Improving Efficiency of Air Travel Bookings Aggregator with Digital Marketing and Usability Features

Mikhail Popov
The main objective of this thesis was to find out how to improve the efficiency of an eTravel booking service with the help of digital marketing and usability features. The purpose was to study the factors that are implemented in the field of digital marketing and usability design with the example of air travel booking aggregator services.

The theoretical framework was based on the concepts of digital marketing, introduced by Chaffey D., and usability and communication design, described by McKay E.N and Jackson K. & Ciolek N. Throughout the study, the author connected the concepts of both fields in order to show how the digital marketing communication is implemented through the concept of the communication design.

The study was executed in the form of competitive benchmarking, conducted by the author. Competitive benchmarking allowed to compare the best practices of digital marketing and usability design that were implemented on three leading air travel booking aggregator platforms. This methodology used a quantitative approach. Additionally, an online illustrated survey (a quantitative method) was conducted among the users of the platforms.

The findings indicated the most popular user interface elements (e.g. booking forms, filters) and usability features (e.g. interface informativeness and affordance) used on momondo.fi, skyscanner.fi and ebookers.fi platforms with the help of competitive benchmarking. The users’ preferences for usage of those elements and features were determined on the basis of the online illustrated survey.

In the conclusion of this thesis, the author provided some recommendations on the usage of the usability features that help to establish better communication with the users of the air travel booking aggregator platforms and, therefore, improve the efficiency of such kind of platforms. For instance, it’s good to engage users in filtering the content in the search results of the platform as it triggers in the enjoyment part of the positive online experience.

Keywords
Digital marketing, eTravel, eCommerce, Usability Design, UI design, UX design
# Table of contents

1 Introduction................................................................................................................................. 1
  1.1 Background ............................................................................................................................ 1
  1.2 Research Question .................................................................................................................. 2
  1.3 Demarcation .......................................................................................................................... 3
  1.4 International aspect ............................................................................................................... 3
  1.5 Benefits .................................................................................................................................. 3
  1.6 Key concepts .......................................................................................................................... 4
  1.7 Risks and risk management .................................................................................................... 4

2 Usability design in digital marketing ......................................................................................... 5
  2.1 Digital marketing overview ................................................................................................. 6
  2.2 Online consumer behaviour ................................................................................................. 8
  2.3 Principles of the communication design .............................................................................. 10
  2.4 UI and UX interaction design ............................................................................................. 12

3 Research methods .................................................................................................................... 17
  3.1 Competitive benchmarking ................................................................................................. 17
  3.2 Online survey design ........................................................................................................... 19

4 Results ....................................................................................................................................... 22
  4.1 Competitive benchmarking of the websites ....................................................................... 22
    4.1.1 Momondo.fi ..................................................................................................................... 22
    4.1.2 Ebookers.fi ...................................................................................................................... 24
    4.1.3 Skyscanner.fi ................................................................................................................... 26
    4.1.4 Summary ....................................................................................................................... 28
  4.2 Survey results ......................................................................................................................... 30

5 Discussion ................................................................................................................................. 35
  5.1 Summary and recommendations ......................................................................................... 35
  5.2 Evaluation of learning ......................................................................................................... 37

References ..................................................................................................................................... 38

Appendices .................................................................................................................................. 41
  Appendix 1. Momondo.fi home page capture ............................................................................ 41
  Appendix 2. Momondo.fi search results page capture ............................................................... 44
  Appendix 3. Ebookers.fi home page capture ............................................................................. 47
  Appendix 4. Ebookers.fi search results page capture ............................................................... 50
  Appendix 5. Ebookers.fi order confirmation page capture ...................................................... 52
  Appendix 6. Skyscanner.fi home page capture ......................................................................... 53
  Appendix 7. Skyscanner.fi search results page capture ............................................................ 55
  Appendix 8. Skyscanner order confirmation page capture ...................................................... 58
  Appendix 9. Online survey design ............................................................................................ 59
1 Introduction

This chapter will introduce background and purpose of this research, state research question and investigative questions, demarcate the scope of the study, provide explanation of the international aspect of the research, state the benefits to different stakeholders of the thesis, explain key concepts that are used in this research and provide risk analysis of this thesis’ topic.

1.1 Background

The global eCommerce (electronic commerce) industry has been steadily growing within the past few decades. In 2017 worldwide sales turnover of its digital retail sector reached 2 304 billion U.S. dollars and expected to grow up to 4 878 billion U.S. dollars by 2021. The industry of eTravel is a huge market segment of the eCommerce industry – it includes travel bookings, vacation rentals, package holidays, flight, bus, train tickets bookings made through digital channels of the online travel agency (e.g. Expedia) or tour operator (e.g. TUI). (Statista 2018a.) The revenues in the eTravel market segment in Finland amounts to 2 360 million euros in 2018 and expected to grow with a rate of 8.1% annually by 2022 (Statista 2018b).

This research will be built around the fields of digital marketing (focusing on the eTravel field of the eCommerce industry) and UI/UX (user interface/user experience) or usability design, taking into consideration the user interfaces and user experience of the online travel booking platforms. The choice of the topic is related to the work experience of the author in the eCommerce business and a desire to discover the correlation between the UI/UX design elements and the efficiency of the websites in the industry of eTravel. In the prior work experience of the author, the problem of low conversion rate – the core KPI (Key Performance Indicator) in one of the projects – occurred frequently, which required finding solutions of better user interfaces and improving the user experience in the platform, thus, improving the whole efficiency of the platform.

The aim is to discover how the efficiency of an online travel booking service, in particular, an airfare booking service, could be increased with the help of the UI/UX design. In the planned research, there will be no particular commissioning company. Instead, the author is intended to conduct an independent research by benchmarking the existing solutions implemented by the major eTravel businesses, studying the user behaviour and preferences in terms of UI and UX in a qualitative method and compare the observations to the opinions of the website users, gathered with a survey. As a result of this thesis, recom-
mendations for implementation of the digital marketing and usability features in the eTravel industry will be provided.

1.2 Research Question

This thesis aims to study the influence of the UI design on the conversion rate of air travel booking websites. The research question can be worded as “How to improve the efficiency of an eTravel booking service with the help of digital marketing and usability features?”. RQ is divided into investigative questions (IQ) as follows:

IQ 1. What UI design features are used by the major air travel booking services for getting more reservations?
IQ 2. What are the users’ preferences in UI design elements of air travel booking websites?
IQ 3. What are the recommendations for implementation of the digital marketing and usability features in the air travel aggregator service?

Table 1 below presents the theoretical framework, research methods and results chapters for each investigative question.

Table 1. Overlay matrix

<table>
<thead>
<tr>
<th>Investigative question</th>
<th>Theoretical Framework</th>
<th>Research Methods</th>
<th>Results (chapter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ 1. What UI design features are used by the major air travel booking services for getting more reservations?</td>
<td>Digital marketing UI design</td>
<td>Competitive benchmarking</td>
<td>4.1</td>
</tr>
<tr>
<td>IQ 2. What are the users’ preferences in UI design elements of air travel booking websites?</td>
<td>Digital marketing UI design</td>
<td>Online survey</td>
<td>4.2</td>
</tr>
<tr>
<td>IQ 3. What are the recommendations for implementation of the digital marketing and usability features in the air travel aggregator service?</td>
<td>Digital marketing UI design</td>
<td>Competitive benchmarking and online survey</td>
<td>4.1, 4.2, 5.1</td>
</tr>
</tbody>
</table>
1.3 Demarcation

This research will not be based on any particular commissioning company, however, the projects of the companies involved in the eTravel industry (airfares booking) will be benchmarked and the users of those platforms will participate in a survey.

The survey will be targeted on average Finnish internet users, who have ever booked their plane tickets through an eTravel aggregator website. This thesis will only concentrate on the B2C market segment of the online air travel booking and the focus country of the research is Finland.

Benchmarking will be conducted on the eTravel aggregator websites, which are focusing on airfare bookings. The web platform should not be a direct sales channel of any airline. The benchmarked platform should also target users in Finland and has a steady number of monthly visitors from Finland. The user interfaces and the user experience will be only studied from the design point of view. No technical aspects (code or development) will be covered by this study.

1.4 International aspect

The international aspect of this research fully matches the degree programme requirements and supported by the international and multicultural experience and background of the author. The country, where the research is conducted (Finland) is not the country of origin of the author. Moreover, studying Finnish internet users, as the sample audience in this study, will bring more internationality to this work.

1.5 Benefits

The topic provided above fully matches the field of specialisation and degree programme of the author – it covers the business and marketing aspects with a touch of the design field. The author has previously been involved in the eCommerce industry and is intended to continue his career in the digital marketing sector after this research work.

