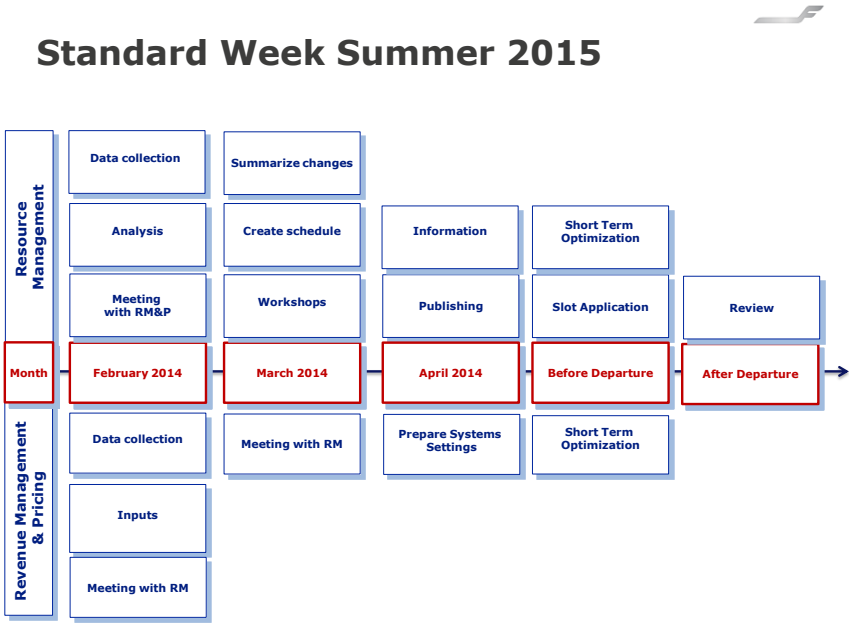

Figure 10– Process description for Standard week for one IATA season

Figure ten above describes the stages of the standard week process.

7.2.2 February 2014

The responsibilities of RM are the following:

- Profitability and operational data collection from previous summer season
- Analysis of the routes one-by-one in order to evaluate if a/c change(s), time changes or additions/cancellations of frequencies is needed for the routes
- Optimisation of the fleet
- Suggestions to the meeting with RMP

The responsibility of RMP are the following:

- Data collection for revenue and passenger flow information
- Analysis for possible a/c type changes proposal
- Competitor analysis
- Connections to/from long haul routes
- Analysis and proposal for frequency additions and cancellations

7.2.3 March and April 2014

RM responsibilities in March:

- Summary of the changes compared to previous season
- Create schedule to scheduling tool and organizing workshops with Sales, RMP and Marketing
- Organize and participate in workshops with Sales, RMP and Marketing

RMP responsibility at this stage is to participate and co-operate in the workshops and meetings.

In April RM publishes the schedule and informs both the commercial and operational departments of the new schedule. RMP will then adjust its system settings in order for the sales to begin with correct fares and quotas for each fare type.

7.2.4 Optimization and review

Major task for RM is the slot application (p.25-28) for each IATA season. For summer 2015 that is done between October-November 2014.

After that schedule is being optimized by the influence of both departments according to the demand and a/c availability. Maintenance and crew changes naturally also influence the situation along the way.

The review of the results is being done by RM two months after the flights are being flown.

7.3 SWOT of Traffic and schedule planning

7.3.1 Strengths

- Good working relationship between RM and RMP employees
- Process improvements have been acknowledged and actions are being taken

7.3.2 Weaknesses

- Relations between RM and RMP managers are not good enough to support employees work
- Process improvements are not implemented well enough overall
- IT systems synchronization in vital profitability information exchange is not proper

7.3.3 Opportunities and threats

- Work efficiency and profitability can be enhanced by improving processes and relations to major stakeholders
- Extra work, missed deadlines and poor profitability will happen if the relations and processes are not improved well and quickly enough

8 Schedule optimization

8.1 Seasonality in general

The schedule creation is first of all based on standard week for each a/c type for the winter and summer seasons. Due to the fact of fluctuating demand throughout the whole calendar year, all airlines need to adjust their “basic” schedule by adding and/or reducing frequencies to several destinations in order to run as profitable business as possible. Seasonality means the adjustments done for certain bank holiday periods for the published traffic program.

Seasonality activities begin about one year before the flights are operated. Adjustments are being done a couple of times after that depending on the situation. Final optimization is done about one month before operations. Figure eleven on the next page illustrates the seasonality periods and the times for analysis of a single seasonality period through the results.

