Package holiday industry’s profit optimization model

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Revenue management is a crucial part of modern airline and hotel businesses. This thinking has also been adopted in the package holiday industry during the past decade. There are very few studies made around the subject from the package holiday industry’s point of view. This work explains the basic concepts of revenue management philosophy in the airline and hotel industry and adapts best and most suitable practices from these branches into the package holiday industry. Most often revenue management covers only the controlling of the available capacity and pricing it accordingly. The aim of this work is to introduce a wider concept of profit optimization. In this broader approach the CRM philosophy is combined with the revenue management thinking. This new way of thinking is called Multi Dimensional Profit Optimization model, later called as MDPO model. The MDPO model enables the tour operator to maximize the long term customer value and profits. MDPO combines the marketing actions, CRM actions together with traditional revenue management in a way that all of these components contribute to one another. The revenue management forecasts are used for marketing action planning, while the CRM gives the tour operator the boundaries in which the yielding actions can take place without damaging the customer loyalty. This work describes the basic principles used in the MDPO modes and if companies should choose to adapt these practices, they would need to modify the MDPO to fit into their workflows and also define the framework in which the MDPO would work.

Key words
Revenue management, tour operating, tourism, yield management, CRM
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1 Introduction

During the last few decades the revenue management thinking has found its way to most of the service industry sectors. In the beginning revenue management theories were applied in the airline industry and some years later the use of this new way of thinking spread out to the hotel industry. In the last two decades the revenue management thinking has also been introduced to the package holiday industry. Traditionally the package holiday industry prices were fixed prices, which were printed in a catalogue and renewed two times a year for summer and winter seasons. Some demand stimulation and price flexibility was used in a form of early bird discounts to attract consumers to book their holidays well in advance before the departure. The other method to increase demand in short term has been the last minute sales, which has meant that the tour operators have lowered the package prices closer to the departure to sell the whole capacity on the flight to minimize the losses from the pre-paid flight seats. These two methods have been the way how operators have tried to control and utilize their capacity the best possible way. The approach has been very rigid and stagnant for decades. For many decades tour operators printed a brochure with fixed prices which were valid through the whole season. This worked very well in the days when consumers booked their holidays well in advance and the consumer behavior was almost the same year after year.

In the 21st century the operating environment has changed. Today the tour operators are struggling with shortening booking windows and unpredictable consumer behavior. One of the key elements in the package holiday, the hotels, have also introduced their own revenue management models, making it impossible for the tour operator to print the prices out in the brochure for the next 15 months, without losing the competitive edge towards many rivals such as online travel agents. All these things together have forced tour operators to react to the price competition more aggressively. On the other hand, tour operators have needed a way to maximize their profits without increasing the risks in a business where margins are altogether very low and risks are naturally high through pre-paid flight capacity and also many times pre-paid hotel capacity.
The challenges in introducing the revenue management models to package holiday industry is, that there is very little research done in this field of revenue management in tour operating. The revenue management principles used in the airline industry or hotel industry doesn’t exactly apply as such, to the package holiday industry, which consists from both mentioned elements. Also the demand structure is very different from airline and hotel industry. In both airline and hotel industry, the revenue management principles rely on the fact that the closer the booking happens, the bigger the consumers need is to get the product. This thinking is also very true in both cases, when it comes to business travel, from where airline and hotel industry generally get their biggest revenue and profits. The basic motive behind the purchase decision is the need to travel for some particular and often compulsory reason.

However in the package holiday industry the basic motive behind the purchase decision is recreation, which very rarely is compulsory. This makes the distinctive difference between package holiday industry’s and airline and hotel industry’s demand patterns. Where in hotel and airline industry revenue manages are able to raise the prices when closing to the consumption moment, the revenue managers in the package holiday industry are very often forced to lower the prices to arouse the demand and minimize the financial losses from the pre-paid package elements such as flight seats.

The idea for this study emerged from the lack of general revenue management model for the package holiday industry in the Nordics. Most of the companies in the industry use wide variety of revenue management models, but none of them are widely communicated or commonly agreed. This is the reason which ignited the writer´s motive for this work.

The purpose of this study is to give the reader an idea and understanding on the driving forces influencing the pricing and yielding decisions that shape the package holiday market today and also challenge the existing practices. This study doesn’t concentrate on the calculation models or technical solutions available in the industry today.

Since there is not yet a widely used or agreed model for revenue management practices in the package holiday industry, the objective of this work is to introduce new approaches to packages holiday industry´s revenue management, and more over profit optimizations models.
1.1 Terms used in this work

Revenue management / yield management
Revenue management, which is often called also yield management, is an approach to maximizing profit by monitoring and managing pricing, inventory availability and sales. Revenue management means managing trade-off between filling in all available capacity and charging the highest unit price, and ensuring that those customers most willing to pay for a product or service can do so. (Andersen, 1997, 15.)

GDS
Global Distribution System is a term used for describing the major booking systems developed by airlines and tour operators. Three biggest GDS in the world are Amadeus, Galileo and Sabre. All these three were originally developed by major airlines to control and distribute their products. Today the travel agents can book flights, hotels, train tickets, tickets to events and even taxi services through the major GDS. One could describe GDS as a multi booking system for almost all the products included in the tourism industry. (Holloway & Humphreys, 2012, 643.)

LCC
Low Cost Carrier is a term used for airlines operating with one way pricing and limited or none network connectivity. They operate with published timetables confirmed by the national air officials. Often the service is minimized and customers can buy most elements, such as food onboard, luggage and a specific seat onboard for an additional charge. Most LCC’s operate to the secondary airports of the destinations in order to save in landing fees. Staff costs are usually also significantly lower than what Legacy Carriers have. (Holloway & Humphreys, 2012, 382 - 383.)

Legacy carrier
Legacy carriers are often former national carriers and traditional airlines which operate with return ticket pricing and vast networks enabling passengers to use connective flights to get to their destinations. They operate with published timetables confirmed by the national air officials. Often the tickets can be used in routes operated with partner airlines, which extends most Legacy Carriers network around the world. Tradition-
ally most of the elements, such as meal onboard, luggage and specific seat onboard during the flight were included in the flight fare. However in recent years many Legacy carriers have also started to charge additional fees for some of these services, which fades the border between the LCC´s and Legacy Carriers. (Holloway & Humphreys, 2012, 643 – 645.)

Charter
Charter services, by contrast to scheduled services do not operate according to published timetables, nor are they advertised or promoted by airlines themselves. Instead the airlines charter the whole aircraft to a tour operator for fixed cost which will take the responsibility and risk for selling the flight seats, leaving the airline only with the responsibility for operating the aircraft. With this solution the tour operator can decide where to fly with the aircraft and for what period of time. This way the tour operator can secure the desired capacity to the desired destination. (Holloway & Humphreys, 2012, 557, 643.)

TO
Tour Operators have formed the core for travel industry for many years. Traditionally the TOs have formed the bridge between the travel suppliers and customers by purchasing separately the elements of transport, accommodation and other services and combining them into a package that they sell to the consumers directly or through travel agents. (Holloway & Humphreys, 2012, 555 - 557.)

OTA
Online Travel Agent which are also sometimes called e-retailers are travel agencies which operate in the online environment. Often OTA´s have connected to many different producers data bases to provide the consumer an easy way to compare different products and combine them together. OTA´s usually have their own booking engine which is connected to some major GDS and in addition to this they often combine other external producer´s data bases in order to have as wide offering as possible. (Holloway & Humphreys, 2012, 557)
**Package holiday**

Package holiday term is both a commercial term a legal term. Commercial term means a holiday product which consists from different elements such as transportation and accommodation and possible additional services or products. (Holloway & Humphreys, 2012, 557).

The legal terms define the legal responsibilities for the TOs. At the moment the European Union is trying to set the legal boundaries for a definition of package holiday and since the process is still ongoing, this work does not introduce the different variations of the legal content of this definition.

**LF**

Load factor is a term used in revenue management to describe the occupancy of the units, such as a flight seat or a hotel room which are monitored. Load factor is a percentage of the total capacity which is occupied. For instance, if an airline has a flight with 100 seats, from which 30 seats are already sold, it gives us an LF of 30% for this specific flight.

**CRM**

Customer Relationship Management is an overall process of building and maintaining profitable customer relationships by delivering superior customer value and satisfaction. This means all aspects of acquiring, keeping and growing customers. (Kotler, Bowen & Makens, 2010, 22).
2 The history and principles of revenue management

Revenue management, also called as yield management, is the application of disciplined analytics that predicts customer behavior and tries to adapt the product availability to match the demand. The primary aim of revenue management is to sell the right product to the right customer at the right time. In practice this means to price the products lower levels when the demand is low, to attract the price sensitive clients to adjust their consuming to these low-peak times. For the high peak times the prices are adjusted to higher level to maximize the revenue got from the customers who are not price-sensitive and are willing to pay higher price to be able to consume the product when it suites them best. (Kimes, 2000, 4-5.)

2.1 The history of revenue management

Revenue management has actually been used as long as people have done commerce together. Bargaining for example, is one form of revenue management which is used on daily basis around the world in many different forums, such as bazaars. In its simplest form, revenue management is just a balance between the demand and supply. Every price is adjusted individually for every customer based on customers willingness to pay. This is the old way that most of the businesses worked before the industrial revolution. It was just after this turning point that firms started to introduce price lists and fixed prices. (McMahon Beattie, Palmer & Yeoman 2011) As many times history repeats itself, it also ironically is the case in revenue management philosophy. After the era of fixed pricing and price lists, we are now pursuing for the best possible price for each customer – in a way a form of bargaining. The supplier is offering prices and the customer either accepts or doesn’t accept the price. If the price is not accepted, it has to be changed. On the other hand if the price is accepted very rapidly, it has to be altered upwards. This is truly dynamic pricing.

The need for revenue management in the service industry merges from the fact that all the service industry products are perishable and intangible. When the service is consumed, it cannot be sold again and therefore disappears. This same principle applies also to all forms of transport services. (Albanese, 2004, 8-9.)
The modern revenue management thinking in service industry, as we know it, was originally born in the airline industry in the USA in the 1960’s. Before the actual revenue management principles were developed, there were attempts to raise the demand and control the inventory through discounted tickets. APEX (Advance Passenger Excursion) and Super APEX tickets were introduced in the early 1960’s. The idea behind these tickets were, that if passenger could book early enough with certain restrictions, they could enjoy lower fares. This was also a form of capacity control. However while raising the demand in the lower consumption classes, there were no way of increasing the profits in the higher fare classes. The possibilities to increase revenue ended after Business Class to First Class and this was quite rigid way of optimizing revenue. (Ingold & Huyton, 2000) When American Airlines introduced a new computer reservation system: Semi-Automatic Business Research Environment, SABRE in 1966, the seed for effective revenue management tool was set. (Chiang, Chen & Xu, 2007, 98-99.) American Airlines had already earlier studied the possibilities to use their existing reservation data to optimize the output of the remaining capacity. Soon they realized that the amount of data was too much for the tools used at the time to be comprehensively used in the decision making and profit optimization. This is why American Airlines decided to reduce a vast problem into three sub-problems, so that it would be easier to handle and control the complex dilemma of revenue management. These three sub-problems were: overbooking, discounting practice and traffic management. All of these revenue management tools are still widely used and are actually the three basic elements of modern revenue management. After release of SABRE American Airlines started to use it also for determine flight schedules and fares. Together with the data at hand and the powerful means of processing this data, American Airlines was able to start to effectively manage their revenue. The main drivers for this were, that with SABRE American Airlines had full control over their inventory since all the bookings had to be made in SABRE and the reservations were only accepted if the system accepted it. This gave American Airline the possibility to start to steer their inventory and the fares offered in order to maximize the possible profit. Prior to American Airlines revolutionary system was released many airlines such as Qantas, used quite old fashioned way, break-even analysis to determine the acceptable levels of yield. This however was very unreliable way of managing revenue since it does not help to predict the yield. (Ingold & Huyton, 2000, 179-180.)
When American Airlines started the modern revenue management with SABRE they provided means to the management to answer the basic definition of modern revenue management by Kimes:

Yield management is the process of allocating the right type of capacity to the right kind of customer at the right price to maximize the yield or revenue (Kimes, 2000, 4-5.)

The final breakthrough for Revenue Management philosophy was the deregulation of the US airline industry in 1978. This dramatic change in the completion environment in the airline industry boosted the development of various revenue management systems from simple theories to sophisticated and scientific methodology. (Andersen, 1997, 15.)