Analysing the previous work and study experience, the author discovered an interest in continuing the studies with a postgraduate degree with a possible specialisation in Digital Marketing or UX/UI design. This is also proven by the author been previously involved in developing interfaces, accessing them for different companies and suggesting the ways of improvement.
This thesis will give benefits to the companies that are being studied in the research part or business similar to them. The provided recommendations and research results will allow the air travel aggregators to improve their operations.

### 1.6 Key concepts

**Digital Marketing** (Internet marketing, e-marketing, web marketing, etc.) can be defined as achieving marketing objectives through applying digital technologies and media (Chaffey 2016, 11).

**eCommerce (electronic commerce)** is a digital marketing industry of promoting, buying and selling merchandise or services over the internet (Technopedia 2018).

**UI (User Interface) Design** is the design for a software or a machine in the form of an application, website or other interface with a focus on easiness of use and pleasurably for the end user. User interfaces are used for interaction with the software with usability and efficiency, which, in turn, help to achieve the goal in the easiest way. (Interaction Design Foundation 2018.)

**Usability** is an approach to design that intends to enable the completion of user tasks is an efficient, effective way considering the satisfaction of the users (Chaffey 2016, 375).

**User Behaviour** is the set of actions taken by a user interacting with the system in order to reach a goal or complete a task (IGI Global 2018).

### 1.7 Risks and risk management

The possible risks, foreseen by the author on the stage of planning the research include a low number (100 respondents are desired) of the respondents to the quantitative survey used for the IQ 2. The solution to this could be redesigning and simplifying the survey, using more channels of distribution of the survey link or broadening the focus audience.
2 Usability design in digital marketing

This chapter will introduce the image of the theoretical framework that will be used as a basis for answering the investigative questions of this thesis. The central phenomena that will be discussed in this thesis will be built around the digital marketing and the usability design in UI. As Figure 1 suggests, the main focus of the theoretical framework will be on studying the aspects of both the digital marketing and UI design.

Figure 1. Conceptual Image of the Theoretical Framework

This chapter is split into four sub-chapters linking the central phenomena of digital marketing to the usability design. After studying these theories and conducting the research phase, it will be possible to reflect the influence of digital marketing and the interface design on the efficiency of the air travel aggregator platform.
2.1 Digital marketing overview

With the appearance of the internet and the first website in 1991, over 3.5 billion people have been using this channel of communications to find products, services, entertainment and friends on a daily basis (Statista 2018c). Nowadays, with such a big potential of the web space, the companies need digital marketers, strategies and agencies with know-how in order to develop their presence in the online marketplace. This process requires constant innovation, as digital technologies pose many opportunities and challenges that have to be monitored daily. (Chaffey 2016, 6.)

The biggest challenge for digital marketers today is to determine the right innovations that are suitable for their company at the right moment. As many traditional marketing models and techniques can be applied on the digital marketing as well; the aim of the people in charge is to integrate those practices effectively with the company’s marketing communications strategy. Therefore, comes a definition of the digital marketing “Achieving marketing objectives through applying digital technologies and media”, including the aspects of usability design. (Chaffey 2016, 8-11.)

In a nutshell, digital marketing includes different channels of online company presence – websites, social media communities, SEM (Search Engine Marketing), SMM (Social Media Marketing), online ads, partnerships with other websites, etc. These channels are usually used for customer acquisition, whereas the retention of the customers is usually done in relation to an established E-CRM (Electronic Customer Relationship Management).

The term eCommerce covers not only the buying and selling over the internet, but also involves “all electronically mediated information exchanges between an organization and its external stakeholders” (Chaffey 2014, 10). According to this term, all the non-financial transactions, such as customer requests, pre-sale and post-sale activities, are also in the scope of the eCommerce industry (Chaffey 2014, 10-11). There are several perspectives on the eCommerce business model and this thesis is focused on the communications perspective – the delivery of information, products or services or payment by electronic means (Kalakota & Whinston, 1997).

Another term, similar to eCommerce, is the eBusiness – the transformation of key business processes through the use of internet technologies (Chaffey 2014, 13). It is broader in scope and requires digital technology to control the business processes. In this thesis, the term of eBusiness will be used to describe the businesses that have no physical pres-
ence and seek to minimise their expenses through enabling “web self-service”, where the customers are being served themselves before, during and after sales online (Chaffey 2014, 13). In this thesis, this “web self-service” is studied through the air travel booking aggregators.

For the purpose of communications with their stakeholders, eBusinesses facilitate the technologies of the digital marketing; the operations of the organisations are usually subdivided into buy-side eCommerce and sell-side eCommerce. The buy-side is referred to getting the resources needed by the organisation from its suppliers, whereas the sell-side represents the transactions of selling the products to the clients. (Chaffey 2014, 11.)

Since not all products can be sold online, the sell-side eCommerce platforms can be split into several categories. Each of the types of online presence has different aims and is suitable for certain markets. Companies can combine these types of their eCommerce presence in accordance with their needs. (Chaffey 2015, 17.)

Establishing a successfully working eCommerce strategy requires eBusinesses to conduct an analysis of their online marketplace and find their place in the path to purchase that the customer undertakes in order to get the final product. As mentioned above, eBusinesses use different channels in order to attract customers. However, the customer journey may also include passing different intermediaries. (Chaffey 2015, 42.)

Berryman, Harrington, Layton-Rodin & Rerolle (1998, 152-159) identified three major types of players in the online marketplace. Seller-controlled sites represent the company or the seller and allow the direct purchases. Buyer-controlled platforms act as intermediaries that have an aim to let the buyer initiate the market-making. The third type of websites – aggregators – involve multiple buyers that are matched to the offers given by the sellers. Such websites provide price and product comparison as independent evaluators. This type of website is studied in this thesis.

The eTravel aggregators such as Opodo (www.opodo.com) has been separated into a special category of seller-oriented websites by McDonald and Wilson (2002). Such websites are controlled by third parties such as distributors and agents. The aggregators of the eTravel tend to use commission-based sales revenue model, where a certain percentage from the entire order is paid to the publisher (the aggregator). Such an arrangement is also known as CPA (Cost-Per-Acquisition) (Chaffey 2015, 63).
2.2 Online consumer behaviour

Online customer choice is a valuable part of the entire purchasing process. The internet has become a vital tool for research before the customer makes a purchase decision. Nowadays, even before buying the product offline many people use the internet to explore the available alternatives and compare the offers. With the help of the internet, the consumer has become more knowledgeable and can refer to a variety of online sources before making the final decision of purchase. (Chaffey 2016, 72-73.)

The tools that the companies can implement in order to increase their brand awareness and give added value to their products can be, for example, brand websites, social media, review sites, traditional print media, recommendations, etc. Understanding the target audience, the potential reach of the platform in question and the behaviour of the potential customers is important for setting and achieving the digital marketing objectives. (Chaffey 2016, 73.)

Convenience and around the clock availability of the online platforms is the crucial driver for the online shoppers. However, the number of internet users who are willing to purchase different types of products online varies on the basis of the characteristics and demographics, product category and past experiences. The research of the online customers can give the marketers a great insight into online user behaviour; the key points of managing the conversion rates can be understood by researching the dimensions affecting the user interaction with online marketplaces. (Chaffey 2016, 74.)

For the purpose of building a more complete picture of the online user behaviour, the marketers should understand how different types of individual behaviour affect the digital marketplace engagement by users of various customer characteristics. There is an individual nature of customers that help to build segmentation profiles through consumer behaviour variables. The variables can be based on demographics of the audience (e.g. age, gender, lifestyle, education, income, etc.) and psychography and behaviour (e.g. knowledge, attitude, innovativeness and risk aversion). (Chaffey 2016, 76.)

The design (in this thesis – communication design and usability), convenience or security measures of a website can have an impact on the overall user experience and satisfaction. By conducting a research on these factors the marketers can also increase the loyalty and trust of their customers through website improvements or using other digital channels. (Chaffey 2016, 77.) Rose & Hair (2011) claim that “the customer interactions with an organisation’s website creates opportunities for positive experiences that can lead to long-
term relationship building”. This explains a close relation between digital marketing and communication design.

According to Arnold, Reynolds, Ponder & Lueg (2005), the following concepts can either positively or negatively affect the online consumer behaviour with a digital offer:

- **IP (Information Processing)** defines the consumer’s engagement with the available data and information; it involves the mental processes and senses of a person and affects the future behaviour of the customer.
- **Perceived ease of use** determines how easy it is for the user to navigate and use the website; the easier the interface, the more likely it is for the customer to get the positive experiences.
- **Perceived usefulness** is the match of the digital offer to the customer’s daily life.
- **Perceived benefits** occur when the customer feels rewarded in a positive way by the offer.
- **Perceived control** determines how experienced and familiar the customer with the digital technology and how confident they feel on the website.
- **Skills.** The customers learn by doing on the internet and develop skills by using a digital platform.
- **Trust and risk.** Customers must achieve their buying goals without the feeling of unsafety or uncertainty.
- **Enjoyment** is the goal of a positive online experience.