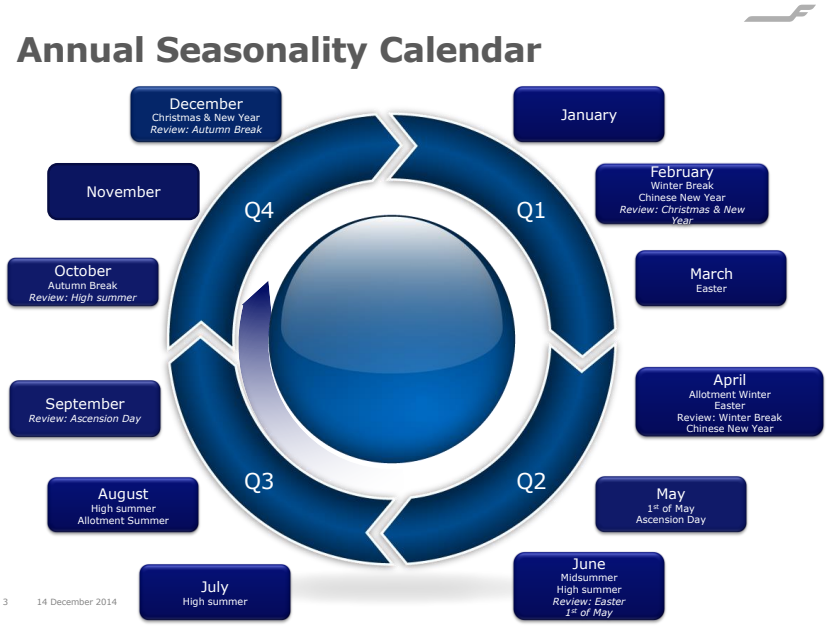

Figure 11– Annual Seasonality calendar

Next chapter explains the different seasonality periods in more detail.

8.2 Annual seasonality periods

- Winter Break: Finnish skiing holiday weeks in February, means reduced capacity for business travel from/to Finland and added capacity to Lapland flights and holiday routes to Canary Islands, Far East and some to Caribbean islands also.
- Chinese New Year is a holiday for Chinese families and is being celebrated in January or February each year. It means reduced demand from/to China and Singapore and frequency reductions for long haul flights as well as capacity reductions for European routes for 1-2 weeks period.
- Easter is celebrated in March-April and it means reduction in business travel throughout the whole network and simultaneously added holiday travel demand for the respective period. Capacity and frequency changes are done in European and domestic routes.
- 1st of May is a public holiday in about ten European countries. Adjustments to traffic within Europe concern less than one week period.
- Ascension Day is celebrated on a Thursday in May and is a religious holiday in Europe. Similar effect to traffic program as 1st of May does.

- Midsummer is a feast held in Northern Europe (mainly in Finland and Sweden) in the end of June. It affects mainly to demand in European and domestic flights, which is being reduced for three to five days period.
- High summer means the period from midsummer until end of August, when most of the Finnish workers have their annual summer vacation. Most of the other Europe is having the same holiday period, so it really affects to the business travel by cutting the demand and by adding demand considerably to holiday destinations especially to southern Europe.
- Autumn break is the school holiday in October and it adds again the holiday demand and cuts business demand within Europe. Period for that is about one week.
- Christmas and the New Year affects demand from mid-December until mid-January. Holiday demand is high just before and right after Christmas and around New Year. Business travel demand is low for the respective period and resumes back to normal about two weeks after New Year.

8.3 Seasonality process between TP and RMP

It is the responsibility of TP to analyse the results of the seasonality periods from the past and compare it to the forecast of similar period coming up in the future. Seasons and the need to adjust the schedule is not exactly the same each year, since the holiday periods usually fall upon different weekdays and even different calendar weeks depending on the year. After analysis is done TP gives RMP suggestion for the seasonality period in question.

RMP then evaluates the estimates for passenger amount and yield for each route. Final step before publishing the changes to live schedule are the profitability calculations for new flights. That is done by TP according to the data supplied by RMP. The review of the results of the seasonality is done about two months after the seasonal period is over.