2.2 Revenue Management principles in the airline industry

Since airline industry has been the forerunner of revenue management it requires a bit more history to be told, before going into the details of the practices used in the airline revenue management. Airlines started the revenue management practices already before there were computers at hand for analyzing the vast amount of data which is essential for the modern airline revenue management models. Before the sixties, practically all the tickets which were sold, were sold with full fares. There were literally no need to have discounted tickets since the natural demand was enough to fill all the aircrafts with full prices. When the cost of flying came down and more and more airlines and routes came up, there also raised the need to try to attract more people to fly with the airlines. In the 1960’s the airlines decided the general principles for discounting different ticket types and APEX ticket was introduced. The idea behind APEX tickets was that with many restrictions, the airlines offered discounted fares for the early booking consumers. This was seen as the way to attract leisure consumers to help to fill the aircrafts. (Ingold & Huyton, 2000, 179-180.) This can be seen as the beginning for the revenue management thinking. Nowadays many different revenue management methods are used to maximize the revenue and optimize the capacity utilization. The main tools for efficient airline revenue management are forecast models, use of book-
2.2.1 Forecasting

In order to be able to steer the prices in a way, that the pricing would steer the demand, you would need to see into the future. This is exactly what forecasting models are trying to do. Forecasting is the basic element of revenue management because it is the tool to determine whether prices should be lowered or increased. (Andersen, 1997, 15.)

In forecasting the historical booking data among other historical data is used to predict and determine the future demand. Based on the forecast, the revenue manager makes his or her judgment on the pricing decisions. Unfortunately the forecast can only be wrong, since it is impossible to see into the future. This is why the goal has to be the most accurate forecast as possible. To achieve this the forecasting system needs as much information as possible to be able to produce the most accurate forecast. The information can be historical information form the booking system or it can be external information inserted to the system. The following information should be provided to the forecast system in order to get good demand forecasts out from it:

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Fare Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Booking Data</td>
<td>Availability info</td>
</tr>
<tr>
<td>Seasonal patterns</td>
<td>Permanent adjustments</td>
</tr>
<tr>
<td>Temporary adjustments</td>
<td>Special events</td>
</tr>
</tbody>
</table>

(Poelt, 2011, 192.)

That how accurate the forecast is, has direct effect on the financial outcome of the revenue management actions. Having said this, it is clear how important tool forecasting models are. With an as accurate as possible forecast the revenue manager decides whether to open or close certain booking classes for bookings. If the forecast predicts low demand, it is perhaps wise to keep lower booking classes open. If the forecast pre-
dicts high demand, then the lower booking classes should be closed or not to be opened at all. This is the basic function for forecasts

2.2.2 Booking classes and fare restrictions

In airline revenue management the basic idea is to divide the individual flight into different booking classes which determines the availability. The number of booking classes varies, between different airlines but often the figure is between 20 to 26 different booking classes per flight. Maximum number of possible booking classes is 26, which is dictated by GDS systems, due to the fact that there are only 26 different characters in the alphabets and these are used in GDS to separate the different booking classes. (Poelt, 2011, 192.) Each booking class represents one price class and is restricted by the number of seats allocated to it and by the fare rules attached to it. Booking classes are the way to control the availability. The fare rules determine how the passenger can use the ticket and how flexible it is, in terms of refunds and changes to the departure times and days. When a certain booking class has been booked by the amount of bookings that has been allocated to it, the revenue management system will close it down, so it is no longer available for new bookings. At the same time there are several booking classes open and the consumer has to decide which booking class suits his/her needs the best. Within the booking class there are different fare rules which determine the ticket price. The fare rule contains restrictions to travel periods and times. With these fare rules the airlines have tried to steer the consumers between the different flights depending on the popularity of the flight. Usually very restricted fare rules have been targeted to leisure consumers. The flexible fare rules have been targeted to the business travellers enabling the changes of tickets and refunds. (Marcus & Anderson, 2008, 188.)

With the rapid rise of the LCCs in the last few decades, the use of booking classes and fare rule restrictions have changed. Usually the LCC’s use one way pricing without any restrictions on the length of stay or travel period. To steer the demand, only the price effect is used. Most of the LCC’s use a booking class model which theoretically promotes 100 percent sell-down to a lowest available fare, meaning that there is only one price category on sale at the time. (Vinod, 2011, 89.) If the load factor (the number of the sold seats versus the offered capacity) of the particular flight decreases or stays the
same and the departure moment of the flight comes closer, the revenue manager may see it justified to re-open the formerly closed booking class to attract more customers. Increasing number of legacy carriers are taking the same kind of approach to their revenue management systems to be able to compete against the LCCs. Quite recently the fare branding thinking has been introduced by the airlines to increase the buy up effect. The idea behind fare branding is to bring booking classes and fare rules into a more understandable form to enable customers to choose a appropriate product for themselves. At the same time fare branding is trying to increase the buy up willingness of the customer by offering additional ancillary services to the ticket with a certain price. Basically the fare branding gives an understandable name for the old booking classes. (Vinod, 2011, 89.) Finnair for example is using fare brands Basic, Value and Pro. Each of these brands contains several booking classes which determine the price. The old fare rules are replaced by more simplified fare brand conditions which can be seen from the table 3

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Basic</th>
<th>Value</th>
<th>Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes</td>
<td>Not allowed</td>
<td>50 EUR</td>
<td>Permitted</td>
</tr>
<tr>
<td>Cancellations</td>
<td>No refund</td>
<td>No refund</td>
<td>Permitted</td>
</tr>
<tr>
<td>Baggage</td>
<td>1 bag</td>
<td>1 bag</td>
<td>2 bags</td>
</tr>
<tr>
<td>FF points</td>
<td>50%</td>
<td>100%</td>
<td>150%</td>
</tr>
<tr>
<td>Pre seating</td>
<td>Extra charge</td>
<td>Extra charge</td>
<td>Free</td>
</tr>
<tr>
<td>Hand luggage</td>
<td>1 bag</td>
<td>1 bag</td>
<td>1 bag</td>
</tr>
<tr>
<td>Lounge access</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Priority check in</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Priority lane</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Name change</td>
<td>Not allowed</td>
<td>50 EUR</td>
<td>50 EUR</td>
</tr>
</tbody>
</table>

Table 3 Finnair’s Fare Brands (Finnair 2013)

2.2.3 Overbooking

The selling of the flight seat comes impossible after the check in for the flight has closed. This means, that all the unsold capacity turns into lost revenue. To prevent the loss of capacity and revenue, airlines consistently overbook their flights. In another words overbooking is a method to prevent loss of revenue in form of unsold seats. If airlines would not have flexible ticket rules, there would be no need for overbooking policy. The need for overbooking is much higher for airlines with different types of
flexible tickets than for LCCs, who’s tickets are usually nonrefundable. (Albanese, 2004, 20-22.)

Overbooking ratio, the amount of capacity to be overbooked, comes from combining the historical data and current forecast of demand to determine the optimal overbooking level. The overbooking ratio is a compromise between the risk of lost revenue from unsold seats and the risk of overselling the flight, meaning that in the time of departure one would have more passengers than seats, and the costs coming from compensating these passengers. When using overbooking, airlines must have clear procedures in place in case of these oversold situations. EU has also defined the compensations levels given to passengers in a case of overbooking. (Albanese, 2004, 20-22)

In general overbooking is nowadays an accepted model of capacity optimizing. Passengers are aware of this and government officials have made guidelines and laws for airlines to ensure the consumer rights.

2.2.4 Distribution strategy

Before the late 90’s the only ways to purchase an airline ticket was the travel agent or the airline’s ticket office. After the late 90’s the consumers have had the possibility to buy their ticket from their home computer and easily compare the prices and availability between different airlines. This has revolutionized the airlines whole distribution of tickets. The cost of sale between different distribution channels vary a lot and also the customer segments between different channels are very different. The understanding of these different channels and customer profiles has become one of the key elements in the effective revenue management. Therefore a solid distribution strategy is one of the basic pylons of the modern revenue management.

Many of the airlines try to move towards direct sales through their websites. Most LCCs base their distributions strategy solely to their own websites. The legacy carriers distribute their inventory via their own websites also, but the majority of the inventory is still sold via major GDS’s. When an airline distributes its inventory via GDS, they usually have to sign a so called full content agreement, in which they guarantee that they offer the same fares through GDS that they offer via their own websites.

The inventory which is sold via GDS is sold by the travel agencies, both online and offline. The share of online travel agencies is growing all the time while the share of
the traditional office travel agencies is decreasing. In recent years the growth of the online operators has slowed down a bit, which in some way could indicate that the balance between the online and offline channels is forming up. (Holloway & Humphreys, 2012, 620-623.)

Most of the airlines stopped paying commissions to the travel agents in the turn of the millennium. Still some incentive agreements are made with the preferred partners by some of the airlines, but mainly the trade is commission free. The main savings achieved by the airlines through sales via their own websites, are the fees to the different GDS. All the transactions made in the GDS cost x amount of money to the airline when again bookings made directly to the airline are free from these fees, if airline uses their own inventory system. The reason for airlines to be present in all the distribution channels is the fact the all of the channel reach different kind of client segment. If one distribution channel is excluded from the distribution, it is very likely that at the same time one kind of client segment is lost. Since the airline should be in all the channels, the channel management becomes essential for the success. (Vinod, 2011, 95-97)

2.3 Revenue management principles in the hotel industry

Revenue Management principles in hotel industry does not differ that much from the principles of revenue management in the airline industry. In both cases the inventory is perishable since when the plane has taken off or the night has passed, so has the product of the airline and hotel also gone forever, as is the possible revenue. Different actions to achieve the 100% occupancy, has been used for a long time. Lower rates for low demand periods and higher rates for high demand periods have been applied. These are the same basic means to add demand and control inventory and availability that are used in the airline industry. Even if the basics are the same in these two industries, still some distinctive differences however exists. In Hotel industry the length of stay is an important attribute, since it defines the available capacity for the time being. In the hotel industry in addition to no shows, one has to consider also under use and over use of capacity in the form of earlier than anticipated check out and longer than expected stays. Basic ABC model has been used to cope with these different variables to determine the number of rooms to be sold to achieve full occupancy. (Huyton & Thomas, 2000, 256-258.)
2.3.1 ABC model

The ABC model is a simple way to calculate how many rooms has to be sold in order to achieve 100% occupancy. The model takes into consideration the most important factors which affect the number of available rooms. These factors are:

- Number of rooms
- Occupied rooms last night
- Departing guests
- Arriving guests
- Occupied rooms coming night
- Cancellation ratio
- No show ratio
- Walk in ratio

All these variables counted together gives the number of rooms to be sold to achieve the full house. Naturally this model requires also historical data, so that the no show ratio, cancellation ratio and walk in ratio can be identified. This model only tells how many rooms have to be sold in order to achieve the 100% occupancy. It does not take into consideration the different demand patterns or competition. It also ignores the pricing. To have the full benefit from revenue management systems, it is also required to use consistent forecasting and have computerized reservation systems in place. Also procedures for overbooking and sales should be thought through to work effectively together with pricing and capacity control to achieve the best possible result. (Huyton & Thomas, 2000, 256-258.)

2.3.2 Different revenue management models

While ABC model is the basic foundation for hotel revenue management, there are many different theories and approaches to choose from in the hotel industry. Some theories concentrate on optimizing the revenue from the selected season and some theories have daily optimizing focus. Some models divide demand into constrained and unconstrained demand depending on the restrictions used for accepted bookings. Also different theories for more accurate forecasting can be found. All these different approaches value and weigh the same attributes known from the ABC model with differ-
ent emphasis trying to answer the questions how to optimize the booking cycle and pricing to achieve the best possible yield with 100% occupancy. (Liu, 2004, 93-95.)

2.4 Pricing

Pricing is the key element in successful revenue management. Unfortunately the basic pricing can only be wrong, since the price put up to the market cannot satisfy all the consumers. Therefore it is the task for the revenue managers to find the right balance between the price and the demand from the market. This can be done only after the price is out in the market. Therefore the pricing is the basic foundation of the revenue management to start the optimizing the profits.

There are three different basic price setting strategies:

- Economic – based pricing
- Cost – based pricing
- Demand – based pricing

(Rouse, Maguire & Harrison, 2010, 50-55.)

Economic - based pricing is the traditional way of thinking that increase in prices lowers the demand. This is the simple way of finding the theoretical balance between the costs and earned margins. This balance can theoretically be fairly easily found, but often the competitors destroy this situation and reaction is needed. The bigger fault in this way of pricing is that the company loses the consumers who are not willing to pay exactly the requested amount and is losing earnings from those customers who would have been willing to pay even higher price. (Rouse, Maguire & Harrison, 2010, 50-55.)