These concepts can affect the customer’s thinking and feelings regarding their online experience, which, in turn, affects the outcomes of any subsequent behaviour. It’s necessary to note that these points can influence the user’s motivation to engage with the website, thus, it’s vital to create a competitive advantage, also in form of various usability features, to overcome any potential difficulties. (Chaffey 2016, 78.)

The traditional model of customer behaviour in the offline marketing is described by Kotler, Armstrong, Saunders, & Wong (2001) include the following steps that are affected from both buyer’s and seller’s perspective: awareness, interest, evaluation, trial, adoption. Caffey & Smith (2012) modified those steps to fit into the digital marketing hierarchy of response model: problem recognition, information search, evaluation, decision, action (sale or use of online service), post-purchase. This thesis is concentrating on the information search, evaluation and decision stages on the air travel booking websites.

Once the customers are attracted to the website, their behaviour can be monitored. For instance, the duration of their visit can be recorded and in case their engagement with the website leads to satisfactory marketing outcomes such as a purchase or use of online service; such customer is considered to create a sale or a lead. The measure of the channel outcome is usually the conversion rate – the percentage of site visitors who perform a particular action on the website. For instance, such action can be a booking of a flight and
the conversion rate determines the percentage of total visitors who booked the flight tickets. (Chaffey 2016, 558.)

2.3 Principles of the communication design

When building a web platform, communication design is a vital part of the digital customer experience on the stage of implementing and practising the digital marketing strategy (Chaffey 2016, 352-356). The overall customer satisfaction with the website, its usability, availability, efficiency and ability to communicate the message to the end user is achieved with the communication design, which, in turn, affects the user behaviour and, subsequently, conversions and sales for the business.

The purpose of the well-designed UI is to establish the conversation and communication between the user and the product that allows completing tasks in order to achieve the users’ goals. Efficiency, easiness to understand, user-friendliness and natural appearance are the core principles that allow the UI to communicate directly to the user in a meaningful way. If a user experiences difficulty with the interface – needs to apply thought, experimentation, memorisation or needs prior training before using the UI, these are definitely the signs of a poor design which requires improvement or complete rebuilding. (McKay 2013, 3.)

UI that is expected to communicate efficiently also needs to follow a few more principles defined by McKay (2013, 15-16):

- The interface has to explain tasks clearly and concisely – UI is a type of language that communicates with the user.
- The value of every interface element needs to be evaluated; if any of the elements (control selection, layout, graphic elements, etc.) doesn’t bring any value or meaning to the user, it needs to be removed.
- UI has to be polite, respectful and intelligent – just like in a human-to-human dialogue, the interface has to respect the user by showing a good personality, tone and attitude.
- Good design feels natural, professional and friendly – this technique of design evaluation is simple and yet effective; if a user interacts with the UI and feels the qualities mentioned above, this design is most likely to be a good design.

Effective communication is also achieved when the features of the design are useful, relevant and necessary for the particular task. The well-built interface doesn’t under-communicate and provides the explicit and specific information on all the actions that are required from the user. On the other hand, the design of the elements must be concise and efficient, meaning that it shouldn’t over-communicate with the user – the right level of information should be provided when the user needs it. A natural design doesn’t overex-
aggerate warn-ings or problems, providing the user with confidence that they are doing the right thing. (McKay 2013, 17-19.)

Building an intuitive interface is one of the main challenges that both designers and digital marketers strive to overcome (McKay 2013, 21). The definition for an intuitive interface is presented by McKay (2013, 22) as follows: “A UI is intuitive when target users understand its behaviour and effect without the use of reason, memorization, experimentation, assistance, or training”. In practice, it means that users can quickly understand how the interface works on their own without any prior explanation. An intuitive interface requires neither manual nor instruction no matter how advanced the task could be. (McKay 2013, 22.) The intuitiveness of the interface is a part of the usability quality of the interface.

UI can be considered intuitive when as many of the following attributes, defined by McKay (2013, 26), reached as possible:
- Discoverability. This feature lets the users easily find the starting point and commands whenever they need them in the right location.
- Understandability. Users are able to make decisions confidently. Users don’t have to experiment or get any assistance.
- Affordance. This attribute defines if the interface has visual properties that help the user understand how to perform an interaction.
- Predictability. This means that the interface delivers the expected results with no complications or confusion.
- Efficiency. The actions performed by the user of the interface require minimum effort or tweaking.
- Responsive feedback. UI makes it clear when some action is in the process or whether the user’s input was successful or unsuccessful.
- Forgiveness. If the user makes mistake with the input, the interface should allow them to fix or undo the action with ease. The UI must not punish the user for the mistakes.
- Explorability. Users can explore the UI without being afraid of doing something wrong.

The expectations of the users about the intuitive attributes come from the experience with all the software they have previously used. If the designed product is crucially different from its alternatives, the users would need to relearn using it. (McKay 2013, 27.) However, there are a few cases, when the intuitiveness of the interface is not necessary when: (1) a command is achieved via a shortcut or a gesture, (2) the discoverability is inevitable (e.g. in full-screen video the player usually hides all the controls, but displays them at first interaction), (3) there are advanced and infrequent commands, (4) hidden delighters (some unintuitive interactions are hidden and users are awarded when they find them), (5) advanced modes (such modes are purposefully made unintuitive so the users would not accidentally enter them) (McKay 2013, 30-33).

Besides the intuitiveness of the UI, there’s another property that has to be kept in mind by the designers when developing a new interface – UI inductiveness. This property explains
how easily the interface could be understood and perceived by the user. The key to implementing this property in the interface is breaking down the complicated tasks or manuals into individual steps and describing them with a clear, comprehensible and reasonable explanation. Also, the quality and inductiveness of the page depending on the focus on its role, thus, the purpose of the page must be described concisely. (McKay 2013, 38-39.)

MacKay (2013, 56-60) builds a model for users, considering the user behaviour and interactions with the UI; the model is used as a starting point of evaluating the assumptions about the target users:

- **User knowledge.** The UI must be described clearly and the users must not be expected to remember any comprehensive variables; the interface should let the users know what tasks it achieves.
- **User motivation.** Designers must take the user motivation into account; the users are motivated by value and the use of the UI must be worthwhile.
- **The interface must be designed in a way so it could answer the following users’ questions:** (1) What does this UI do and am I at the right place?, (2) What am I supposed to do here?, (3) Will it meet my needs?, (4) Which option should I select?
- **It’s easier for users to figure out how to use a simple, standard, intuitive, self-explanatory and consistent interface.**
- **Users are focused on reaching their goals through the UI and most likely will not spend time on learning how an unfamiliar interface works.**
- **Don’t waste the user’s time and effort**
- **Users will not complete a task if they lack the confidence – make sure your UI builds confidence.**

### 2.4 UI and UX interaction design

As the UIs are used to establish a conversation between a program and a user, there is a certain language that allows transmitting the message among the two parties. In UIs this language is expressed in such elements as controls, labels, feedback, pages, dialogue boxes, error messages, etc. The main objective for the interface designers is to use those elements properly based on what they communicate. (McKay 2013, 65.)

Almost any UI element must have the following properties to communicate efficiently with the user: **purpose, affordance, body language, interaction and labelling.** **Purpose** describes what the element does (e.g. the purpose of the textbox is to let the users insert text); **affordance** gives visual guidance to the user how to perform an action (e.g. the box around the text means the text is editable); **body language** provides additional information about the element based on its appearance (e.g. size of the textbox determines the volume of the text expected for input); **interaction** requires a specific action from the user (e.g. tapping on the text field to input the text); **labelling** is done by text labels, placeholder-
ers, icons, which explain the function of the UI element (e.g. textbox must have a label to explain what information is expected for the input). (McKay 2013, 66-67.)

Table 2 below describes the most common control elements that are used on both desktop and mobile devices. These controls are widely used to interact with the user of the interface. Usually, the existence of any control in the UI is explained by the purpose and the body language of the control describes the decision of putting it to the particular place in the interface. (McKay 2013, 70.)