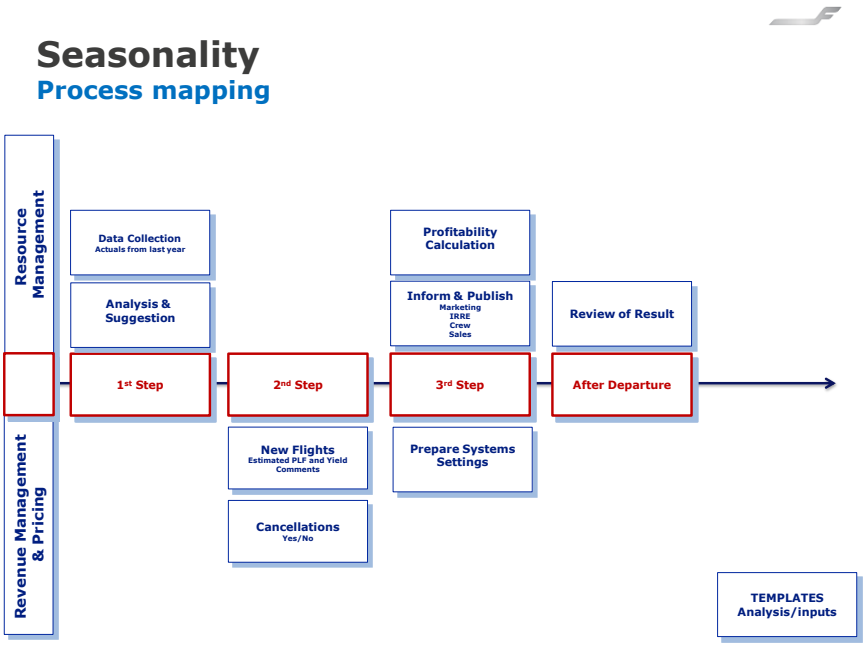

Figure 12– Seasonality process between TP and RMP

Figure twelve above describes the process between TP and RMP.

8.4 Ad hoc flights

8.4.1 General information

Ad hoc flight is a single or a short series of one-way and/or round trip flight(s) sold to a group that specifically requests to fly with Finnair a/c from e.g. Helsinki to Prague in Czech Republic in May 2015 to see Ice-Hockey World Championships on a certain date. The customer is usually a corporate client, sports team or orchestra that wishes to have their own a/c to a certain destination at a certain date and time. The amount of ad hoc flights (one-way or round trip) for last summer season was 40. That means that monthly approximately seven flights is being planned by Traffic Planning team.

8.4.2 Procedures in Traffic Planning

Finnair sells ad hoc flights for the ongoing season and for the following season after the season's slots for scheduled and charter flights are confirmed and seasonality adjust-

ments are implemented. That means that e.g. for summer 2015 season these flights were able to be planned and sold starting from the end of November 2014.

Flights are sold to any Finnair aircraft type, but in practise it is almost purely concerning the narrow body fleet (p.15-16). Flights are sold to the capacity that is free from any scheduled, charter and maintenance operations. Aircraft changes are done if they are profitable in order to free capacity for an ad hoc flight. Timetable changes will not be done for scheduled/charter traffic. More flexibility is applied only when the President of Finland is together with a group that requires own aircraft.

8.4.3 Pricing, profitability and workload of ad hoc flights

Profitability of the flights is ensured by calculating the overall operating costs of the flight(s) and adding a specific variable profit margin on top of that. Therefore these flights are always generating profitable result for Finnair.

Most of the destinations that the ad hoc flights are sold to are known and familiar to Finnair. The planning of these is quite easy and quick and the answer including offer for the customer can usually be given in a couple of working days. When a new destination is in question, the planning time is from one week to three weeks.

The planning of the ad hoc flight(s) depends on the timeframe set by the customer. It is the responsibility of Traffic Optimization Analyst when it is on short term period of one week until three months from the departure. When the requested ad hoc flight is more than three months away then either one of the Traffic Planning employees will do the planning of the flight(s). The workload depends on the destination, flight date(s) and time(s), aircraft type and the flexibility of the customer. Most of the cases can be answered within 1-3 working days from the request.

8.5 Monthly optimization

8.5.1 Demand and supply meeting (DSM)

The so called “Demand and supply meeting” is a monthly meeting between RM and RMP, which decides which unprofitable flights will be cancelled from next month and

simultaneously which of the proposed cancellations are still flown. Aircraft type changes are also decided in this meeting to avoid and/or diminish bad results. Figure thirteen below shows the process between the departments. For example for January 2015 flights this means that RMP will do its analysis and give cancellation suggestions by the end of November 2014 and the DSM meeting is held during the first week in December 2014.