The price consist from the production costs, variable costs and the desired profit margin which are illustrated in the figure 1.
In the cost – based pricing the production costs and expected occupancy are calculated together with the required profit and the price is generated from this equation. The following fictional example in the table 2 illustrates the method to find the price for a hotel night:

<table>
<thead>
<tr>
<th>Data</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of rooms</td>
<td>Required profit before taxes (7,5 million X 15%)</td>
</tr>
<tr>
<td>Expected occupancy rate</td>
<td>Annual fixed costs</td>
</tr>
<tr>
<td>Expected annual room occupancy nights</td>
<td>Required operating income</td>
</tr>
<tr>
<td>Hotel investment value</td>
<td>Estimated variable costs (21900 X 50€)</td>
</tr>
<tr>
<td>Desired return on investment</td>
<td>Required revenue</td>
</tr>
<tr>
<td>Estimated variable costs per night</td>
<td>Required revenue per room night (2935000€ / 21900 room nights)</td>
</tr>
<tr>
<td>Estimated annual fixed costs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 The Cost Based Pricing  (Rouse, Maguire & Harrison, 2010, 50-55)

The result is that the price should be 134,02 €. The problem in this approach is that if the competitors have lower price for a similar product, the example hotel has difficulties to reach the calculated occupancy level. If the occupancy level drops, the prices
should get higher according to this calculation. This would obviously make the situation even worse. In another words this approach only works in the closed competition environment. (Rouse, Maguire & Harrison, 2010, 50-55.)

Due to the transparency of the markets in today’s world, these traditional ways of pricing has come to an end in many industries. In tourism industry it is nowadays very seldom that you will find fixed price lists that do not change. The tour operating has almost totally shifted to demand based pricing, which is based on the customer’s willingness to pay. This approach tries to find the optimum price level for each client, since the customers willingness to pay differ from customer to customer based on their perception of the product. The customers A may find the particular product, let’s say travel package in this case, to suite all his/her needs and is therefore willing to pay a good price for it. On the other hand the customer B may feel that the package fulfills most, but not all of his/her demands for a great holiday, so she/he is not willing to pay the same amount for that package as the customer A. This kind of pricing requires deep knowledge on the market and the markets reactions on the price changes. In the worst case the demand based pricing can result the decrease of revenue and profits if the customers, who would have been willing to pay a higher price, can pay the low prices and the lower price level did not bring any new clients. In the best case the pricing can bring new clients who would have otherwise gone to the competitors. This is where the revenue managers play the key role to find the right price level for the right moment. In another words the organization does not decide the prices, but the customers does. The sales organization can only try to identify the market price levels and decide whether to follow it or not. (Rouse, Maguire & Harrison, 2010, 50-55.)

2.4.1 Price perception

When the price has been created with any given method, it will face the ultimate challenge when the customer perceives it. Customers are always looking for the best possible price/quality ratio for themselves. It is also a known fact that often after the purchase many customers can feel bad about spending so much money and may come into different thoughts. This is why it is sometimes useful to create a good deal perception to the customer. This can be achieved through so called price waterfall view illus-
trated in the figure 2, where a number of components are deducted from the original price, making the actual price much more appealing. The good deal effect enhances the customers willingness to pay and can close the transaction faster. (Marn, Roegner & Zawada 2004, 203-204.)

Figure 2 the Price Waterfall (Marn, Roegner & Zawada 2004, 203-204.)
3 Package holiday industry’s special features

Package holiday most often consists from three basic elements: Flight, hotel and transfers to and from the airport. In addition to this, there are many different variations which consists more services or only two from the three mentioned ones. To make the study more easily comprehensible, only the basic form of package holiday is used to illustrate the special features related to this kind of product. From these three basic elements flight and hotel are the most decisive ones since they also include the major risks in the tour operating. The operating environment has changed dramatically in the past 20 years and nowadays tour operators have to compete against their providers, hotels and airlines at the same time when TOs have to use these elements to create their own product. Creates a very challenging situation where the profit margins are very low and the strict control over the inventory and prices and timing of the sales becomes essential for success. (Holloway & Humphreys. 2012, 589-590.)

3.1 The demand curve and the booking window

In most of the consumable products, the demand varies from one time to another. In the package holidays the demand varies very much depending on the time of the year. The major holiday periods are the peak times and the times between the major holiday periods are the times of the low demand. The shoulder times before and after the peak demand times are often called as normal times. Most often the peak demand times are referred as high season and the low demand periods as low season. This demand variation creates the pricing curve, which is introduced later on in the pricing section. In the travel package products the consuming of the product takes place in different time that the booking and payment of the travel package. Since the timeline between the booking of the trip and the actual departure for trip can be fairly long, it is very important to recognize the periods when customers actually book their trips. There are big variations in the booking behavior depending on the time of the year. These variations form the demand curve. In the figure 3 is illustrated a fictional demand curve for one fictional package holiday in Greece.
The challenge with the demand curve is that it can only be seen correctly afterwards, when the bookings are made. Therefore the forecasting methods are essential for recognizing the high and low peaks of the demand beforehand. The forecasting in tour operating works the same way as in airline industry which is explained earlier in this work. Every destination has its own demand curve and it changes from year to year. In stable conditions the major highs and lows in the demand usually stay the same, but natural conditions or political conditions in the destination has effect to the demand curve instantly. Egypt is a good example for this. Nowadays it is nearly impossible to predict how the demand curve will shape itself this or the next year.

The demand curve has a direct impact on the booking window. The booking window is the time between the departure and the time when the booking is actually made. In the high demand periods such as Christmas, the booking window can be very long extending to close to a year. When again in a low season the booking window can be very short especially if the booking decision is made just based on the low price. Booking window is perceived as the time when a sufficient amount of people are willing to make the booking decision to fill the tour operator’s capacity. The booking window itself is also perishable, since if the people who are willing to make the booking in a certain time are not reached, they will make the booking elsewhere and are lost from
the market until they are ready to make another booking in the future. This is why it is extremely important to recognize the booking windows for individual departures in order to be able to make the right marketing and pricing decisions at the right time. If the booking window is not open, meaning that the consumers are not ready to make the booking decision, it is waste of resources to try to get the consumers to book their package holiday. (Holloway & Humphreys. 2012, 591.)

3.1.1 Current practices in controlling the demand curve

The demand curve is mostly out from the TO’s control. The basic demand merges from the customer’s willingness to book their journey. The decision to make the booking comes from the customer. The TO can in some parts try to stimulate the customers willingness to make the booking with the pricing and marketing, but cannot generate the demand and need for travelling. This means that TO’s focus should be in trying to recognize the different phases of the demand curve in order to be able to implement right pricing decisions and marketing efforts correctly to meet the needs and willingness to pay of the customer better than the competitors do.

The basic generic demand can be identified by studying the past booking data and customer behavior. From this data the natural high demand periods can be recognized. However the pattern is never exactly the same from year to year and therefore the small or big changes in the demand curve have to be identified immediately, to be able to react to the demand change. As an example we can use an imaginary demand curve for Bulgaria.

The demand curve to Bulgaria is slightly different from the demand curve to Crete. The demand for Crete is high in the first months of the year when the demand to Bulgaria is still down. If the TO would start to heavily reduce prices to Bulgaria in order to get the booking flow to increase, the consequence could be that the bookings made to Bulgaria would come in with much lower price than what the other customer’s actual willingness to pay would be. The reason for this would be that the main target group of people travelling to Bulgaria are still not ready to book and therefore do not even seek the prices from the market yet. The people who eventually make the booking, based on the very low price, would possibly have made the booking anyway or would have made the booking to Crete, but instead changed their mind and booked the very low price to
Bulgaria instead. In this scenario the TO has cannibalized the other destination’s demand and at the same time destroyed the possible yield from the few bookings that came in. On the other hand if the TO would have recognized that the demand for Crete is high and there is still no demand for Bulgaria, the TO could have achieved better revenue from the bookings to Crete and later on when the Bulgaria´s demand would have risen, the TO could have sold the Bulgaria capacity with higher prices to the customer segment who is interested in Bulgaria as a destination. Of course in real life the demand curves of the different destination mixes and demand shifts between destinations, but the main point is that the demand curve need to be observed all the time to achieve the best possible results. Each destination has its own booking trend, which should be registered and monitored at all times.

3.2 Business risks in the charter based tour operating

The package holiday production is often built on charter flight series. The flight series consists of chartered flights which operate on a certain weekdays for a certain number of weeks. These flights, or flight seats on a flight, are pre-paid. This is why the flight is usually the biggest financial risk for a tour operator in a package holiday. The reasons for chartering an aircraft are to secure the capacity to a potential destination and provide a seamless connection to that desirable destination. The chartered flight is the key to produce a solid package holiday product, but it also becomes the biggest financial risk in the operation. Since all the flight seats are already paid by the tour operator, they must be sold to the consumers in order to avoid financial losses. This is why the booking status of the chartered flights is the key performance indicator in the tour operator´s follow up. By selling the pre-paid flight seats, the tour operator will minimize or diminish it´s risks.

Since the demand to a certain destination varies in different times of the year, it is important for the tour operator to secure sufficient amount of accommodation in the destination to satisfy the demand from the tour operator´s flights. Since the flight capacity in a flight series stays usually the same throughout the flight series because it is not possible to alter the size of the aircraft, it is necessary for the tour operator to secure part of the required accommodation per week in the destination. If this is ignored the tour operator might face a situation where there are a number of flight seats empty
to be sold, but there are no accommodation to package it with. This kind of situation would constitute a high financial risk, since most of those empty seats would be left unsold. By paying some of the accommodation in advance, the tour operator can minimize this risk. However by doing so, the tour operator will be posed with another risk with pre-paid accommodation.

With these two basic risk factors and the fact that current margins in the business are low, the package holiday identifies itself with the basic definition of the product that is suitable for revenue management: High fixed costs, small variable costs and low margins. (Andersen, 1997, 10-13.)

3.2.1 Risk management in the charter based tour operating

The risk factors in the tour operating business comes from pre-paid production components such as flights and hotels. If these components are left unused, they will cause considerable damage to the final financial result. On the other hand if the utilization of these components can be brought to the maximum, the bottom line result will also be maximized. This is why the risk management is one of the key factors for a successful tour operating.

Revenue management is one way to handle the risks by pricing the risky products in such a way that they will become desirable for the consumer and the best possible yield can be ensured. The key element in the charter based production risk management is precise capacity control. The most important task for a capacity optimizer and revenue manager is to make sure that every seat of the chartered flight is sold to a consumer. The key is to price the seat with any price necessary to get it sold. Even 1€ is better than 0€, since that is 1€ less loss compared to unsold seat. Naturally the aim has to be to get the best possible price out of that particular seat, but in the sense of risk management any price is better than no price at all, if there is a risk that the seat would not be sold.

The challenge with this kind of pricing is the cannibalization of own products and customer satisfaction. If wrong product is heavily discounted, the consumers who have bought that particular product with much greater price will become very disappointed or even irritated. Also if wrong kind of product is discounted, it might affect the selling of another product negatively. This is one of the reasons why tour operator must have
sufficient tools to handle the booking flow in a way that it can be directed to the desired products. At one moment this could mean that the booking flow is wanted to be directed to the properties with financial risks in form of pre-payments so that the units in that particular property are fully utilized. In another time it might mean that the booking flow is wanted to be directed to allotment properties where there are no pre-payments, so that the pre-paid units can be saved for later use to secure the best use of all the flight seats for the period where the demand for the destination in another markets are high, but the demand in the source market is very low. This way the TO can secure that it will not be left in the situation where there are a lot of flight seats left without accommodation possibility. The described risk management is used by all the TOs in the Finnish market.

3.3 Customer trust

In the package holiday industry, as in most the travel related businesses, the consumer pays for their experience before they receive it. This puts the package holiday product to a different situation than for example TV in the electronic shop, since the customer has paid for something she/he hasn´t actually seen or experienced yet. Many times the trip is booked and paid well before the departure and already before the booking is made, extensive planning and comparisons for the trip could have been done. The buying process is fairly long. In Thomas Cook´s research they found out that the average timeline between the start of the planning of the trip and the time of booking is average of 50 days. (Nielsen, 2010) During this trial period the customer is likely to review the prices a number of times and during this time the prices may change many times.

Customers are willing to accept the price changes as long as they understand why the prices have been changed. Kahneman studied how customers perceive fairness in pricing. He found out that customers understand and accept the price increase if it is based on sellers increased costs. However if the price was increased due to high demand, it was seen as unfair by the customers. (McMahon Beattie, Palmer & Yeoman, 2011, 55-56.) This customer perception is in direct conflict with the traditional revenue management practices therefore TOs have to be quite sensitive in their price alteration pro-
cesses in order to uphold the customer’s trust to the TO and at the same time maximize the profits from the products.

In general revenue management thinking has not taken into consideration the concept of trust or fairness of the pricing. The customer has been noted as a single transaction.