Table 2. Common control elements of desktop and mobile platforms (McKay 2013, 71-76)

<table>
<thead>
<tr>
<th>Control name</th>
<th>Purpose</th>
<th>Body language</th>
<th>Visual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbox</td>
<td>Used to input text.</td>
<td>Control width suggests the maximum input size; control height shows the maximum numbers of text lines.</td>
<td><img src="image" alt="Textbox Visual" /></td>
</tr>
<tr>
<td>Numeric textboxes</td>
<td>Used to input numeric values (e.g. a date).</td>
<td>Control width suggests the maximum input size.</td>
<td><img src="image" alt="Numeric Textbox Visual" /></td>
</tr>
<tr>
<td>Sliders</td>
<td>Used to select a value from a range of values. The exact value is not important, so the users can experiment to choose the needed value.</td>
<td>Requires immediate effect (e.g. updating the page considering the value input), encourages change and experimentation.</td>
<td><img src="image" alt="Sliders Visual" /></td>
</tr>
<tr>
<td>Radio buttons</td>
<td>Used for selecting a single choice out of a small number of choices.</td>
<td>Requires enough screen space to display all the choices.</td>
<td><img src="image" alt="Radio Buttons Visual" /></td>
</tr>
<tr>
<td>Checkboxes</td>
<td>Used to select several options out of a small number of choices.</td>
<td>Requires enough screen space to display all the choices.</td>
<td><img src="image" alt="Checkboxes Visual" /></td>
</tr>
<tr>
<td>Drop-down lists</td>
<td>Used for selecting a single choice out of a big number of choices.</td>
<td>Requires fixed screen space; discourages change as the presentation of options is closed.</td>
<td><img src="image" alt="Drop-down List Visual" /></td>
</tr>
<tr>
<td>Combo boxes</td>
<td>Used to input text, but most likely selection will be made from a drop-down list.</td>
<td>Requires fixed screen space; discourages change as the presentation of options is closed.</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Single- and multiple-selection boxes</td>
<td>Used to select a single or a few choices out of a large number of choices.</td>
<td>List height is proportional to the number of options it contains; encourages change as it has an open presentation of choices; in order to select multiple choices in the multiple selection box, the user is required to hold an extra button on the keyboard (usually Shift or Control).</td>
<td></td>
</tr>
<tr>
<td>Checkbox list</td>
<td>Used to select multiple choices from a large number of options.</td>
<td>Multiple selection doesn’t require holding an extra button.</td>
<td></td>
</tr>
<tr>
<td>Tabs</td>
<td>Used to show different information on the same page or display the same information in different views.</td>
<td>Requires screen space to display all the tabs.</td>
<td></td>
</tr>
<tr>
<td>Command buttons</td>
<td>Used to initiate an action.</td>
<td>Can be used for any command, but usually are used for primary commands due to easy discoverability.</td>
<td></td>
</tr>
<tr>
<td>Links</td>
<td>Used to initiate an action or navigate to another page.</td>
<td>Reduced discoverability; suitable for secondary commands.</td>
<td></td>
</tr>
<tr>
<td>Switches</td>
<td>Used to turn the function on or off.</td>
<td>Have a role of a checkbox, but mostly suitable for touch-interfaces.</td>
<td></td>
</tr>
<tr>
<td>Page indicators</td>
<td>Used to show the number of view options available; display the sequential and unlabelled; it may take the user time to find what</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For unconstrained text

Select ice cream(s):
- Coffee
- Coffee Buzz Buzz!
- Imagine Whirled Peace
- Late Night Snack
- Phish Food

Submit  Print...
Users interact with the interfaces depending on the device they use. The typical website interaction is usually done through the web browser either on a desktop or on a mobile device. The usual interactions that are used by desktop UIs are: left-click, double-left-click, hover, right-click, left-click+drag, etc. Mobile-based platforms tend to use touch-based interactions and gestures such as tap, double tap, touch and hold, drag, pinch, rotate, swipe shake, etc. However, with simple interfaces (e.g. websites) only a few of these interactions can come into use due to the platform restrictions. It is also not recommendable for an intuitive UI to ask users to use advanced interactions that they might not be familiar with. (McKay 2013, 67-69.)

The concept of the **User Experience (UX) design**, in turn, studies the usefulness and enjoyability of the final interaction experience the user has undertaken, using the interface. The following design processes help to determine the efficiency of the interface and how pleasant the overall user experience of the interface was: **Information Architecture** (how organised and structured the content is), **Visual Design** (the communication of content and its perception by the user on their device), **Interaction Design** (methods by which users control the content) and **Usability Testing** (if the performance of the interactions meets the needs and goals of the users). (Jackson & Ciolek 2017, 77.)

In the UX, the properties that provide the user with an indication of how to interact with an object are determined by the concept of **affordances**. A common way of enhancing the affordances of the project is to make the control elements of the UI look like the objects from a real life. For example, an icon of scissors can be used as an illustration of a cut action, or a recycle bin visual reminds the user of a delete action. This method helps users to relate to the properties (words, shapes, colours, movements) of the objects on the icons in real life and, therefore, understand the purpose of the icons instinctively. (Jackson & Ciolek 2017, 79.)

The UIs are commonly built using an image map system or a metaphor. Image maps include visual controls and elements that display the content and navigate through it. The user may click on an icon to know more about the topic that is related to it. A metaphor integrates the image map into an activity, object, environment that the user is familiar with or can relate to. It allows explaining the complex systems in the format of an object from the outside the digital world. For example, a reader application can be illustrated as a
physical book. A metaphor should be used appropriately together with the content and create a meaning for it. (Jackson & Ciolek 2017, 85.)

According to Jackson & Ciolek (2017, 80-81), there are several stages of affordances, depending on how much of action is expected from the user in a current interface:

- **Explicit affordance** clearly and quickly communicates to the user how to interact with an object through the visual appearance and text. This kind of affordance is suitable for non-experienced users, who rarely interact with UIs. Call-to-action button is an example of a UI element with an explicit affordance.
- UI elements with **pattern affordance** are more suitable for experienced users, who can recognise not so obvious control elements, for example, an underlined blue text usually represents a hyperlink. If the user knows the basic patterns of communication with the interfaces, then this type of affordance will work effectively.
- **Hidden affordance** is usually used to simplify complicated interfaces. It is revealed only when a certain action or condition has been met. For example, the button can change its colour once the mouse is over meaning that it’s clickable.
- **Negative affordance** lets the user know that the element or function exists but is not available at the moment. The most common way to implement this affordance is to grey-out text or button and make it unclickable.

There are several laws of the human behaviour that are based on the psychological and mathematical studies that apply to the UX design. According to Paul Fitts’s law, the interactive element should be big enough for the user to be able to click it. This law also encourages users to place the control buttons and menus at the edges of the interface, so the probability that the user would interact with them will be higher. Additionally, this law considers the time it takes for the user to move from a starting point to the destination – it shouldn’t be too long. (Jackson & Ciolek 2017, 82.)

Another law is the Magical Number Seven rule, presented by George Miller, a cognitive psychologist, says that people are generally able to keep five to nine items in their short-term memory, after that they are more likely to forget or make mistakes. This rule doesn’t necessarily limit all the interfaces to only nine elements but suggests “chunking” content into meaningful groups. This is similar to Hick’s Law, that explains that the time it takes for the user to make a decision depends on the number of choices available and how familiar those choices are to the user. Larry Tesler, a pioneer in interaction design, developed Tesler’s Law of Conservation of Complexity, which suggests eliminating as much complexity as possible from the UI. However, it’s necessary to keep in mind that some things can only be simplified to a certain extent, where they no longer bring any function. (Jackson & Ciolek 2017, 83-84.)
3 Research methods

This thesis utilises both quantitative and qualitative research methods. As figure 2 suggests, the research is conducted in two phases, with two groups of respondents/sources – travel booking websites and their users. The data collection methods used are competitive benchmarking and illustrated online survey. The analysis of the results is conducted in a mixed manner, utilising both qualitative and quantitative methods. To answer the IQ 1, the qualitative competitive benchmarking will be conducted; IQ 2 will be answered with a quantitative illustrated online survey; IQ3 will be answered on the basis of both of the two methods.

![Research design](image)

Figure 2. Research design

### 3.1 Competitive benchmarking

Competitive benchmarking will be used as a research method for answering the IQ 1 and IQ 3. Competitive benchmarking is the process of determining the best processes, strategies, and techniques for achieving business goals (Kajabi 2017). It is a method of structured comparison of digital services, capabilities and performance of an organisation (Chaffey 2016, 92). This research method has different perspectives and requires certain performance metrics to be established before execution. This thesis is focusing on the usability features of the air travel platforms. The data will be gathered by the author of this thesis.
Benchmarking, being a qualitative method, is used to study a person’s experience or behaviour, thus its common in social and behavioural studies. The data in qualitative research is often gathered through interviews and observations; the analysis is done with an interpretive or analytical procedure and the report is presented in a written form. (Ghauri & Grönhaug 2002, 87.)

To start answering IQ 1 (What UI design features are used by the major air travel booking services for getting more reservations?), it is necessary to determine the platforms that will be studied in the benchmarking. The selection of most visited platforms is made by the following criteria:
- eTravel aggregator website with a focus on airfare bookings
- not a direct sales channel of an airline
- targeting audience in Finland with a domain name in Finnish zone (.fi)
- has a steady number of monthly visits from Finland.