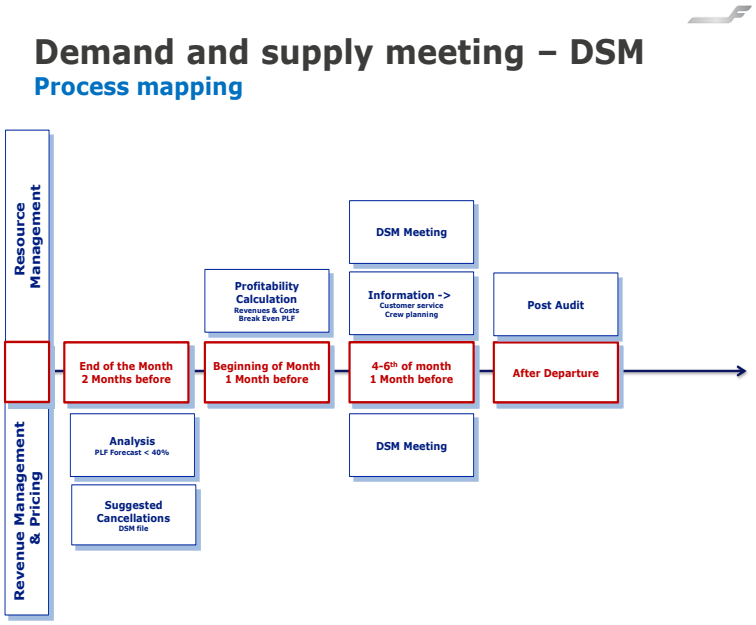

Figure 13– Demand and supply meeting process RM and RMP

The responsible person in RM for the profitability calculations and for the decided actions to schedule is Traffic Optimization Analyst (TOA) from TP team. Profitability calculations can be finalized within two working days after receiving the RMP analysis and suggestions.

One important thing that the TOA does before the meeting is being held is to check the restrictions in slot cancellations. IATA slot rules require that an airline needs to fly at least eighty percent of the approved slots within a season in slot required airport. That is calculated by day of week level, so one needs to be careful of not cancelling too many frequencies from the same weekday for the same destination.

TOA also attends the DSM meeting together with Head of Traffic Planning and VP of Network Planning from RM. After the cancellations and/or change of a/c types are done to live schedule information is sent to customer service and crew planning. Post audit

deals with the non-cancelled flights which will be audited two months after they are flown in the DSM meeting to see whether decisions were correct or not.

8.5.2 Monthly optimisation

After the DSM meeting is completed the second stage of the monthly optimization is started immediately. That means that the narrow body fleet for next month is optimized in order to lower costs and to maximize revenues during the final stage of the sales period. Deadline for this optimization is by the 9th of each month and 1 month before the operations.

Optimisation is done by utilizing a software called Fleet Assigner, which is a product used in conjuction with the basic scheduling tool Net Line Sched. The Fleet Assigner has basic settings for optimisation which are determined together with various departments to ensure profitability and operative requirements. These settings are checked and updated monthly depending on the situation in hand. The run itself is a quick procedure lasting 15-30 minutes. Most of the time is spent in evaluating the results of the run and discussing the effects and needed changes with RMP, crew planning, maintenance and cargo sales. That usually takes one to two working days in total.

The optimisation results are converted automatically to an “experimental” schedule and after all relevant parties are satisfied with the change proposals, the updates are merged to live schedule by Traffic Optimization Analyst. He then informs by email all the necessary departments and persons so that they are able to change their settings and/or do their roster changes correctly.

8.6 SWOT of Schedule optimisation

8.6.1 Strengths and weaknesses

- Employees have the capabilities to implement forecasts, analysis and implementation of the assignments and projects
- The processes especially for seasonality and ad hoc are not good enough

- Too many manually implemented actions that take time and need precise answers

8.6.2 Opportunities and threats

- New optimisation tool “Fleet Assigner” (implemented in December 2014) can reduce manual work and improve work efficiency as well as profitability
- Process enhancements can reduce extra work and improve profitability
- If processes are not improved and new optimization tool is not utilized properly, revenue losses and too high costs are inevitable results

9 Summary of SWOT analyses

9.1 Strengths

Traffic Planning team consist of experienced experts in scheduling, slot coordination and forecast and result analysts. The know-how, language skills and team working ability within the team is at a sufficient level to create profitable results.