Nowadays CRM practices and theories concentrate on the customer lifetime value. CRM and revenue management practices have not been very successfully integrated anywhere because of their essential difference is in perceiving the customers value and timeline. Revenue management aims to maximize the profit of the single transactions when CRM aims to maximize the long term profit gained from the customer. (McMahon Beattie, Palmer & Yeoman, 2011, 60.) These two different approaches justify different kind of pricing decisions. The synergy between these two approaches to the customer are evident, but very hard to combine. At the moment it seems that the revenue management approach has been more utilized that the CRM approach, but it can be seen that the CRM approach is winning some ground among the TOs.

3.3.1 Revenue Management approach to the customer

In the traditional revenue management’s point of view would be to increase the prices as high as possible, without valuing the customer’s perceived value of the product. Example from this could be a trip to Gran Canary in three star hotel during Christmas time. The time of travel is definitely high peak time for demand. The traditional revenue management philosophy would say to increase the price of the package to a level, in which normal demand times, the customer would get a five star hotel, as long as the demand continues. This price can be obtained from the market since the demand is higher than the supply, so the customers who want to travel away during Christmas, will pay it. When the customers are at the destination, they might think that the hotel does not equal the price they have paid for the package holiday. This can create a high level of dissatisfaction to the product and customers might feel that they have been misled or even conned and do not trust the tour operator anymore. This in its turn means, that they will not travel with this tour operator in future anymore. In this case the one time profit is gained and secured, but the long term profit is lost.
3.3.2 CRM approach to the customer

In the same situation the CRM approach would make different pricing decision. Even though the demand is high and the high price would be gained from the market, the CRM approach would not price the three star hotel product to a level of the five star hotel product. The idea been, that if the customer does not experience the quality of the five star hotel even though the price would let him or her to believe that they should, the customer will be unsatisfied and will not continue the customer relationship after the journey. However if the package would be sold with lower price the customer would get the quality she or he expects and would be satisfied and would buy his or her package holiday again from the same vendor and this way the long term profit would be gained. In this case, the possible future profit is not secured as the one time profit is secured in the revenue management approach, but there is a possibility to better profits in the future, because the trust of the customer towards the supplier increases (Yeoman & McMahon-Beattie, 2004, 160.) Altogether in the CRM approach to the customer nothing is sure, but the company has to have faith for its products and make sure that the standard stays in the level expected by the customers. If this is not possible, for whatever reason, then the CRM approach should not be the practice for the company.

3.4 Package holiday pricing

There are several attributes which contribute to the pricing of one single holiday package. This can be described as the dilemma of pricing a mixed bag. The mixed bag pricing dilemma means, that the final price is formed from different components which have different price. These components also have different value in the eyes of the customer which should be understood as precisely as possible by the tour operator in order to be able to price the product most accurately as possible. (Marn, Roegner, Zawada, 2004, 203-204.) The package usually consists from different elements and the elements have also different prices for different time periods. This variation in component prices also contributes to the need for the pricing curve, so that the higher costs can be covered with higher pricing. A simple cost structure for a package holiday could be following:
Charter air seat 45%
Hotel accommodation 37%
Other service at the destination 3%
Head office overheads 5%
Travel agencies commission 10%
(Holloway & Humphreys 2012, 591.)

Sometimes the pricing principle of one component of the holiday package can be in conflict with the demand of the source market. A good example from this is the hotel pricing in the Mediterranean during August. While August is the high demand period for the Mediterranean hotelier, since the holiday period of Central and Southern Europe is at its peak, it is low demand period for the Nordic TOs, since the Nordic holiday season has just ended. This creates a conflict between the production cost of the product and market price which is achievable from the market. In order to be able to cover the costs, the price should be set relatively high due to expensive component price of the hotel, but the market prices create the pressure to pull down the prices due to low demand. This is one of the reasons why seasonal pricing and price curve are very important in tour operating profit optimization. The possible loss made during low demand periods should be able to be financed with the profits gained during the high demand periods. That is why the basic pricing is utterly important for the successful revenue management to be implemented. When the basic pricing is done carefully, the revenue management can be used to adjust the prices to match the market demand and prices at all times with the best possible results. If the price is set too low from the beginning and the prices have to be raised significantly, it will create suspicions among the customers and the customer trust can be jeopardized. If on the other hand the price is set too high from the beginning and the prices have to be lowered significantly in order to stimulate the demand, the price image among the customers is destroyed. In this case also the customers who have booked their trips early will be very dissatisfied and feel conned and probably next time they will wait until they make their bookings. This way the TO can destroy, or at least damage the booking window for the next season.
3.4.1 The price components

When pricing the package holiday, there are two main elements which dictate the ground for the basic price. Those elements are the flight cost and the hotel cost. These elements create the foundation for the price by telling us, how much are the basic production costs of the specific package holiday. After the production costs are known, the value of these elements to the client should be evaluated. There are different approaches to estimate the value of the basic elements by their features. The flight product value could come from the brand of the operating flight company, the slot time and the service concept onboard. For the hotel product the most important features to be weighed for pricing are classification of the hotel, location, services, facilities and meal plan. When the basic price from the basic elements is determined, the additional services can be included such as excursions and service concept. In the table 6 the model which is be used in the new profit optimization model for inclusive holiday industry for evaluating the basic pricing is presented in a form of an example. The customers valuing weights are always individual and cannot never been totally forecasted or accurately determined. The Production cost weights in the example are the same used by the Holloway & Humphreys model except that the weights inside a cost group vary from operator to operator and are therefore an example weights only. In this pricing phase the experience of the person doing the actual pricing plays a big role. When company has decided the formula for their individual calculation model between the different cost groups and customer price view, the model can also be used to determine whether new destinations should be opened and how the old destinations should be developed, since the model would give a uniform KPI’s (Key Performance Indicator) for the destinations and the hotels.
In the figure 4 it can be seen, that the elements, that the customer value the most have a very different weight in the share of production costs of the package. The flight has a very small role in the customer’s perspective on the price. This on the other hand plays a major role in the production costs for the tour operator. In the table 6 the shares of different product elements in the price are fictional. In each destination the shares vary, giving each destination its unique price picture. Also different clients value different
components distinctively, which makes it impossible to create an absolute model for pricing the package holiday. The table illustrates the mixed bag pricing dilemma described earlier in the pricing chapter. (Marn, Roegner & Zawada. 2004, 203-204.)

3.4.2 The Pricing curve

When the basic price is generated from the basic cost elements, the effect of the demand curve can be included. The demand curve indicates the believed generic demand that can be achieved from the market for certain departure during the travel season. This demand factor is added to the basic price which gives the pricing curve, it’s form. Pricing curve, also known as the season curve, gives the basic form to the price picture for the whole season. This curve adjusts the prices to match the historical demand pattern known from the historical data. In the curve there are defined attributes for each departure, which lowers or raises the departures prices compared to the index price. Index price is a chosen departure of the season which expresses the basic demand for the product in question. All the changes in the basic pricing process are related to this index price. The index price can be defined for a specific hotel, region, travel area or country. Each level has its own index price to which all the other departures are reflected to. The pricing curve is needed to match the fixed capacity to the demand. During high demand periods the tour operator is able to charge higher prices since the demand might exceed the supply. On the other hand during the low season periods the supply exceeds the natural demand, so the low prices are used to stimulate the demand in order for the tour operator to sell its whole capacity. (Holloway & Humphreys. 2012, 589-590.)

The major holiday periods are natural high season, because people have excess time to use for travelling. In the holiday periods, especially children families travel a lot, since that is the time when children are off from the schools which in its turn determine often the parents holiday times.

Some seasons of the year also trigger the natural high season. In Finland the autumn and the winter are fairly long periods and very cold and dark times of the year. These features in the climate stimulate the people’s willingness to travel and thus creating a high demand seasons without special free days in the calendar. Many times the variations in the local calendars and climate make the high and low demand times very local.
from one part of the world to another. The time of the year which can be high demand time for example in Sweden is not necessarily the best time to travel out from Finland. Knowing and recognizing these high and low peaks is essential to the pricing.

The pricing curve is very similar to the demand curve. The difference is that the demand curve tells us what time of the year the actual bookings are to be done and the pricing curve dictates the prices for the departure times. The demand curve starts when the production is release and lasts until the last departure for the season has departed. The pricing curve on the other hand covers only the operational season. The big challenge is to match the demand curve and pricing curve in a way that the TO has the right price available at the right time. In this task the forecast methods play a key role.

3.5 Current Revenue Management practices in the package holiday industry

To the consumers the most recognizable revenue management practice in the package holiday industry is the so called last minute pricing. It is the way for the TO’s to minimize the losses from unsold flight seats. Sometimes, when the demand is very high due to bad weather for example, the last minute pricing can also be seen as profit maximization practice. Other well known practices for the consumers are early bird discounts and group discounts. These two discounting methods can be seen as revenue management practices, since with these actions the aim is to stimulate the demand and reduce the amount of flight seats remaining to the last minute sales.

Behind the scenes, most of the TO’s use different tools to adjust prices to meet the demand in the market. To be able to follow the market prices, the TO’s need tools to monitor the markets price levels. Some do it manually by fetching data manually from the competitor’s web sites. Some use sophisticated program solutions to do the price fetching automatically. Based on these price findings, the TO’s revenue managers decides whether there is need or opportunity to change pricing in order to achieve better results.

After the decision to change the prices is done, the actual work to change the prices take place and for that there is multiple ways to proceed and every company has its own way of doing this. One reason for different ways of doing things is that almost
every TO has their own booking systems. None of the major tour operators in Finland use any GDS to handle their inventory or pricing of their charter based products.

3.6 Sales channel management

Today the sales channel management is crucial element in achieving good business results. Before the 90’s and the breakthrough of internet, there were basically two different distribution channels in the tour operating business in Finland: The tour operator’s own direct sales through telephone and shops and agent sales. Already before the online revolution there were different approaches to distribution strategies. Some of the TOs had chosen to distribute their products only through their own sales channels which included telephone sales and shops. Other TOs had expanded their sales from their own sales channels also to third party sales, which in those days meant offline agents.

After the internet revolution in the late 90’s, the travel trade as a whole has moved rather rapidly to the different online channels. Today the major online distribution channels in the travel industry in Finland are:

- Producer’s own website
  - Hotels
  - Airlines
  - Tour operators
- OTA’s
- Meta sites
  - Comparison sites
  - Newspapers online travel sites
- Affiliates
  - Bloggers
  - Different publications
  - Almost any kind of website in the internet that wants to publish content with commercial purpose

In Finland the most important online distribution channel for TO’s is the TO’s own website. In Finland the difference in online distribution in tour operating compared to
other Nordic countries is, that in Finland there are no major OTA´s in the market at the moment that would distribute package tours in their online shops. Practically all the OTA´s in Finland sell and distribute only hotels and flights and package them by themselves by using different kinds of search and booking engines. In the other Nordic countries the package tours are also included in the major OTA´s selections and they play a major role in the distribution chain. The reason for this development in Finland has been the fact, that the consumers found the TO´s own websites fairly quickly in the turn of the millenium and used to use them at the same time when the use of internet expanded in Finland. This lead to the current situation where most of the major TO´s in the Finnish market have given up the third party sales and concentrate solely to their own sales channels. From these sales channels the utmost biggest one is their own website.

The main reason which led to the situation where most of the tour operators use only their own sales channels is that after the internet revolution it became possible for the consumer to familiarize to the tour operators offering at home from their own couch. The other significant reason is that if one looks only at the cost of sale, the offline agents are very expensive compared to the online sales. However in most cases it would be useful to also examine the type of sales which comes in for the different channels in terms of average price and booking window. In the internet distribution the price becomes often the key element for choosing a particular product. In the offline sales the sales person has a lot of influence to the customer and therefore the average price often becomes greater in offline sales than in online sales. Depending on the TO´s distribution strategy, it can be well justified to use only online channels to distribute the products in order to achieve lower distribution cost, or if the strategy relies on the higher purchasing values bringing higher contribution, it is justified to use mixed distribution strategy where the sales happen via own sales channels and also via agent sales channel. There are positive and negative sides in all the channels.

3.6.1 Benefits and challenges of different channels

Every sales channel has its positive and negative sides. In this chapter these different features of different channels are examined from the TO´s point of view currently in the Finnish market
Tour operators own sales channels

Benefits:
When products are distributed through TO´s own sales channels, the TO has full control over the sales activities. The given information to the customers is always first hand information and the sales personnel´s product knowledge concerning TO´s products is best in the market and can be easily enhanced. The emphasis in sales is exactly what the management wants and that is also why the upsell possibilities are very good.