SimilarWeb (www.similarweb.com) is the tool used for determining Monthly Visits, Average Pages per Visit and Average Session Duration time on each of the major airfares aggregators present in Finland. Table 3 shows the biggest players in the air eTravel industry on the Finnish market that match the selection criteria. Even though these numerical indicators do not allow to estimate precise conversion rate of each of the websites, Average Pages per Visit and Average Session duration help to understand the quality and depth of each of the websites’ visits.

Table 3. Ranking of the air travel aggregators in Finland (SimilarWeb 2018).

<table>
<thead>
<tr>
<th>Website Name</th>
<th>Monthly Visits</th>
<th>Average Pages per Visit</th>
<th>Average Session Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>momondo.fi</td>
<td>472 426</td>
<td>12.77</td>
<td>00:07:03</td>
</tr>
<tr>
<td>ebookers.fi</td>
<td>431 044</td>
<td>5.75</td>
<td>00:06:12</td>
</tr>
<tr>
<td>skyscanner.fi</td>
<td>364 694</td>
<td>7.28</td>
<td>00:06:23</td>
</tr>
<tr>
<td>travellink.fi</td>
<td>213 559</td>
<td>3.52</td>
<td>00:03:24</td>
</tr>
<tr>
<td>supersaver.fi</td>
<td>185 963</td>
<td>4.09</td>
<td>00:04:56</td>
</tr>
<tr>
<td>expedia.fi</td>
<td>158 981</td>
<td>3.54</td>
<td>00:03:43</td>
</tr>
<tr>
<td>halvatlennot.fi</td>
<td>154 032</td>
<td>5.6</td>
<td>00:05:02</td>
</tr>
<tr>
<td>ticket.fi</td>
<td>111 063</td>
<td>4.5</td>
<td>00:04:31</td>
</tr>
</tbody>
</table>

This phase of the research will only concentrate on the top 3, aggregators with audiences wider than 350 000 visits per month, presented in grey colour in Table 3. Those websites also have the highest Average Pages per Visit and Average Session Duration indicators,
This research will follow the buying process of an airfare on three of the chosen aggregator websites. The respondent to this part of the research is the author of the thesis. The observation in the form of the competitive benchmarking will start on the homepage of the website, will be followed by filling in the search form with sample information and making the platforms to display valid offers. The observation will stop on the point where the user is supposed to leave the website or redirect to the page of inputting personal/payment information. The best/common practices of usability features will be noted and compared between the chosen platforms.

### 3.2 Online survey design

An online survey is used to answer the IQ 2 (What are the users’ preferences in UI design elements of air travel booking websites?) and IQ 3 (What are the recommendations for implementation of the digital marketing and usability features in the air travel aggregator service?). A survey is an effective tool to study the opinions, attitudes and descriptions as well as getting cause-and-effect relationships (Ghauri & Grönhaug 2002, 93). The online questionnaire contains questions regarding the usability features of the interfaces of the air travel aggregators, including samples taken from those websites in order for users to give their responses on the basis of those samples.

The design ideas for the prototypes of the interfaces are based on the data collected from the IQ 1. The focus audience of the survey will be Finnish people, who use websites for their travel bookings. The sample size is expected to be 100 people. The survey with a few filtering questions will be spread on the internet among the friends of the author as well as on online travel communities and groups. The data will be retrieved in a numerical format, then interpreted and discussed by the author. The survey, as a research method, puts the emphasis on understanding a phenomenon from the respondent’s point of view, utilises interpretation and rational approach, is explorative and process oriented.

The survey (Appendix 9) starts with a set of screening questions (Q1, Q2) about user’s experience with online airfare aggregators (which price comparison websites for booking flights have they used), country of residence (this survey is targeted on people, who reside in Finland) and the age (Q3) to determine the demographics of the respondents. In case the user answers that they have never used online flight comparison services, or
they only use direct sales channels of the airline, or if they do not reside in Finland, the survey ends immediately.

The survey is continued with questions about the user’s interest in the travel destinations, suggested by the travel aggregators. Firstly, the respondent is suggested to estimate how often they search for ideas for new flight destinations on price comparison websites (Q4). After that the respondent is presented with three samples from eTravel aggregators with different types of banners on their homepages; the respondents are supposed to choose the most attractive way of suggesting new travel destinations (Q5). This question helps to understand user motivation.

As the next step of the survey (Q6), the respondents are presented with the list of usability features from the benchmarked websites and are suggested to rank their importance (Scale: Not important at all, Not very important, Somewhat important, Very important, I don’t know = 0). The statements that evaluate the efficiency, explorability and affordance of the interface are presented as follows:

- My current location is filled in automatically to the “departure” field
- I can choose the whole month as departure time and select particular dates later, depending on the price
- I can select the number of adult travellers and kids
- I can select to see only direct flights
- I can select to see the prices for a higher class of travelling (e.g. business class)
- I can book a hotel together with the flight
- I can hire a car additionally to booking the flight
- The website has a customer loyalty programme

The next step of the survey (Q7) suggests three command buttons from each of the benchmarked websites. The user is suggested to pick “the most attractive one”, which justifies the explorability and understandability property of the interface (chapter 2.3 of the theoretical framework). The following question about the use of filtering tools on the search result page (Q8) is the screening question as well – if the user chooses the negative option, they will skip the next question.

The next question asks about the importance of the filters for the user on the search results page (Q9). The question is “How important are the following factors for you when you start looking for flights?”. This question is aimed to determine which of the filtering features of the interface are demanded the most by the users. The statements that are evaluated on the scale 1 – 4 from “Not important at all” to “Very important” (“I don’t know” option is available) are suggested as follows:

- Sorting by price
- Sorting by flight duration
– Sorting by departure time
– Sorting by arrival time
– Sorting by the airline
– Sorting by airline alliance
– Sorting by travel class

The last section of the survey displays three samples of airfare offers taken from the benchmarked websites. The questions evaluate the affordances of each of the interfaces, as well as their efficiency, discoverability, intuitiveness and informativeness of the communication, according to the theoretical framework in chapters 2.3 and 2.4. After being presented with the samples, the user is firstly suggested to answer the question “Which of the samples above informs you the best about” by picking the best matching sample to the following descriptions (option “None” is available): 
– The name of the airline
– Departure and arrival time
– Airports of departure and arrival
– Duration of the flight
– Possibilities to save money or get benefits
– Flexibility of the price
– Good experience of booking by other users
– Fast payment option
4 Results

This chapter is intended to provide the results by the research by answering the IQs:

IQ 1. What UI design features are used by the major air travel booking services for getting the reservations?
IQ 2. What are the users' preferences in UI/UX design elements of air travel booking websites?
IQ 3. What are the recommendations for implementation of the digital marketing and usability features in the air travel aggregator service?

4.1 Competitive benchmarking of the websites

This sub-chapter contains the results the competitive benchmarking method, analysing three websites – momondo.fi, ebookers.fi and skyscanner.fi. The table with a comparison of the usability features used on three of these websites is provided at the end of this sub-chapter.

4.1.1 Momondo.fi

Momondo is an international travel search website that provides its users with free and inspirational services of finding cheap flights, hotels and car rentals. The service gives travellers an overview of available travel options and doesn’t add any additional fees. This website claims that they don’t sell tickets, hotel rooms or car rental deals directly, but they show the fares and let the user choose the best suitable option. Momondo serves travellers in 30 international markets; it was founded in 2006 and now employs over 250 people at their headquarters in Copenhagen, Denmark. It is operated by KAYAK, an independent subsidiary of Booking Holdings Inc. (Momondo 2018.)

Appendix 1 provides a screen capture of Momondo.fi home page as of 15 August 2018. The main page of the website is “chunked” into several thematical pieces. The upper part of the website invites the user to “Find and compare cheap flights” in the format of a big, noticeable heading. The heading is followed by the booking form (Figure 3) consisting of two textboxes: the first textbox automatically determines the city of departure based on the location of the user, the second textbox suggest the user to input the desired destination of travelling. After that, the user is offered to input outbound and return flights dates in a numerical textbox with a helping calendar tool. The next element of the booking form is
the dropdown menu that allows configuring the flight details (travelling class, number of passengers, etc.). This is the information search step from the digital marketing hierarchy of response model offered by Caffey & Smith (2012). The last element of the booking form is a command button with a “Search” (Etsi – Finnish) label.