Team members are well known and respected professionals among the major stakeholders inside the company.

9.2 Weaknesses

After doing the SWOT analysis for each of the responsibility areas of the Traffic Planning team and then linking those issues to the theories presented in chapter two, I have found the below weaknesses and concerns in the work of the Traffic Planning team.

- Communication problem, which exists within the team and also towards the major stakeholders. In my Thesis I will focus on one major stakeholder, which is RMP (Revenue Management and Pricing).
- Lack of trust, which is shown in day-to-day activities in the too small and limited decision power given to team members. At the same time the team supervisor is too busy to react to the frequent questions and decisions asked by the team

members in a decent timeframe. Assignments and projects are often delayed and done at the last minute due to this dilemma.

- Workload is too heavy and therefore deadlines are often very tight to keep. The amount of ongoing projects is too high in the time period given to develop, test and implement them.
- Team members need to perform many analysis and reports which require precise manual work and therefore a lot of time. Automation to reports is needed.

9.3 Opportunities and threats

It is possible to add decision power for individual employees and also add cross-training within the team. That would help in reducing the workload and especially the assignments and project could be usually finalized more quickly than at the present time.

This would lead to better work efficiency in the Traffic Planning team and it would also affect directly to other stakeholders work efficiency as well. All this would increase the profitability of the company.

If the workload issues are not improved it is possible that the quality and efficiency of the teams work can decline further. That in turn can harm the work and results of the other departments work and therefore the results of the company will not improve.

10 Results

10.1 Major problem and importance of scheduling

According to the analysis I have done, I find that the first issue to be corrected from the weaknesses that are presented in chapter 9.2 (p.41), is the lack of communication within the team and with the major stakeholder Revenue Management and Pricing (RMP). Reason for that is that it will most likely solve or at least diminish other problem areas, as long as the corrective actions and their level is sufficient. The communication can be improved by focusing on two areas:

- By increasing the level of trust to members of the TP team as well as the level of trust towards RMP. Honesty and openness in all activities is essential.
- By improving the empathy and respectfulness in different communication situations within the team and with the stakeholders

The importance of matching the supply to the demand in any airline is a key factor for good profitability, which is discussed in chapter 2.3.2 (p.5). TP team is one of the major contributors in this process at Finnair. Chapter 2.3.3 (p.5-6) points out the importance of schedule based issues, which are one of the product planning focus areas for an airline to influence to the demand. TP team is in the heart of making sure that e.g. the timetables and connectivity between short-and long haul flights are appealing to the end customer and that the schedules are overall operationally feasible and are also cost efficient.

10.2 How to solve the communication problem?

10.2.1 Good relationship skills and CHEEARS

The ideas and suggestions of authors Kohn and O'Connell of the book "Six habits of an effective team" are presented in chapter 2.4 (p.6) The issue that first of all comes up is the "Good relationship skills" that is discussed in detail in chapter 2.4.3 (p.8). The message from the authors is that every team needs to build up and improve constantly its relationship skills within the team and also towards its external groups.

CHEEARS (p.8-9) is the model for improving these relationship skills presented by Kohn and O'Connell. I have chosen three out of seven which I recommend in TP team to be improved in order to improve communication overall.

1) Honesty – this refers to the responsibility of TP team to deliver what is promised, so it relates directly to trust and trustworthiness.
2) Empathy – means that TP team understands the needs of its clients and that requires first of all that the client is being listened properly. Then the team must find way(s) to act in all the work issues in a way that supports the client needs and challenges.

3) Responsiveness – TP teams must make sure that all the issues and problems that have been assigned to them are really acknowledged and responded clearly in the timeline that has been agreed. Delays are not totally unavoidable and those situations must be proactively informed as soon as possible to the departments and/or persons that are involved.

10.2.2 Empathy and respectfulness

Chapter 2.4.4 (p.9-10) describes the importance of empathy and how important factor respectfulness is as one form of empathy. My suggestion is to start using the following three methods that demonstrate empathy in TP team from the list of six methods that Kohn and O'Connell are presenting in their book:

- By being supportive and attentive
- By reflecting feelings
- By probing issues and giving feedback

Respect can be shown quite "simply" by being honest, using fair treatment and by embracing diversity

10.2.3 Open and Clear Communication

In chapter 2.5.2 (p.11) Elaine Biech presents ten characteristics model for a successful team. This open and clear communication is the most important block in the model. The main area of improvement for TP team would be to practise its listening skills.