Challenge:
The sales coverage in offline sales is very limited even if the telephone sales and internet sales covers the whole market area. Despite the repeater clients, all the other clients have to be won and convinced time after time. The cost of sale is quite challenging to calculate, especially if the tour operator´s staff is multi-tasking, which means that they do many different working roles at the same time from back office working to front line sales. However most of the staff costs are direct costs which cannot be amended easily for different demand periods. Some flexibility is possible to achieve by using temporary staff, but the availability of the extra staff is limited and the training of these extra resources is time consuming and expensive.

Offline agents

Benefits:
Many times offline agents clients see themselves as clients of the travel agency rather than the clients of the TO. This way the travel agency has a clientele of their own, which is otherwise closed from the TO´s reach. The sales person in the travel agency is the trusted advisor in the travel business, who can help the customer to find what best suites them. This gives the travel agency´s sales person a lot of power to steer the trade to desired direction. Since the trade from the travel agencies is commission based, the cost is variable and always tied to results. Many times the people who book their trips through travel agents, book their trips more in advance and are willing and capable of paying higher prices in return of better service and higher quality of the product. Since the cost of sale is a variable cost tied to the results the agent channel provides excellent
extra resources and sales power to the high demand periods. During the low demand periods there are no fixed costs from the agent channel. If the TO is the preferred partner of the travel agent, this channel also produces repeaters.

**Challenge**

The cost of sales is rather high, since there is always a person to do the sales work and it takes time. The steering possibilities for sales actions for the tour operator are limited because of the independence of the agent, and also the level of the product knowledge is left mostly to the enthusiasm of the sales person. This might cause even monetary losses in the form of customer complaints and compensations, if the information given by the agent’s sales person is not correct. The pricing of the products becomes also more challenging when there are both offline agent sales and direct online sales in the distribution mix. If the products which sell best in the agent channel cannot be fully recognized, the price pressure from the market forces the TO to lower the prices to match the competitor’s prices, who only sell their products through their own distribution channels. This creates a conflict in the cost structure since the margins from the products sold through agent channel should be high enough to cover the higher distribution costs. If this is not achieved, the profitability suffers. Therefore it is important to try to recognize the best selling products from the agent channel and differentiate the pricing strategy between the agent sold products and direct sales products the best possible way.

**Online travel agencies and affiliates**

**Benefits**

The cost of sale with online distributors is always much lower than in offline sales. The contact price is also usually very low compared to offline media. With the use of the online agents TO can cover bigger clientele and try to use different incentives for the OTA to promote the TO’s products against the competitor’s products.

**Challenge**

The competition in these channels drive into a fierce price competition which brings the average price down and this has a negative impact to the profit levels.
3.6.2 How to control the different channels and product mix

The control over the different sales channels is important for three main reasons:

- To be able to control the cost of sale and profitability
- To be able to control the product mix and steer it
- To be able to control the sales timing

The cost and profitability in different channels vary because of the different distribution costs of the channel. The same product can be profitable sold through tour operator’s own sales channels but if it is sold through an offline agent, the contribution of the product could become even negative. On the other hand some complex products such as combination packages which includes accommodation in different destinations and transfers between the destinations could actually be more profitable when it is sold through an offline agent rather than TO’s own sales channels. The reason for this is that it is very likely that the actual sales situation takes a long time when all the details of the product have to be explained to the customer and perhaps the customer is in contact with the agency many times before the departure. If all this work would be done through TO’s own sales personnel, it could be very time consuming and therefore expensive and some other potential customer could be missed. In this light the sales through travel agent could be actually more profitable, even though the calculated cost of sales is higher through travel agent sale than through direct channel sales.

The control over the product mix sold in different channels is important because of the need to steer the sales volume to desired products. Sometimes it is necessary to steer the sales towards pre-paid hotel units or to some important hotel unit for procurement purposes. It might be necessary to have certain amount of volume in some particular hotel so that the TO can have more favorable rates for the future production seasons or the contracts may include some kick backs from the hotel when certain volume is achieved.

The timing of sales in different channels means that in some cases it could be beneficial for the TO to exclude some sales periods from some channels. As an example the high demand times, such as Christmas, could be only sold in TO’s own channels to maximize the profit from the products. In the reality this kind of solution would be very hard to implement and obviously the risk would be that the agents would not sell
the TO’s product during the low seasons either, if they cannot sell the best products during high season. More realistic way of steering the sales would be to set different commission levels for different travel periods to optimize the profitability.
4 Multi-Dimensional Profit Optimization in the package holiday industry

The objective of this work is to introduce a model for profit optimization in the package holiday industry. In the previous chapters the principles and methods of the revenue management in the airline and hotel industry, as well as in the tour operating business has been introduced. In these models the main focus has been in revenue management which usually is focused mainly to control the price and availability for individual customers. In the Multi-Dimensional Profit Optimization model, later referred as MDPO, the revenue management as described earlier, is one of the key elements together with pricing, marketing and CRM. The mix of these four main components will form the framework for the overall profit optimization in the package holiday industry.

The package holiday consist from many different elements. In the most basic form it only contains transportation to the destination and accommodation. In more complex form it can contain:

- Transportation to the destination
- Insurance
- Transportation in the destination
- Accommodation
- Meal plan
- Program such as excursion
- Guide services
- Treatments in a Spa
- Child care
- Activities
- Shopping
Also before the actual journey there are number of things that customer has to go through before the package holiday actually begins. These include:

- Arriving to the airport by
  - Taxi
  - Public transportation
  - Own car
- Accommodation at the airport hotel
- Parking
- Check In either at the airport or at home via Internet
  - Pre-book seats on the flight
- Consuming services at the airport
  - Restaurants
  - Lounges
  - Shopping

All of these components before, after and during the journey are sold and produced by some instance. All of these components also qualify the basic requirements of the product to be managed by revenue management principles. Therefore a broader view to the revenue management of the package holidays should be introduced. This of course requires that the term of package holiday should be considered as a whole, including everything between the time of the booking to the point of returning home. This creates a tremendous potential for a company to grow its revenue and profits and also to make travelling and relaxing as easy and convenient for the customer as possible. However due to the vast concept of optimizing the profits from the whole supply chain in package holiday experience would be much too broad subject to be covered in this work. This work will concentrate on the profit optimizing practices concerning the basic package including transportation to the destination, which in this case is flight, and accommodation and the core ancillary products related directly to the basic package. The view will be on the different dimensions in these elements.
In the coming chapters the following elements on the profit optimization model will be covered:

- Forecasting
- Risk assessment vs profit optimization
- Sales channel management
- Two layer revenue management
- Different demand curve approaches
- Utilization of the pre-paid capacity to maximize the profits
- Revenue management of the ancillary revenue products

After each chapter the simulated actions of MDPO and the traditional revenue management is shown with two case examples concerning imaginary destination XPO:

Case example A representing the traditional approach
Case example B representing the MDPO approach

These simulations are fictional reflecting the writers own experiences in the tour operating business, but they will illustrate the ideological difference between these approaches, assuming that there is a difference.

4.1 Forecasting

With different tools such as Google Trends or some data mining programs which could break data from daily news, combined to the more traditional revenue management forecasting systems, the TOs can make more accurate forecasts on demand. The revenue management systems usually base their forecast on the historical data combined to the booking flow. The traditional forecasting does not take into the consideration the competitors prices or the internet trends. In the optimal situation the forecast would be based on:

- Historical booking data
- The current booking flow
- Competitors pricing behavior got from the competitor analyzing tools
- Internet trends based on the search activities
With the use of these four elements the forecast would be multi-dimensional instead of two dimensional view which is only based on the internal information got from the tour operators own channels. The TO would have to build an own formulas how to appreciate these external factors against the data got form the own booking systems. This way the forecast would be truly a glance to the future instead of looking into a rear mirror and reacting on the moment’s behavior.

**Case example A**
When forming a forecast for destination XPO, the traditional way would be to gather the historical booking data, current sales speed and combine it with the inputs inserted to the forecasting program by the revenue managers. Based on this data, the forecasting program creates a forecast whether the current sales speed is adequate to fill the plane by the date of departure.

**Case example B**
When the forecast is formed using MDPO, the data which is described in the case A should be fulfilled with information on the competitor’s prices and the search trends in the internet. The use of competitor’s prices would also require the history of their pricing, which can easily be obtained from the data gathering programs which are used to monitor the competitors pricing. Assumption on the competitors LF could be made based on the pricing pattern, which would enable the prediction of the competitor’s pricing changes for the near future. The result from the internet search trends would give valuable information on the possible opening or closing of the booking window. If the trend of searches regarding the destination XPO would seem to be increasing, it would lead to a conclusion that the booking window is open or at least opening and this would have an impact on the pricing. If on the other hand the search trends would show signs of decreasing or even stabilizing, it would lead to the conclusion that the TO should prepare itself to adjust prices downwards in order to stimulate the remaining demand and secure all the potential customers.
4.1.1 Forecasting and marketing

In traditional revenue management all the focus is in the sales speed and in the number and value of the transactions. To be able to get the full benefit from the generated forecasts, the information got from the expected consumer behaviour should be implemented and used also in the marketing planning. As an example we can use an imaginary case with destination X in the tour operator W’s production portfolio.

The forecast implies that the demand and the current sales speed are not generating enough bookings to fill the aircraft on the departure date Y which is due in 60 days from today. The traditional revenue management action would be to lower the prices to stimulate the demand. However in this case the tour operator W is using the multidimensional forecast model. In addition to the historical and booking flow data, the revenue manager (RM) is studying also the development of searches related to the destination X in the internet with Google Trends (GT). The study shows that the searches have increased with 90% within the last two weeks. This implies that the demand for the destination X is rising. At the same time the revenue manager has done competitor analysis (A,B and C) using the competitor analyzing tool (AT), which gathers the prices from the competitor’s web sites. This analysis shows that the tour operator W’s prices are in line with the competition and therefore there is no pressure to lower the prices.

Revenue manager contacts the marketing department and sales department and informs them about the situation. The decision is taken, that instead of lowering the prices, the marketing department uses some extra resources to boost the search word advertising (SEO) and increases the commission levels regarding the destination X products in the affiliate network (AN) in the internet. Also some direct marketing in form of emails is done to appropriate customer segments. The sales department (SA) launches an incentive program for the agents (007 offline, and 006 online), that all new booking to destination X for the next two weeks get an extra commission of xx€.

The timeframe for the next follow up meeting is set to 7 days from today and then the situations are evaluated again. If the sales speed is still in the unsatisfactory level, the prices will be lowered in addition to the marketing and sales actions.
With this approach all the stones are turned by the marketing and the sales departments in order to find the right customers who are willing to buy the product. It is the revenue management’s duty to find the right price level which matches the customer’s willingness to pay. This kind of MDPO model requires seamless cooperation from all three counterparts. Every instance involved in this process should understand each other’s actions and what resources they require. When this understanding between the three departments is found the results should be excellent. The example described above is only one way to approach the situation. Depending on the situation the actions taken could be very different. For instance if it would have been found out that the price levels would not have been in line with the competitor’s prices, it would have been enough to just correct the prices. Every situation is unique and the actions should be evaluated case by case.
Case example A
When the forecast for destination XPO shows too low sales speed, the revenue management might ask the marketing department if there would be some possibilities to do some promotional actions to stimulate the demand. After this the probable action would be to lower the prices to speed up the sales speed. If the sales speed would pick up, the next action would be to raise prices again. If the sales speed would continue to be satisfactory, the prices would be raised again until the sales speed would stop.

Case example B
The above described action according to MDPO model described in figure 5 would take place.

4.2 Risk assessment in maximizing the profits
When the business model is based on the charter flights, the continuing risk assessment is necessary in order to achieve positive business results. In this work the approach to risks assessment is, that all the flights and pre-paid hotel units are monitored every day to see whether the sales speed is enough to fill the flight before the departure. If the speed is inadequate, the actions should be taken immediately.

Group sales is usually never included in the revenue management analysis because the principles of traditional revenue management are based on single transactions. However groups are a good risk control tool if the pricing is done correctly. Often sales departments and revenue management departments have vivid discussions on group pricing and whether to accept them or not.

The low demand points in the demand curve are known in advance. In these periods the TO’s should actively try to get different kinds of groups in. The idea is to fill the loose capacity with close to zero contribution groups in order to minimize the LMS sales to single customers. The groups seldom generate big profits in the low season periods unless the TO or its agents are able to generate some extra content to the groups. However they make the risk of having empty seats on the departure on the departure day much lower and therefore become very lucrative target group for the TOs. In the MPDO the risk assessment consists from well managed group trade and capacity control. Sales channel management is also a crucial part in handling the finan-
cial risk. If the sales channels can be coordinated properly it can create a balance between the high and low demand periods and therefore maximize the profits.