![Booking form at the homepage of momondo.fi](image)

Figure 3. Booking form at the homepage of momondo.fi (background photo has been blurred due to copyright issues)

When the search button is pressed, the user is redirected to the flight options comparison page. Meanwhile, on the background, a pop-up window with another airfare aggregator website – travellink.fi – is launched. The price comparison page (Appendix 2) contains the same booking form from the homepage – this allows the user to change the basic parameters of the search easily. Underneath the booking form, there are bars that indicate the prices for outbound and return flights on other dates – this intuitive element allows to involve the user into experimentation with the content. Moreover, when the user sees other, cheaper options available for nearest dates, they are more likely to click, which leads to loading a new page, which, in turn, rises up the overall Average Pages per Visit indicator for the website.

The left-hand side of the webpage has filters expressed in radio buttons, switches, dropdown lists, sliders and checkboxes, which makes it possible to search more accurately according to the user’s preferences, thus lead to more experimentation by the user. The centre part of the page is represented with tabs that organise the search results on the basis of the price or flight duration. The user is initially suggested to choose from the cheapest flight options, however, if for some reason, the cheapest option is not suitable, they can easily switch to “the fastest” or “the most suitable options” – this is the additional value that the service offers.

Every offer (Figure 4) initially contains brief, but the most important information about the airfare – the name of an airline, outbound and return flights times and duration, layover
airports (if any), the overall rating of the offer evaluated by other users, the total price for the offer and the call-to-action command button “Go to page” (Siirry sivulle – Finnish). If the user is interested in more detailed info on the journey, they can click “Information” (Tiedot – Finnish) link. The button “Prices” (Hinnat – Finnish) lets the user see the prices from all of the ticket resellers. This page represents the evaluation and decision phase of the Caffey & Smith (2012) hierarchy of response model.

Figure 4. One of the airfare offers on the price comparison page at momondo.fi

As Momondo doesn’t sell any tickets directly, they operate with a commission-based revenue model and get a certain percentage of the ticket sale price from the reseller (Momondo 2018b). As the final step of the customer journey on Momondo.fi website, the user is expected to click “Go to page” (Siirry sivulle – Finnish) call-to-action button, which redirects the user to the reseller’s web platform, where the user is expected to insert personal information, information about the payment method and confirm for the order. This is the “action” phase, defined by Caffey & Smith (2012).

4.1.2 Ebookers.fi

Ebookers.com (an international version of ebookers.fi) was founded in 1998. Back then the company was known as Flightbookers Ltd. and was based in London’s Earls Court. Nowadays ebookers.com are represented by travel agencies in 7 European countries (the UK, Switzerland, Finland, France, Germany, Italy and Sweden) and works with over 400 airlines, 270 000 hotels and various car hire services. In October 2015 ebookers became part of Expedia Inc. due to the acquisition. (Ebookers 2018.)

The home page of ebookers.fi (Appendix 3), like momondo.fi, on the information search step, suggests users fill in the ticket search form with the departure and destination airport, the dates, they are planning to travel on, number of travellers and type of journey (one way, return or multiple destinations). The further information on this web page contains the benefits of using the service, latest discounts, banner advertisements from third
partied, Search Engine Optimisation (SEO) text with links to popular requests from the search engines. In the bottom of the page, the user is suggested to subscribe to the company's newsletter with the latest airfare offers.

When the search form is complete and submitted, the user is being redirected to the search results page (Appendix 4). On that page, the search form still remains available for users, but the user is provided with the opportunity to modify their search with the controls of check-boxes regarding the desired number of transfers, Airline, preferred departure and arrival time and a drop-down list for sorting the price. On the top of the search results part, the user is suggested to try the value-added service for booking flight and hotel simultaneously with a more reasonable price (Figure 5).

![Figure 5. Flight+hotel value added service at ebookers.fi](image)

The offer itself (Figure 6), the user is provided with, contains basic information about outward flight timing, duration, price and possible layovers; the call-to-action button is named “Choose” (Valitse – Finnish); the airlines have also star rating and right under the price tag, the user is suggested to “Earn bonus”, when joining the loyalty program of the website.

![Figure 6. One of the airfare offers on the price comparison page at ebookers.fi](image)

When the action button is pressed, the offer gets fixed on the upper level of the page and the user is suggested to choose from the return flight offers, many of which are displayed exactly like Figure 6 but have 0 € price tag. When the return journey is chosen, the user is offered to use the “Flight+Hotel” value-added service once again, but now suggesting to
“save up to 10%” with a pop-up banner. The call-to-action button used for affirmative response and link button is used for a decline action (Figure 7).

*Säästät jopa 10 %* varaamalla lennon ja hotellin yhdessä.

Figure 7. Value-added service pop-up banner at ebooks.fi

When the user performs any further action, they will be redirected to the booking confirmation page with the summary of the order (Appendix 5). The page contains full information about the flights selected on the right-hand side and price details on the left-hand side. The user is offered with value-added service of car hire, the order confirmation button follows after the offer; however, the page doesn’t contain any third-party banner advertisement. User click on the “Continue booking” (Jatka varausta) means the user going to the action page, where they would be suggested to input the payment details and submit the order. This service provides its own booking system, handling the order themselves. That indicates that the service directly adds the commission on the tickets sold.

4.1.3 Skyscanner.fi

Skyscanner was founded in 2003 and employs over 900 stuff nowadays. It is a leading global travel search site, inspiring people to plan and book directly from millions of travel offers for free. The service is used by 60 million users internationally. It uses unique proprietary technology that allows people to find everything the travel industry has to offer. (Skyscanner 2018.)

Skyscanner’s frontpage consists of the header with menus and website settings, airfare search from, destinations, suggested by the website, price map (an interactive map with the display of current airfare prices from a certain point), descriptions of the benefits of the service and bottom menus. The search form allows to choose the departure point, destinations, including all destinations feature that displays the lowest prices for certain destinations around the world, flight dates (with the possibility to choose the whole month) and the fields for inputting the number of travellers.
In case the user selects the whole month as the time of travel, they are being redirected to a price calendar page, where the user can compare the dates of the month and the prices on that date (Figure 8).

After the dates have been selected, the user gets to the search results page (Appendix 7). The page has the search form in the suspended format on top of the search results, command button “Get price alerts”, filters in the format of check-boxes, sliders and text links for modifying the search results. The centre column of the search results page has a drop-down list for modifying the search results by different criteria; the same filters are displayed underneath the drop-down list in the format of tabs for sorting the result on the basis of price, duration and “best recommended” option.

The airfare offer (Figure 9) contains only the information on the airline, arrival and departure time, airport code, the number of tickets remaining, price tag and call-to-action button “Continue” (Jatka – in Finnish). Further information about the offer is only available when the user clicks on the “Continue” button.
The order confirmation page is displayed in Appendix 8. This page consists of more detailed info on the flight, a list of partners and their price offers for this airfare and some advertisement. Due to the fact that Skyscanner doesn’t offer a direct purchase of the airfare but redirects the user to one of its partner’s website, the author assumes that Skyscanner is an intermediary and works on a commission-based revenue model and get a certain percentage of the ticket sale price from the reseller.

4.1.4 Summary

Table 4 below shows the comparison of the key usability features that are used by the three selected airfares aggregators.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Usability Feature</th>
<th>momondo.fi</th>
<th>ebookers.fi</th>
<th>skyscanner.fi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homepage</td>
<td>No. of pieces the content is “chunked to” (excl. header and bottom menu)</td>
<td>7</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Homepage Search form</td>
<td>Automatically determines user's location and inputs it to departure field</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Suggests “anywhere” option as a dropdown on destination text field</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Dropdown calendar on the date’s fields</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Possibility to choose a range or</td>
<td>Only sug-</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Feature</td>
<td>Value</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the whole month as a departure date / price calendar</td>
<td>gesting other dates on the search results page</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suggestion to book a hotel/car with a flight</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional configurations available in the dropdown menu</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action button text/shape/colour</td>
<td>Etsi/ Circular/ Pink</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search results page</td>
<td>Similar to the one on the home page</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls in the search modification column (left-hand side)</td>
<td>Radio buttons, switches, dropdown lists, sliders and check-boxes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting the content is possible with</td>
<td>Tabs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search results page</td>
<td>Brief, possible to expand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airfare Offer</td>
<td>Brief, possible to expand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airline/partner rating</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ On the following stage of booking</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4.2 Survey results

The internet survey (Appendix 9) was launched on Wednesday, 3 October 2018. It has been open for two weeks and closed on Wednesday, 17 October 2018. During the period of launch, the survey was randomly distributed on the internet, mostly on Facebook social media platform. The link with a description of the research was distributed throughout travel communities (focus country – Finland) and friends of the author. Facebook ads campaign, targeting frequent travellers, who live in Finland, was running during the period of 9-11 October 2018.

According to the survey report (Appendix 10), the overall final number of respondents to the survey is 53 people, which is lower than the desired number of respondents, but is still representative due to the narrow target audience – people, living in Finland, flying commercially and who are able to answer the survey in English. The number of respondents, who passed the screening questions (Q1, Q2) on the first page of the survey is 44. Those 44 people, out of 53 total respondents reside in Finland continuously and usually use air travel aggregators to book their flights.