Most important issue here is to forget each members own biases and prejudices and simultaneously allow the new information that is heard to form new basis of understanding. Benefits of improving the team communication and the communication with the stakeholders is increased trust, reduced amount of problems and rework and better interpersonal relationships.

10.2.4 Effective Decision Making

TP team should start using different decision making models (p.11-12) instead of mainly using team leader decision option. Like the author Biech in book “Successful Team-Building tools” is saying that when a team succeeds to choose a correct decision making model for each of the cases it deals with, it will save time and will also most likely make better decisions in the long run. My suggestion is to increase the use of “Leader decides with input from team” and “Consensus” options in the future. Simultaneously the decision power of each team member needs to be increased, which improves the work efficiency. These issues need to be made clear to all team members, so that the decision making is straight forward and as quick as it can be.

Example case for the decision making is the so called “Seasonality” that is discussed in detail in chapter eight *(p.34-37).* My recommendation for the decision making process within the TP team is that the person who is doing e.g. “Christmas and New Year’s” seasonality has more personal decision power than now. It is advisable to make clear boundaries for the limits in the decision making. Employee must know how “far” he or she can go by himself. Usually the seasonality periods are very much alike, so the decision making should be left to the person doing the research and analysis. In case there is something that makes a considerable difference to the usual situation and especially when it has effect on the profitability, then the discussion is naturally needed with the team leader before giving out the proposal to other departments. Important factor in the seasonality process is to keep the deadlines. That means that TP team needs to do its own analysis well in advance and then provide the information to RMP and crew planning. Only by doing so it is possible to avoid delays in decision making as well as avoiding extra work and bad will to paying customers.

Another example where similar type of change in decision making is beneficial are the unplanned maintenance actions that occur monthly. This means the maintenance cases that are not in the mid- nor short term maintenance plans. These cases usually require changes in aircraft (a/c) types for some routes, which are most often concerning the narrow-body fleet that is used in European and domestic routes. Sometimes the unexpected maintenances also require cancellations for a couple of flights and/or leasing an aircraft from another airline. If the case only requires a/c type changes, the person doing the analysis should have the authority to make the decisions. If the cancellations of a few flights concerns routes that would be unprofitable in order to free capacity

for the maintenance, I feel that the team leader does not need to be involved in the decision making. Team leaders input and decision is needed when the options to cancel are definitely profitable flights and always when leasing an aircraft from another operator is needed.

10.2.5 Balanced Participation

Author Biech is saying that after “Open and Clear communication” it is this participation that is the second most important characteristic. This means in practise that in TP team every member should contribute his or her views and ideas whenever it is appropriate.

The team leader should start taking more the role of a coach and mentor, rather than being an expert in many situations. Other recommendable things are that risk taking should be better rewarded, minority views must be protected and input needs to be collected from every team member. This all would most likely increase naturally the participation level of each of the team members.

The requirements that fall upon to the team members are that they need to acquire a volunteer attitude into taking part in various work tasks and also in the discussions concerning all of them. It is also important that all the team members give other members a chance to be an active and equal member in all the team activities.

10.2.6 Team members feedback

After writing this chapter for the result and for the corrective actions, I asked my team members to read it through and give their own opinion and feedback for it. The result from their feedback is that there are two major problems within the TP team that require improvements.

First thing that came up is the lack of trust for each individual team member. This problem shows up in the whole decision process. Most of the decisions are done only by the team leader. Decisions take too long to be implemented, because the leader is too busy to do all decisions within a decent timeframe and also due to the fact that many of the work cases are too deeply analysed. Many of the cases are so urgent in nature, that there is no time for these deep analyses, which take time and then on top of that

the team leaders' decision does not happen instantly after seeing the results of the analysis. Other departments own work suffers too often due to our delays in the decision making and implementation.

Suggestion from other TP team members is to increase the level of decision power for the team member who is involved in the case being in question. In particular this should be done in the cases that require fast decisions, which are required in order to increase profitability as well as to help other departments and naturally the end customer. The idea from my colleagues is that trust between the team leader and team members is the most important factor in the efficiency of the work in TP team. Different views and opinions should be listened and taken into account in every day work situations.

Second problem that was addressed is the lack of communication, especially in the communication towards the other internal stakeholders. Meetings are being held and even mutual agreements are being done, but too often the final implementation is not done according to the agreement done in the meeting. Time is wasted too much in doing so.