**Case example A**
The revenue management and pricing takes the different demand curve changes into considerations and makes the necessary adjustments to the pricing curve in order to maximize the pull effect towards the customers during the low season departures and to maximize the profits from the high demand departures. In this process a lot of emphasis is put to the historical booking data. All the pricing actions are defined for the individual customers. No other target groups are taken into consideration. The price picture is built on the expected price picture of the market. No long term yielding pattern in considered at this point.

**Case example B**
In the MDPO approach the same action would be taken as in Case example A. In addition to this, the revenue management would calculate the expected last minute sales share for the departure together with the expected revenue and contribution levels based on the historical booking data. These calculations would give the basis for the group pricing and the allotment to be used primary for groups. Revenue management would send out these levels to the group department which would start to work on the case to acquire the desired amount of customers fitting into this segment. This way the groups could be used as a risk management tool to prevent the seats from falling into the LMS market, if that is the desired case. In some cases the groups are not wanted, since the generic demand is enough to fill the capacity with maximum contribution. This group travel valve should only be used in the low season periods, where the demand is naturally low.
Sales channel management is crucial part of optimizing the profits as described in the earlier chapters. In the MDPO approach sales channel management is in close cooperation with revenue management, so that the correct price would be found in the correct channel for the correct customer. The main means for controlling the sales channels in MDPO are

- Product pricing
- Steering the commission levels
  - Steering the basic commission level of the channel
  - Steering the commission levels through sales periods
- Using incentives for different channels.
- Discriminating different channels
  - Using different pricing in different channels
  - Excluding selected products from selected channels
- Using marketing means to steer the trade to selected channels

Product pricing is the key element for successful sales channel control. The different products for different channels should be recognized and priced accordingly. For example some products sell very well through the more costly agent channel and those products should be priced higher to maximize the profits, even if it would mean that the price is not competitive against competitor’s similar product which is sold only through online channels. The reason for this is, that if the demand for this particular product in the agent channel is adequate to fulfill the profit goals which are set to this product, it would be justified to discriminate the demand from the online channel. On the other hand some products sell well in online channels and these products should be matched to the market price level compared to all the competitors and perhaps even exclude them from offline channels. It is also important to recognize or choose the products target for groups, so that there would be room for sufficient discount incentives to convince the groups to book their trips through the TO. In all these different
approaches the product knowledge plays a key role, so that the correct products for different target groups can be identified.

The commission level steering is an effective way to steer the third party sales as well as online sales through the affiliate networks. If some particular product would need an extra push to achieve the targets set to it, or for some reason brings in particularly good profits, an extra commission levels for different channels for this particular products could be implemented. This approach is best used in timing the sales and steering the demand to desired periods or products. The demand for low demand periods could be stimulated by setting better commission levels for the bookings made to these travelling times. The aim should be to give the agents a reason to actively steer their customer’s to book TO’s products on the desired time periods. In the affiliate network the extra commission for these pointed products or periods would increase their willingness to publish TO’s advertisements in their sites to increase the bookings. By setting these extra commission levels, the TO could maximize the possibility to reach all the potential customers who are willing and able to book these particular products.

Discriminating different channels by pricing the products differently could be an effective way to increase the profits of individual products. However in the todays transparent world, the use of this kind of pricing steering is not realistic and would create mistrust among the customers and cooperators towards the TO, as explained in the customer trust chapter earlier in this work. The product discrimination would be more effective way to manage the different sales channels. If the pricing decision would be made to price some products higher due to the different demand pattern in different channels, excluding some products from some of the channels would be even more effective way to do this. This discrimination could concern some individual hotels or even some travel periods. In this approach the risk still is that the channels that are discriminated would seize to sell the TO’s products altogether. Therefore this kind of channel steering method should only be used in a market situation, where the TO has exclusivity to the destination or a at least a very dominating position in the market.
Case example A

For the destination XPO all the products are priced to the same level regardless of distribution channel. The commissions to different third party channels, such as online affiliates and travel agents vary between the channels, but not between the products. If the TO would like to increase the efficiency of the third party sales channel, it would have to do the differentiation through commission levels for different product groups.

Case example B

In the MDPO approach the different products have been divided and identified to match the demand of different target groups and which channels they use. The product availability for the destination XPO’s hotels A, B and C is shown in table 4:

<table>
<thead>
<tr>
<th>Sales channel</th>
<th>TO Online</th>
<th>TO direct</th>
<th>Agent offline</th>
<th>Agent online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel A</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Hotel B</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Hotel C</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Table 4 The product availability in the destination XPO

With the help of this product discrimination the TO can secure better yield from all products from different channels. The products that sell well though the offline agents, could be excluded from the online channel and priced higher to match the demand. At the same time the products which face fierce price competition in the online channel could be excluded from the offline agent’s sales portfolio to minimize the distribution costs. All the products would naturally be bookable via TO’s own sales channels.
The timing of the sales has also been valued in the commission levels to the third party sellers. In the table 5 the imaginary commission level steering is shown:

**Table 5 Comission level fences**

<table>
<thead>
<tr>
<th>Days before dep</th>
<th>&gt;30</th>
<th>31-90</th>
<th>90&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliates</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Agent offline</td>
<td>4%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Agent online</td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
</tr>
</tbody>
</table>

The different commission levels are fenced so that the time before the departure is the trigger for the commission changes. Increasing the commission for longer booking window the TO would encourage the agents and affiliates to emphasize the long term sales. This would be a win-win situation for all parties, since the price development usually has a decreasing trend towards the departure.

### 4.3.1 Marketing as a sales steering tool

The most traditional and most used way of steering sales to different channels is the tactical marketing activities. The marketing activities should be planned by determine the target of the action. The targets could be for example:

- Last minute sales
- Long term sales increase to some destination
- Long term sales increase for some travel period

For last minute sales, the activities should aim to increase the demand in TO’s own channels. The reason behind this is, that often the last minute sales is very low margin sales and the situations changes rapidly. Therefore the aim should be to sell these products through TO’s website and direct sales, so that the losses could be minimized and the profits could be secured.

If the target is to increase the sales for some destination, or travel period then the decision to steer the demand to different channels depend much on the geographical location of the source market. If the TO has strong presence in some sales areas, then there would be no need to steer the sales to third parties. However if the TO’s pres-
ence is weak in the sales area, then it could be justified to try to direct customers to the agents, so they could close the booking decision and secure the booking for the TO. In MDPO the aim is to get the bookings in and therefore the decision to steer the sales to certain channel should be made case by case by valuing the sales situation, current demand and the TO’s presence in the area impacted by the marketing activities.

Case example A
After the evaluation of the sales situation for the destination XPO, the decision has been made to launch a marketing campaign to stimulate the sales. TV and online are chosen to be the marketing channels. The campaign is conducted in the national level.

Case example B
After the evaluation of the sales situation for the destination XPO, the decision has been made to launch a marketing campaign to stimulate the sales. The TO has strong agents in the east part of the country and the customer surveys show, the customer segment in this area values face to face service. In this area the TO executes an offline campaign in the local newspapers, encouraging customers to contact their nearest travel agent for great offers to destination XPO. Simultaneously the TO executes a broad online campaign in the capital region to direct traffic to its website where there are good offers displayed to the destination XPO.

As a conclusion for the sales channel steering in MDPO, it is vital for success to understand the benefits and challenges of the different channels which are described in the previous chapter. The goal should be to find the ideal match for different products and prices for different channels and at the same time reach all the customer segments in these channels.
4.4 Risk evaluation on the flight level and profit optimization on the hotel level

The risks in the charter based tour operating are mainly in the flight level. The pre-paid flights need to be filled to be able to kill the financial risks. The risk from the empty seats becomes greater the more closer the departure time comes. If there is no accommodation capacity in the flight destination or if it is very expensive due to high demand, it becomes difficult to sell the flight capacity with almost any price, since clients are not willing to buy the flights if they cannot find any accommodation from the destination with reasonable prices. Therefore the sales timing plays a major role in handling the risks the MDPO.

The hotel costs vary from hotel to another and also the demand for different hotels can change. During the early stages of the sales when there is still long time to the actual departure, the demand can be directed to hotels with a better than average standard since the motive to buy the package early is often the customer’s desire to secure the best possible holiday for him/her within his/her resources. When the departure time comes closer the demand can be directed to more modest hotels due to the fact that many times the price becomes the defining element. The handling of pre-paid hotel units is also effective way to manage the risks. Sometimes it is necessary to save the pre-paid units for the high demand periods to avoid the situation where the accommodation capacity of the destination is not enough to accommodate the flight capacity. To be able to do this, the revenue managers have to raise the prices in the units which the company wants to save for later use. On the other hand in low demand periods the pre-paid units have to be priced to a lower level than allotment units so that the demand can be steered towards the units with highest financial risks. This is why the two layer revenue management model, which is an essential part of the MDPO, is described in the next chapter, is useful in maximizing the potential profits for the flight capacity.
4.4.1 Flight level risk evaluation

In the flight level, the risk evaluation has only one goal: to ensure that all the flight seats are sold. To be able to do this, the TO needs to have the information about the whole capacity in the market in order to be able to evaluate well in advance with what price levels the different time periods should be sold. Also the position of the brand image should be recognized to be able to evaluate the pull of the products. The knowledge of the total capacity and the position of the TO’s brand compared to the competitors enables the TO to determine the right pricing position for each departure. For example if it is know that there is a lot of capacity for certain period of time and the brand of the TO is weaker than the competitors brands, the decision should be to sell the TO’s own capacity before the competitors do by lowering the prices before the other competitor do, to be able to reach the more price sensitive early bookers. If on the other hand the TO has much stronger brand than the competitors, the TO can try to uphold the price levels slightly higher than the other competitors and follow more its own sales speed and try to reach the less price sensitive customers who are willing to pay more. The challenge is to identify the customer’s willingness to pay. In the flight level risk evaluation the scope of the evaluation period is the whole production. If the forecast made by revenue management implies that the sales speed is not enough to fill the plane before the departure, the actions should be taken immediately to correct the price levels to stimulate the demand. These follow ups should reoccur weekly, if not daily, depending on the sales situation. The flight level risks evaluation determines the general price level and the possible need for tactical campaigning. In the flight level risk evaluation, there is no need to concentrate on the production costs of the whole package, but to ensure that the current price s are in the right level to create enough demand to fill the planes.
4.4.2 Hotel level profit optimization

In the hotel level profit optimization the goal is to find the ideal price level for different hotels within the flight. This requires at least weekly follow up on the booked products, so that the best selling products can be identified and yielded accordingly. The hotel level profit optimization also includes the follow up of the booking levels of the pre-paid units, so the full utilization of the pre-paid capacity can be ensured. The product mix evaluation should also be included in the hotel level profit optimization. It is necessary to follow up the hotel mix and availability to ensure that there are right products available for the right customer segments at all times.

4.4.3 Two Layer Revenue Management

In the Two Layer Revenue Management model the price optimizing builds up from two levels: The flight level and the hotel level.

In the Flight level the perspective is in the relation of the flight’s load factor and the departure dates range. The flight can be described as a gate to the destination and the port narrows down the closer the departure gets. The hotel in the destination is the incentive for the customer to book their trip, since very rarely customers buy the flight, only for the joy of being in the aircraft. The flight price builds up significant part from the final price of the package so it is also the most important valve in controlling the sales speed.

The flight seat in the flight is the same for every package, given that the flights are operated only with one service class. The differentiation between the different packages comes from the hotel included in the package. The different client segments desire different hotels and different hotels have different demand curves within the flight. This is the reason why the hotel revenue management within the product is the second layer of the two layer revenue management.

When these two elements are yielded separately and the sum of the two elements becomes the price of the package, it is vital to monitor the market price levels for the similar packages to ensure the price is competitive in the market. Direct comparing of same hotel class packages to each other from the competitors selection is not worth
while since the motives behind the pricing decisions vary from the risks carried by the TO. The objective in these comparisons has to be to secure the competitive product portfolio for the whole destinations and the desired product steering for the appropriate units to ensure the best possible profitability. For this purpose the TO has to have sophisticated competitor analysis software to retrieve the market prices constantly, to be able to ensure the correct price levels. The price level evaluation should be done on daily basis. The competitor analysis should be done at least on weekly basis. The process of the Two Layer Revenue Management is described in the Figure 6.

![Two Layer Revenue Management](image)

Figure 6 Two Layer Revenue Management

After evaluation of the flight risks and the profit optimization in the hotel level is done, the price elements of the packages are known. These prices should then be evaluated against the competitors matching packages. After the evaluation process the prices should be adjusted to the market level. The adjustments can decrease the prices or increase the prices depending on the market situation. After this process the prices of the packages are ready for the market. To be able to carry out this kind of process on daily or even weekly basis requires highly automated pricing systems and constant follow up.
by the revenue managers. If the TO lacks some of these resources, the process should be carried out as often as possible.