The most popular air travel aggregator among the respondents (Figure 10) is skyscanner.fi – 71.7% or 38 respondents use it. Momondo.fi (47.17%/25 respondents) and ebookers.fi (32.08%/17 respondents) are on the second and the third position accordingly. 18.87% (10 people) of the respondents use other air travel price comparison services solely or in addition to the listed ones. 3 respondents (5.66%) usually book their flight directly from the airline, thus, do not match with the survey requirements – the survey process was discontinued after the 3rd question for these respondents.
Figure 10. Results on Question 1 of the survey; the percentage of respondents using different air travel booking platforms

47 respondents (88.68%) continuously reside in Finland, however, 6 respondents (11.32%) do not, therefore, the survey process was discontinued for them after the 3rd question too. The age demographics of the total number of respondents (53) is as follows: 1 person (1.89%) is under 20 years old, 14 people (26.4%) are between 20 and 24 years old, 11 people (20.75%) are from 25 to 29 years old, 14 people (26.4%) are from 30 to 34 years old, 6 people (11.32%) are from 35 to 39 years old, 1 person (1.89%) is in the range of 40-45 years old and 6 respondents (11.32%) are in the age of over 45.

Question 4 (How often do you search ideas for new flight destinations on price comparison websites?) was graded by the respondents on the scale from 0 (Never, I always know exactly where I want to travel) to 4 (Very often, I am open to discovering new places for travelling). The median in this question is 3, which means that most of the respondents are keen on discovering new travel destinations on price comparison websites. It’s necessary to point out that the starting position of the slider, that allowed the respondents to reply, was indicating value 2, which is the answer with the lowest score (6.82%/3 people), according to the report.

The leading, most preferred way of displaying the travel destinations suggestions (Q5), is Sample 2 (59.09%/26 respondents chose it), taken from skyscanner.fi website. That sample displays chunked pictures, with a clear name of the destination; the arrangement of the content is vertical. Sample 1 with listed destinations with small thumbnails, got the second position with 38.64%/17 respondents choosing it. The text list option gained only 2.27% or 1 respondent, remaining the least preferred option of seeing the content by the respondents, even though it might be more efficient for the website SEO performance.
Question 6 is meant to evaluate the efficiency, explorability and affordance of the interface through a set of questions about the importance to the users of particular elements on the benchmarked websites. The respondents evaluated each statement on the scale from 1 (Not important at all) to 4 (Very important); “I don’t know” option was also available for the respondents, but it was not considered in calculating the average indicators.

According to the Figure 11 and Appendix 10, the most important usability feature for the respondents appeared to be the “price calendar” reaching the score of 3.61 of importance on average (median is 4). This usability option is only available on skyscanner.fi platform. The second most important feature of the interface with an average score of 3.4 (median is 4) is the possibility to see only direct flight in search results. Respondents also marked the selector of the number of adult travellers and kids somewhat important with an average of 3.11 (median is 3).

The least important feature for the respondents with a score of 1.42 on average (median is 1) is the car hiring service. The majority of the respondents (29 people) marked this feature as “Not important at all”. This feature is followed by the hotel booking suggestions with a score of importance at 1.82 (median 1.5).

![Graph showing the average indicators on Question 6 of the survey](image_url)

Figure 11. Average indicators on Question 6 of the survey (1 = Not important at all, 4 = Very important)
Question 7 of the survey asked the respondents about their preference of the call-to-action command “Search” buttons captured from three of the benchmarked websites. Option 3 or the “Search” button from skyscanner.fi was chosen as the most preferred option by 54.5% of the respondents/24 people. Option 1 captured from momondo.fi website was chosen by 31.8% of the respondents/14 people. Option 2 captured from ebookers.fi website is the least preferred option and drew attention only of 13.6% of respondents/6 people.

Question 8 was used as a screening question about the usage of filtering options. Those respondents, who answered negatively skipped Question 9 and were redirected straight to Question 10. 38 out of 44 respondents (86.4%) confirmed regular usage of filtering tools when booking airline tickets online and were taken further to question 9.

Question 9 is determined to rank the importance of filtering options on the search results page of the air travel aggregators. The respondents evaluated each statement on the scale from 1 (Not important at all) to 4 (Very important); “I don’t know” option was also available for the respondents and it’s not considered in calculating the average indicators.

According to the survey (Figure 12), the most important filtering option for the respondents is “Sorting by price” option with an average result of 3.89 (median 4). The second most important filtering option is the duration of the flight – score of 3.63 (median 4). The filter of the departure time (avg. score 3.05/median 3) is more important for the respondents than the filter of the arrival time (avg. score 2.74/median 3). The two least important sorting filters are “Airline alliance” (avg. 1.79/median 2) and “Travel class” (avg. 1.95/median 2).
The final question 10 is aimed to determine the affordance, efficiency, discoverability, intuitiveness and informativeness of the communication of the air travel offers from each of the benchmarked websites. The respondents were presented with 3 samples of the interfaces – Sample 1 was captured from ebookers.fi search results page, Sample 2 was taken from momondo.fi and Sample 3 from skyscanner.fi. The respondents were asked to evaluate which of the three samples informed them the best about certain statements. Option “None” was also available.

According to Figure 13, which has been modified to display the results more clearly, the affordance and informativeness of Sample 1 is very low – it only scored the highest on the statement “Possibility to save money or get benefits” (66% of the respondents chose it to be informative on that criteria). Sample 2 scored the highest affordance and informativeness on “Airports of departure and arrival” criteria (75% respondents) and “Good experience of booking by other users” (43%). Sample 3 has the most affordance and informativeness out of all the samples with scoring results of the statements “Duration of the flight” (61%), “Departure and arrival time” (84%) and “Name of the airline” (91%). The respondents have not determined the best informative sample on criteria of “Fast payment solution” (55% of respondents answered “None”) and “Flexibility of price” (34% for “None”).
5 Discussion

This chapter summarises the most valuable results of this thesis and answer the IQs relating the results of the research to the theoretical framework. It briefly discusses the results of the research and provides recommendations to air travel aggregators on “How to improve the efficiency of an eTravel booking service with the help of digital marketing and usability features”. This is followed by the evaluation of own’s learning.

5.1 Summary and recommendations

As all the three benchmarked platforms are up running eBusinesses and are aimed at making profits, the marketers do have to apply the timely and right innovations to them. The aim of the digital marketing implied to the platforms is to communicate effectively to the audiences by the means of the communication design. All of the benchmarked platforms are “web self-service” and use the same steps of the selling techniques, starting from the search step of the buying process, continuing to the selection step, which is followed by the purchase step.

The research based on the benchmarking method in this thesis shows that the most common design and usability features used by the travel booking aggregators are “chunking the content” on the information pages, implementing such features as “automatic location fill-in into the departure field”, suggesting the user with new destinations to travel to, making the selection process more flexible with the possibilities for the users not to choose particular dates in the first place and suggesting them better prices later. eTravel aggregators also use value-adding services, such as hotel reservations and car hire, in addition to the main purpose of the website – airfare booking. The value adding services, as the author assumes, are directed on sales increase, but in fact, they were ranked as the least important factors by the respondents of the survey when booking the flights. Pitching value-added services to the users might lower their motivation to purchase the main product as well as deliver bad user experience.

All of the benchmarked websites suggest and even encourage their users to use filtering tools in order to show them the most relevant deals, but also to imply the explorability attribute to the interface. Explorability of the interface directly affects the user behaviour and encourages the users to interact with the interface without being afraid of doing something wrong and experimenting, which, in turn, triggers in the enjoyment part of the positive online experience. The users, indeed, displayed their interest in the filtering options, sug-
gested by the aggregators. The leading option for filtering was the price sorting, followed by the flight duration. This information corresponds to the results of the benchmarking, where the websites primarily suggested these filtering options. Adding more filtering options, as it’s implemented on momondo.fi platform, not as useful and may overload the interface, so it would make the user confused or lost.

The preferences of the users, studied by the online survey, show that most of the users are willing to discover the new destinations that the aggregators suggest to them, however, the content is recommended to be presented be in the picture format and not in plain text. “The price calendar” or the usability feature to visualise the prices basing on the dates of departure is the most demanded among the respondents of the online survey. It only exists on the skyscanner.fi platform and in some form on skyscanner.fi (on the search results page), so other platforms must also consider implementing it in their interfaces.