The comments and views for the corrective actions that I have presented are supported almost completely. The issue which was pointed out by the colleagues where they disagree, is the improvement of empathy for each individual team member. My colleagues view is that if the person does not have basic empathy "skills" already in place, it is basically impossible to improve them substantially. This empathy issue is discussed in chapter 2.4.4 (p.9-10), where the authors Kohn and O'Connell presented their opinion that the team members in any organization are able to improve their skills that concern empathy. My view is that anyone can improve a little bit in this area if the person really understands and accepts the importance of empathy overall. I agree with my colleagues in their view that if the person does not have empathy skills in order, it is very difficult to improve them.

10.3 Improvement proposal

The first thing to improve in the communication and openness within the Traffic Planning team is that each member of the team focuses on listening each other's ideas and views with better respect and empathy. Each member naturally has formulated his or

her own prejudices and views over a period of time. Those should be put aside and it is strongly advisable that everyone allows new information as well as new ideas to formulate new kind of understanding in various work related issues. The new information and ideas should be tested in practise if there is no real reason not to try them.

Constructive feedback is important and in Traffic Planning team I suggest that especially the negative feedback requires improvement. Currently it is carried out too openly in public and that is quite often embarrassing for the team member that it concerns. Those situations should be dealt with more delicate ways in private. For the positive feedback I suggest that it is used more often in day-to-day situations by every team member, which most likely will improve the overall positive atmosphere and team spirit.

Time is always quite limited, but it is very important to enable open discussion in team meetings with sufficient time provided for it. I suggest that each member has the possibility to bring up this kind of need before the meetings and then additional time is reserved in advance. General informal discussions are also needed every week and in my opinion e.g. common morning and afternoon coffee breaks a couple of times each week would be a good place to exchange ideas, information and views among the team members.

Finally I want to emphasize two areas where each of the team members should concentrate on and they are:

- Honesty and openness – every member should share his own ideas and views to other members as soon as possible and also the work related information should be distributed to others without delay.
- Empathy and respectfulness – all members of the team need to listen to other team members' ideas and views without interrupting and judging them negatively just because one's own view is not the same. All the issues that occur at the workplace should be such that each member is taken into account in the decision making. Some decisions belong naturally to the team leader, but many of the issues are such that consensus is a good way to get the best decisions done in the long run. Consensus can also increase the involvement of each team member to the work of the team and team spirit at the same time.

10.4 Conclusions and future development suggestion

10.4.1 How results match with the Thesis objective?

The objective of my thesis is to improve the work efficiency of the Traffic Planning team. My own personal view for the need to improve the openness and clearness of the communication was clearly strengthened throughout the research I did by studying the academic literature. The studies that have been done to evaluate the most important issues for an effective team showed that the open and clear communication is one of the fundamental areas to be concentrated in every team in every organisation.

It is evident that when a team accomplishes to improve its communication inside the team and also towards its stakeholders, it improves the work efficiency. It is good to remember that even small improvements in the communication will enhance the teams work efficiency and enable further developments in that area as well as in other essential areas in the future. The team spirit will simultaneously be better and most likely the profitability of the teams work will be better than it used to be.

It is important to remember that communication as well as any other area of the team work is never completely ready. Every team must keep in mind that development is required constantly and therefore the different areas need to be evaluated regularly. Otherwise the level in e.g. communication may drop down to a worse level if the issues are not being discussed and developed on a regular basis.

10.4.2 Future development suggestion

In chapter 10.2 I briefly described the different possibilities to improve the work efficiency. For the future I see that the next steps that Traffic Planning team should focus on in developing its work efficiency are “Effective Decision Making” and “Balanced Participation”.

For more effective decision making I suggest that each team member would have more personal decision power in the future. That would save time for other important issues to be solved and it will increase the overall involvement to the teams work. At the same

time I feel that adding consensus to decision making is a good way to save time and gain better results in the long run.

Development for better participation within the team is recommendable. Every team member should not feel fear or hesitation to express his own views and ideas to the other members. The Traffic Planning should seek for more informal and relaxed atmosphere for the exchanging of ideas within the team. It is advisable that the team leader should act more as a “coach” towards the employees and at the same time all team members need to have a positive and voluntary attitude in all the team activities. Very important is that no team member is left alone and that the ideas and views of every team member are respected and taken into account.

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