4.5 Different approaches to different demand situations

The demand is never stagnant and it changes all the time. When a demand forecast is built up, a significant emphasis is on the demand patterns of the previous years. Even though the years are never the same, the pattern tends to stay somewhat similar from year to year. However nowadays world is changing very rapidly and the information flow from all over the world is huge. This affects the demand in a way that we have never seen before. It is even questioned whether traditional revenue management models can handle this rapidly changing world and if it would be better to move towards more human controlled systems rather than highly automatized revenue management systems. Since the demand per destination and time can vary so much, it is necessary to create different approaches to different demand patterns to be able to react the best possible way to each situation. In this work the demand patterns are divided into three different patterns:

- Low demand
- Medium demand
- High demand.

In the next chapter it is explained what should be the MDPO approach to each of these situations in order to maximize the profits.
4.5.1 Low demand

Low demand periods are inevitable since the charter based tour operating usually consists from long flight series in order to lower the flight cost of the individual seats. This means that there are periods when the demand is naturally low. In order to operate a successful flight series, these low demand periods play a significant role in optimizing the profits. Therefore high attention should be focused in low demand curve handling. When these low demand periods are known, they should be priced very carefully already in the production phase to steer the price sensitive customers to travel in these times. This is done through the pricing curve.

When the natural demand is low, the traditional revenue management approach has been to lower the prices so long that the demand rises. In tour operating the other option to react to low demand periods can be to acquire group bookings to these periods. The population of senior citizens is rising all the time and for the leisure travelling this creates a lot of positive expectations. The segment is very tempting, since their travelling is not tied up to normal holiday periods. This creates an opportunity for the TO to fill the capacity during low seasons with this segment as described in the chapter 4.3.

If the demand appears to be low for some external reason instead of the normal low seasons times, other methods to handle the demand has to be taken into action. If the demand decreases due to economic downturn, it is very likely that this will affect all the destinations. In this kind of situation pricing can only have limited effect in raising the demand and therefore the capacity must be matched to the demand. If the demand decreases for some particular destination for different reasons, such as unstable political atmosphere, the pricing can have better results than in the economic downturn. However with the capacity control, more over reducing the capacity, the risks can be handled much more effectively and in controlled way.

The key element in the low demand handling is reactions. If the demand lowers for some other than normal off season reasons, decisions has to be taken very quickly. All the extraordinary reasons which result decrease in the demand, cannot be handled effectively with only pricing decisions. With pricing and yielding some stimulation in
demand can be achieved, but if the demand lowers dramatically, then the pricing effect diminishes and capacity adjustments are necessary. In low demand handling the traditional and MDPO approaches are very similar. Therefore the case examples A and B would be equal.

4.5.2 Medium demand

Medium demand could be described as normal times between the high and low demand. Medium demand is often determined by the holiday seasons and specific times between the holiday season of the year. Medium demand times are also very market specific. For example in Finland April and May could be referred as medium demand period for the summer sales, when again in Norway this is clearly low demand period. In medium demand times the pricing and marketing actions are the best tools to steer the demand to desired products.

Medium demand pricing should react very sensitively to the demand behavior. Within the departure, the demand of the different hotels may vary quite a lot. Recognizing the best seller products in every departure is essential for the effective medium demand revenue management. Successful product management is one of the key factors in this process. As explained in Two Layer Revenue management model, the demand of the flight and the demand of the hotels in the flight should be appreciated separately and then counted together and matched to the market to find the correct price level. At the same time competitor analysis should be performed repeatedly to ensure the correct price level compared to the competitors. In medium demand revenue management it is necessary to adapt to the competitor pricing and at the same time ensure that the key products which enjoy higher demand will be priced correctly through effective Two Layer Revenue management. The focus should be in the hotel level profit optimization to optimize the profits. The MDPO model shown in figure 5 should be used in the process.
**Case example A**

In the traditional revenue management there is very little focus on the competitors pricing and the market reactions to the pricing are perceived through sales speed changes. If the sales speed is too quick, the prices are raised. If the sales speed is too low, the prices are lowered. External factors from the commercial point of view are not recognized as part of the continuous revenue management process.

**Case example B**

In the medium demand situation the MDPO should be at its best. The main focus is on recognizing the right booking window for the right products. Competitor’s price levels are constantly monitored and adjustments are made to match the prices accordingly. For this purpose there must be a defined pricing strategy for the destinations, where it is clearly pointed out where the TO wants its price levels to be compared to the competition. Pricing strategy depends on multiple factors, such as brand position, presence at the destination and product portfolio. For identifying the booking window, the constant follow up of the booking patterns and internet trends are essential indicators. When the booking window is identified the pricing actions should be coordinated accordingly. If it is seen that the high peak of the demand for the destination XPO is at hand, the pricing should be optimized to match the demand. This means that the prices should not be raised over the pricing override which is defined for the destination XPO. This way the TO can fully benefit from the demand peak and get all the prospect customers in, instead of raising the prices so high that the demand would die. The yielding actions should be done in the hotel level so that the full benefit form best selling properties can be secured.
4.5.3 High demand

Some periods during the year are naturally high demand times such as public holiday periods. Sometimes a high demand period can emerge because of the external reasons outside the natural demand. These kind of external reasons are very often linked to weather conditions, since bad weather increases naturally the demand of the beach holidays. Sometimes the conditions in other destinations affect some other destinations by increasing the demand to them because of the better conditions. For example a political unrest in the Arab counties during the Arabic Spring boosted the demand to Canary Island significantly. The approach to revenue management on the destination level depends from the reason why the demand is high.

If the demand is high because of the natural reasons, the TO can prepare for it by pricing packages with higher than average prices from the beginning. Also the capacity planning has to match to the demand.

If the demand raises to high demand levels because of some external reasons it is hard to react by increasing the capacity with short notice. Sometimes, as it was the case in the Arabic Spring, the TO might be able to shift capacity from a suffering destination to boosting destination. If this is not possible and no extra capacity is at hand, the only way left to react to the situation is to increase prices accordingly. Often it would be most profitable to increase the prices and add some capacity, but many times this is not possible, but the tour operator has to choose from the two previously mentioned options for the new approach. If there is no possibility to adjust the capacity, The MDPO model described in the figure 5 should be used.

Case example A

During the high demand periods traditional revenue management reacts by raising the prices as long as the bookings come in. When the booking flow dies, the prices are lowered until the demand recovers again. The risk in this approach is that he prices are raised too much and the demand peak is missed because of the limited demand due to high prices. When this demand peak is gone, the TO might be forced to lower the prices significantly to recover the demand again. This way the whole potential of the particular departure is not utilized.
Case example B

In the high demand periods the MDPO will show as yielding overrides become active. Naturally the yield override is higher during the high demand periods than normally, but is still there to control the yielding results. In the high demand periods the marketing actions are drawn to the minimum and the main focus is on the destination level yielding. The active yielding in the destination level will ensure the maximized results.
4.6 Using product upgrades as a revenue management tool

The traditional revenue management tends to concentrate solely to the packages basic price. The approach in the new millennium has changed and nowadays the buy up, meaning that the customer does not choose the cheapest alternative, but possibly slightly more expensive one with better qualities, has emerged to be one of the key elements in the revenue management thinking. Airlines have tried to conceptualize their rather complex ticket rules into understandable products with clear features, so that the customers would more easily find the products that suite them best and hopefully are prepared to pay a bit higher price for them as described in chapter 2.1.2. Same kind of thinking could also be applied to package holidays and some of the TOs have already done so. Some TOs such as TUI Nordic and Thomas Cook Nordic have already done so. Some TOs such as TUI Nordic and Thomas Cook Nordic have built clear concepts around their hotels to conceptualize the holiday. This way it is easier for the customer to find a hotel that matches the demands of the particular customer. For instance, if customers is seeking a peaceful holiday without kids, the TO can offer a children free concept for them. Some of the biggest TOs have concentrated most of their volume to this kind of concept products. These concepts enable buy ups if the TO´s CRM tools enable the customer profiling. If for example a couple in their 50´s have booked a holiday in Crete and their previous booking behavior indicates that they always travel without children, it could be possible to offer them a child free option in a hotel with similar or better quality, but where the hotel agreement is more favorable for the TO. This same approach could be used when hotel provide special offer from the destination. TO could contact the clients who have already booked their holiday and offer them an alternative option from a hotel that provides special offer. This way the TO can optimize its profits from the capacity at hand. However the TO should use the campaigning advantage with great consideration, in order not to spoil the relations to the hotels outside the campaign. This could cause significant damage to the contact negotiations in the future. This approach could be part of effective MDPO model usage if the TO would choose so.
4.6.1 Utilization of the pre-paid capacity

The full utilization of the pre-paid capacity, both flights and accommodation, is the key to the successful tour operating and optimizing the profits. The major financial risks are tied to the pre-paid capacity and the utilization of this capacity has direct impact to the final financial result. TOs usually calculate their production costs with 90% to 98% occupancy levels. This means for example for the TO who calculates their costs with 90% occupancy levels, meaning that to kill the costs from the flight the TO should sell 90% of the seats and seats sold after that would come in with pure profit. This is of course simplified example and the mathematics in this example does not consider the price changes. (Holloway & Humphreys, 2012) To ensure the full utilization of the flight seats, all the flight seats should be sold, even with the price of 1€ if needed. Any amount of Euros is better than nothing. If the flight has not reached its breakeven load factor, every Euro earned on the flight is same amount of less loss. If the flight has reached its breakeven load factor, every Euro earned on the flight is the same amount of profit at the end.

The cost of the pre-paid accommodation is calculated basically with the same way as pre-paid flight capacity. The amount of the pre-payment is divided with the accommodation nights during the season. This result gives the cost of one night. The same earning/losing logic applies here as in the airline capacity. Every room night has to be sold. If the hotel capacity stays empty, every empty night is away from the final financial result. To ensure the full utilization of the pre-paid hotel capacity many TOs use a product called unspecified accommodation. With this product the TO can set a minimal price for the product, since there are very limited or no promises at all for the quality of the accommodation in the package. During the low season periods these customers are placed to the pre-paid units which are not sold and if there are none available, the cheapest available unit is used. Unspecified accommodation product enables the TO to have a lowest possible beginning price and during low seasons to ensure the best usage of the pre-paid capacity.

In the MDPO another approach to this issue is used. If the situation is that all the flight seats are sold and there is still pre-paid capacity left unused, the TO could try to sell upgrades to the customers who have booked a lower standard accommodation to
their package. If this does not bring the desired results, and nobody wants to buy this upgrade, the TO should leave the same amount of customers not contacted that there are pre-paid units left. For this segment the TO should offer the upgrade free of charge. This way the capacity would be in full use and in addition the TO would create goodwill to the upgraded customers. There are several ways to find the customers who should be upgraded in this situation, but in this work these details are not covered. The simple basic idea behind pre-paid capacity utilization is that none of the units whether they are flight seats or hotel rooms are left unused.

4.7 Revenue management in the core ancillary revenue products

The core ancillary revenue products are products or components of the travel package which are directly linked to the basic package flight and accommodation. These include

- Parking
- Services at the airport
- Better flight class and/or service on the flight
- Services on the flight
- Transfers at the destination
- Meal plans at the hotels
- Services at the hotel
- Excursions and activities
- Car hire

For these core ancillary products and services a demand and pricing model should be created. These elements can also be used to create a good price waterfall for the whole package, making the package more lucrative for the customers. An example for this kind of price waterfall could be, that if the customer books the trip in certain time period they get the half board for half price or even free of charge. This would be basically the same thing as if the TO would give X amount of discount, but this way the actual discount costs less for the TO since the production cost of the half board is less than its selling price which is visible for the customer.
The more sophisticated MDPO for the ancillary revenue products would require booking systems that have actual inventory of the sold products and services so that the prices could be adjusted according to the demand and supply. This capacity should be created using historical and researched data, since that way the optimal amount of sold services and products could be determined. Also some overrides should be created so that the prices do not rise too high or low with the expected demand since none of the core ancillary products are essential for the basic product.

The capacity calculation should be done by using data received from customers that have already travelled in previous seasons. The customers should be asked after the holiday if they rented a car, used hotel services such as Spa, participated on an excursion etc. The data got from the questionnaires should be cross checked with TO’s own booking data to find the real potential for each product. Some ad hoc deductions should be made, since not all the customers know if they want to book some services in advance. Many times weather affects these decisions. After the deductions the estimated potential for each product and service is known. The capacity should be created based on this data. After the potential is known, the decision should be made whether to create border values for the services and products or let them be in free sales the whole time. For example the excursions with the guide should be limited, since there are only a certain number of guides per destination available on any given time. Then again hotel meal plans should probably not be limited since it is likely that the hotel has the capacity to feed all of its guests.

At the destination level the MDPO has three main drivers for pricing and marketing decisions: weather, demand and supply. The weather can create demand for certain products while it kills demand for others. For example a boat trip to undiscovered beaches will not sell if it is pouring rain, when again the excursion to the village fiesta would most likely be fully booked, especially if it is held indoors. At the same time the demand and supply should be controlled and the prices adjusted accordingly. For example if it looks like there is a risk that some excursion cannot be executed due to lack of few participants, the destination staff could try to sell these few seats with lowered prices in order to secure the revenue and profits from the already booked customers. If the TO has the systems to back up the inventory and sales control together with CRM marketing tools, the possibilities for MDPO at the destinations are almost unlim-
ited. When pre-departure sales and sales at the destination are coordinated accordingly, the MDPO is working in its full extent. The coordination should include intensive use of CRM tools to identify the hot leads and pass this information to the destinations. The effective coordination also requires good understanding on the full sales potential of each product group together with the knowledge of the purchasing potential of the customers. This way the efficiency of sales and service resources are used the most effective way.

Case example A
The customers who are travelling to the destination XPO receive a marketing message x-days before departure. In this message a range of ancillary services and additional elements are offered either in a generic message which is appointed to all the customers in the same departure or in a segmented message to certain target group. After this marketing message the TO relies on the destination staff to sell and additional amount of services such as excursions.

Case example B
In the MDPO model the sales potential of the certain departure to the destination XPO is estimated through the customer analysis a week before the actual departure. In the analysis the customer profiles are matched to the previous seasons and departures booking data together with the results from the constant customer survey, where the customers buying habits are mapped out. In our example departure we use imaginary values.

The result is that the sales potential has been estimated to be:

- 20 travel insurances (From this potential 15 are already booked)
- 160 transfers (From this potential 150 transfers are already booked)
- 20 half boards in the hotels A and B (From this potential 15 is already booked)
- 20 excursion A (From this potential 5 are already booked)
- 30 excursion B (From this potential 10 are already booked)
- 10 car rentals (From this potential 5 are already booked)
This estimate gives the objectives for the CRM team to the messages for the potential customers. The insurance, transfer and half board messages are sent to the clients one week before the departure in order to give the customers some time to react. The excursion sales and car rental potential figures are sent to the destination. In the destination the destination’s sales responsible makes a marketing plan which is made based on the weather forecast and available products. After the targeted customers are arrived to the destination, they will receive an SMS message to their mobile phones with a marketing message regarding the products which match their customer profile. For example a couple travelling without children will receive a message with an offer for an excursion to a winery instead of an offer to a water park.

This kind of process requires personal in the destination to execute these marketing and sales actions. With effective sales management the results should finance the cost of this resource.

4.8 MDPO summary

Current revenue management practices are in use in different levels in different TOs. The MDPO model is a tool to maximize the effects of the current practices combined to the traditional methods. The following fictional examples from the departure to destination XPO illustrates where the MDPO model is aiming in the sales process. The case example A in the figure 7 illustrates the traditional revenue management approach. In the case example B in the figure 8 is illustrated the MDPO approach.

Case example A

A: The circles illustrates the customer potential and willingness to pay to book a trip to destination XPO for this particular departure date.

B: The red line represents the price.

C: The pylon represents the load factor of the flight to destination XPO in at that particular time period.

In this example the sales speed is satisfactory during January to April. The load factor is developing as planned and the price level is in line with the expectations. In May there is a fast sales peak. The reason for this sales peak is the fact that the TO’s price is
The competitors have raised their prices while the examples TO’s prices have stayed the same. Therefore majority of the potential customers are reached, but with a lower price than they would have been willing to pay. The revenue management makes corrective measures by increasing the prices. Sales continues to be satisfactory and as a conclusion the revenue management decides to increase the prices in the end of July. This measure kills the sales speed since the markets willingness to pay in this case is decreasing towards the departure. The slow sales speed forces the revenue management to decrease the prices again to regain the necessary sales speed to fill the plane before the departure.

![Figure 7 The traditional revenue management approach](image-url)
**Case example B**

**A:** The circles illustrate the customer potential and willingness to pay to book a trip to destination XPO for this particular departure date.

**B:** The red line represents the price.

**C:** The pylon represents the load factor of the flight to destination XPO in that particular time period.

In this example the market’s demand situation is exactly the same as in the case example A. The difference is that the pricing and demand has been timed more accurately. There are no gaps in between the sales potential and the price curve. The price curve follows the demand steadily throughout the sales period. The reasons why this is possible are the MDPO methods. The forecasts are based on the historical data combined to the information got for the internet traffic analyzing tools. The competitors price levels are monitored all times and adjustments are made accordingly, so that the case example’s A May situation is avoided, where the prices are lacking behind and suddenly the price levels are much lower than the market’s willingness to pay is. When the departure date is closing and there are still seats on the flight to be sold, the marketing department is directing their actions to improve the visibility of the TO in the market segment that is likely to travel to the destination XPO. With these measures the sales and demand are in the right level at all times.
Figure 8 The MDPO approach
5 Customer satisfaction and long term customer profit optimization

In order to be successful in any business, the company needs to have satisfied customers. This is even more important in the service industry since the ultimate product which the customer is buying is satisfaction, whether it is caused by a trip or a good meal. Therefore in order to optimize the profits the company needs to make sure that the customer’s needs are satisfied and they want to use the services of the same company again. This is sometimes hard equation with dynamic pricing models as described earlier in this work in the customer trust chapter. That is why the TOs have to find a balance in optimizing the prices and delivering the service. If the price optimizing becomes the only focus, the customer will not be happy in the long run and can feel that he/she has been treated wrongly. This will lead to decrease in the repeater rates. On the other hand if the service delivery is the only focus of the company, it can very well result a bankruptcy of the company, since full service satisfaction without effective cost follow up and price optimizing is very expensive and not very sustainable in the long run.

5.1 Customer reaction on dynamic pricing

Dynamic pricing and customer trust is a difficult equation. The customer’s perception on pricing can be very different from the perception of the revenue manager. Everybody are always looking for the best value for money. This does not necessarily mean the cheapest price if the higher price products offer better benefits. Nowadays the internet offers the customers a direct view to the price selection of the different products in real time. Therefore many customers follow the prices very intensively during their purchase decision process. This can create fast reactions from the clients if they feel that the prices are changing in to more negative direction for them. The pricing studies suggest that customer’s reactions to the price changes do not depend only on the direction or the magnitude of the change, but more over the circumstances that lead to them. For example if the prices are changed because of the changed operation environment such as fuel price change, that is often considered fair by the customers.
If the price change is caused by the increased demand, that is considered often as unfair by the customers. (Yeoman, McMahon-Beattie, 2004)

It is very common that the use of dynamic pricing causes some dissatisfaction among the customers. Therefore it would be useful to consider methods to minimize this reaction. The challenge is that the revenue management approach does not consider long term effects, but concentrates solely to optimize the profit made from the restrained capacity at that particular moment. One way to soften the gap between the need to optimize the profit from the single transaction and the customer satisfaction, is to create pricing overrides in the beginning of the production. This would mean that in the pricing period a certain maximum value is set to the products so that this value is not exceeded even the demand would increase significantly. The gap between the starting price and the maximum price will form the yield space, shown in figure 7, where the revenue managers can apply their yielding decisions. The result would be, that there would be a risk that some one time profits would be lost, but the up side would be that the long term customer satisfaction would be secured and thus also the long term profit.

Figure 7 The MDPO Yield Space
As it can be seen from the figure 7, the MDPO yield space can also be negative. This is due to the fact that sometimes it can be necessary to sell the inventory with negative contribution to minimize the total loss. This kind of situation can be in a very low demand period where the flight seats have to be sold with negative contribution to cover at least parts of the production costs. Therefore it would be useful to break down the Yield Space into smaller target groups already in the pricing phase to help the revenue manager in his/her decisions. In the figure 8 you’ll find an fictional example on the different steps in the Yield Space

Figure 8 The Yield Space Steps
The different steps are determined in the contribution form so that the same model can be used in all the products. Some differentiation can be done between different risk group products such as pre-paid hotel units and allotment hotel units, to maximize the profits and minimize the losses. With the pricing override it could be possible to minimize the reactions of the customers to the dynamic pricing decisions while still keeping the profit optimization in the focus.

**Case example A**

The destination XPO is experiencing excellent demand from the market. The revenue managers are constantly yielding the prices up without killing the sales speed. The reason behind this sudden success is not clear for the TO, but since the demand is good, the prices are getting very high. The prices of the destination XPO are exceeding the comparable destinations average prices with 20% to 30%. This could potentially create some quality problems, when customers compare the value they get for their money in destination XPO compared to other comparable destination.

**Case example B**

In the same situation the MDPO model would have set pricing overrides for the destination XPO in the beginning of the production. These pricing overrides would set the price levels 10% to 15% higher than in the comparable destination. Since the demand at the moment is exceeding all the expectations the pricing overrides are activated and the yielding stops. At this point the departures will be sold out in good time. The reason why the pricing overrides are activated even though the market could still take some price increases is that this way the TO can make sure that the customers get value for their money. This enable the positive growth for the destination XPO’s reputation as a great destinations, and therefore it could be expected that the demand will be even better during the next season and the customer satisfaction levels will stay in good levels.
5.2 Optimizing the long term profits

In the long term profit optimization it is essential to take into consideration the both approaches to the customer and especially to the pricing: The revenue management approach and the CRM approach. Both approaches are explained in this work but in the long term profit optimization a perfect mix between these two is the key to success. The essential difference in these two approaches is the time frame. While the revenue management considers only the time we are living, the CRM approach has the view to the future. Neither one excludes the other, but a compromise should be found. In the MDPO the focus is in the long term profit optimization. In today´s quarterly driven financial world it can sometimes be hard to justify some of the decisions which create profits in long term rather than in a specific quarter of the year. In order to justify the long term profit planning, the TO should have a three to five year plan for each of the destination, where clear KPI´s are defined. This way it would be possible to create a follow up process, where the development of each destination and hotel could be monitored. This would help in every day decision making whether to pursuit for short term or long term profits in revenue management.

Also a clear customer strategy would be needed to achieve full benefits for the long term profit optimization. In the customer strategy the TO should define the frames for CRM work. Each customer should form an account which would be managed. Most of this work would of course be automatized. The depth of account management depends on the TO´s CRM tools, but in its simplest form, the transactions and the achieved profits should be registered to the account. This would help to evaluate which efforts are justified to keep the customer satisfied. To develop such a system is a very vast project and is therefore left out from this work.
6 Conclusions

The primary aim for this work was to introduce a profit optimization model for package holiday industry. This work has described the basic revenue management models for airline and hotel industry. It has been also noted that neither one of these models fulfill the needs of package holiday industry as such, which consist from these both elements. Often also the motives for travelling are not business related where again the airline and hotel revenue management models are most often build on an assumption that the customers are willing to pay more for their trips closer to the departures, since their travelling motives require travelling for some compulsory reason. This is very rarely the case in leisure travelling.

The Multi Dimensional Profit Optimization model combines the traditional revenue management methods to CRM and marketing methods. The MDPO is a general description on how the different approaches could be combined to produce the best possible result. The model can be used in any similar business, which has the same characteristics as tour operating has. The MPDO describes the focus points and all the companies which would use this modes, would have to define their border values for different actions to make the model work.

MDPO is merely a general model and the focus of this work was not in to describe the details of each area, but to give an overview to the elements which affect the final result. The next step could be to find out more detailed approaches to combine the different methods and provide some general calculation models to find the balance between price changes, customer satisfaction and CRM to find the perfect mix and values for maximizing the customer’s lifetime value. Other new subject to research could be to find the proper border values or ways to calculate the yield space models so that the customer satisfaction and lifetime value would be maximized.

As a summary for this work, it could be said that MDPO is more than its components. Hopefully the reader can find out that profit optimization is more than just revenue management and CRM combined together. Customer satisfaction and customer lifetime value are more than just segmentation and making sure that the customer are always fully satisfied. In the end of the day all the actions from all of different phases in the customer journey end up to the bottom line, either as positive result or as negative loss. If the perfect balance between these factors could be found, then there would
only be the external factors such as nature, which could bring the positive result into negative loss. The MDPO model brings the traditional revenue management and customers to the same line where the actions to optimize the profits begin.
References


Yield Management Strategies for the service industries. Gengage Learning EMEA. London


Nielsen Clickstream travel research, 2010