The success and efficiency of one of the most important stages on the aggregators – the search results page – depends on the overall affordance of the UI and UX and the factors that affect the user behaviour – intuitiveness, informativeness and discoverability. The air travel booking aggregators in question use the format of offers or deals to communicate the price offer to the user. As the display space is limited the publishers need to make the most out of the area available to inform the customer about the offerings. Some of the aggregators use brief information with a possibility to expand it, while others bring all the details upfront. During the research, the samples, taken from multiple travel aggregators were captured and compared to the users’ opinions about the informativeness and usefulness of the information displayed on them.

The sample, taken from skyscanner.fi website, scored the highest informativeness rate among the respondents of the online survey. The respondents agreed that this sample provides information about the duration of the flight, departure and arrival time and the name of the airline in the best informative and intuitive way. That sample, unlike others, rationally uses the space of the chunks of the information and clearly states the most valuable and demanded information. However, in case the customer needs more details about the offer, they get more details on the next step of the buying journey. Sample, taken from ebookers.fi, in turn, received the lowest score on intuitiveness due to the possible overloading with information or “overcommunication”, which the author recommends avoiding when building the interface.
In the scope of this thesis research, the author believes that the aforementioned factors will help to improve the efficiency of air travel online price aggregators, supported by the materials from the theory, competitive benchmarking and the online survey.

5.2 Evaluation of learning

The author considers this thesis to be moderately successful. As in any project, there were unforeseen pitfalls and obstacles in the form of constant changes of plans, narrowing down the topicing or rephrasing the title. The process of writing this paper also took way more time than it was expected initially due to the summer holidays and overlapping schedules.

This thesis might have a lack of structure and could have been more focused and well-planned. The author also thinks that producing a thesis for a commissioning company would have brought more value and possibilities for data collection. Initially, this thesis was meant to concentrate on design and on the way, it affects the conversion rate, however, it was not possible due to the lack of any statistical data about the benchmarked websites.

Getting the desired number of responses for the online survey part was another difficulty met during the research phase. Now, having received the experience of writing the thesis paper, the author also improved his time-management, project management as well as writing skills.
References


McKay, E.N. 2013. UI is communication: How to design intuitive, user centered interfaces by focusing on effective communication. Amsterdam; Boston: Elsevier, Morgan Kaufmann.


Appendices

Appendix 1. Momondo.fi home page capture

This screen capture of momondo.fi page has been taken on 15 August 2018. The page appearance is split into 3 separate images.
Appendix 2. Momondo.fi search results page capture

This screen capture of momondo.fi page has been taken on 15 August 2018. The page appearance is split into 3 separate images.
Appendix 3. Ebookers.fi home page capture

This screen capture of ebookers.fi page has been taken on 10 September 2018. The page appearance is split into 3 separate images.
seka mäntymyrskyä ja kuitoutuvat tutustumiseen, jos haluat aktiivimme manteran, lomamaata otatte valinnoista ja arvostaa näitä asioita.
Suojaamalla matkamme/kuvaamme korot täydellisesti tarkkaan ja laadukkaasti. Matkaikka johdat ja suunnittelemaan, joista

Säästää virtaamaa lienevät

Valitse siltä suhteelle sopivin hotelli
ebakirinkin kautta saat varatusta hotellista kaikista täysin. Vertaile hotelleja, niitä löytä pahae pohtoehdon. Voit varata haluamasi hotellin, jossa

Tietoa ja tarjouksia kuolemparaisia

Puhek Matkat
Ruba Matkat
Bio Matkat
Rix Matkat
Jörän Matkat
Maihday Matkat
Säännöllinen matkat

Koris Matkat
Bruno Matkat
Viima Matkat
Riika Matkat
Vihreä Matkat
Riika Matkat
Lotoni Matkat

Amersfoort Matkat
Tellervo Matkat
Hong Kong Matkat
Mbat Matkat
Las Vegas Matkat

Havait tennut Helsingissä

Helsinki Bangkòk
Helsinki Malaga
Helsinki New York
Helsinki Miami
Helsinki Berlin
Helsinki Miami

Helsinki Rooma
Helsinki Lontoo
Helsinki Praha
Helsinki Tukholma
Helsinki Frankfurt

Helsinki Bangkok
Helsinki Amsterdam
Helsinki Paris
Helsinki Miami
Helsinki Revanemi

Helsinki Bangkok
Helsinki Amsterdam
Helsinki Revanemi
Helsinki Berlin
Helsinki New York
Helsinki Cruise

Hoteilid ja hôtelit opinnoissa

Hoteilid Lontoo
Hoteilid Rooma
Hoteilid Dublin
Hoteilid Tampere
Hoteilid Helsinki

Hoteilid Barcelonea
Hoteilid Edinburgh
Hoteilid Duba
Hoteilid Turku
Hoteilid Guumi

Hoteilid Kööpenhamina
Hoteilid Budapest
Hoteilid New York
Hoteilid Helsinkin
Hoteilid Turku

Hoteilid Taiwania
Hoteilid Helsinki
Hoteilid Helsinki
Hoteilid Helsinki
Hoteilid Helsinki

Lennot-kohdiltaan

Lennot Tukholmaan
Lennot Amsterdamiin
Lennot Oulun

Lennot Kööpenhaminaan
Lennot Helsinkin
Lennot New York

Lennot Berliniin
Lennot Helsingin
Lennot Suurin

Lennot Parissiin
Lennot Malagaan

Matkapaketti-idea

Esokpani matkat
Kreikan matkat
Mishan matkat

Brazili
Matkat
Tukholma matkat
Matkat Kanaan

Italian matkat
Matkat Californiaan
Matkat Japaniksi

Kivialan matkat
Matkat Usui-Seidori
Kivialan matkat

48

48
Appendix 4. Ebookers.fi search results page capture

This screen capture of ebookers.fi page has been taken on 10 September 2018. This appendix only consist of 2 images of the page due to the repeating content.
<table>
<thead>
<tr>
<th>Time</th>
<th>Flight Details</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>66.05 - 14.50</td>
<td>Air Baltic</td>
<td>159 €</td>
</tr>
<tr>
<td>6.30 - 17.20</td>
<td>Air Baltic</td>
<td>340 €</td>
</tr>
<tr>
<td>13.15 - 15.00</td>
<td>Air Baltic</td>
<td>440 €</td>
</tr>
<tr>
<td>18.10 - 18.25</td>
<td>Air Baltic</td>
<td>410 €</td>
</tr>
<tr>
<td>21.05 - 21.50</td>
<td>Air Baltic</td>
<td>460 €</td>
</tr>
<tr>
<td>21.50 - 22.05</td>
<td>Air Baltic</td>
<td>460 €</td>
</tr>
</tbody>
</table>

Note: Prices are subject to change and do not include taxes or fees.
Appendix 5. Ebookers.fi order confirmation page capture

This screen capture of ebookers.fi page has been taken on 10 September 2018.
Appendix 6. Skyscanner.fi home page capture

This screen capture of skyscanner.fi page has been taken on 10 September 2018. This appendix consists of 2 images.
<table>
<thead>
<tr>
<th>Tutustu:</th>
<th>Yhteistyökumppanit:</th>
<th>Yhteys:</th>
<th>Ohje:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kasvun+</td>
<td>Kasvunkieltoit</td>
<td>Liitokset:</td>
<td>Työpaikat:</td>
</tr>
<tr>
<td>Lentokiertat:</td>
<td>Lentokentät:</td>
<td>Lentoyhtiöt:</td>
<td>Media:</td>
</tr>
<tr>
<td>Lentoyhtiöt:</td>
<td>Lentokentät:</td>
<td>Lentotietoja:</td>
<td>Mielu-artikkelit &amp; uutiset:</td>
</tr>
<tr>
<td>Lentotietoja:</td>
<td>Lentokentät:</td>
<td>Lentotietoja:</td>
<td>Eilunpäiväpaperit:</td>
</tr>
<tr>
<td>Lentotietoja:</td>
<td>Lentokentät:</td>
<td>Lentotietoja:</td>
<td>Tietoformaatit:</td>
</tr>
<tr>
<td>Lentotietoja:</td>
<td>Lentokentät:</td>
<td>Lentotietoja:</td>
<td>Käyttäjäohjelmat:</td>
</tr>
<tr>
<td>Lentotietoja:</td>
<td>Lentokentät:</td>
<td>Lentotietoja:</td>
<td>Asiakaskuultaus:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kansainväliset siirrot:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - Cheap Flights</td>
</tr>
<tr>
<td>Suomi - Finland</td>
</tr>
<tr>
<td>Norja - Norge</td>
</tr>
<tr>
<td>Ruotsi - Sverige</td>
</tr>
<tr>
<td>Yhdysvallat - USA</td>
</tr>
<tr>
<td>Yhdysvallat - United States</td>
</tr>
<tr>
<td>Yhdysvallat - America</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lataa Skyscannerin matkakävellys!</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Paljastu matkakahvausviiva</th>
</tr>
</thead>
</table>

Skyscanner on ilmainen!

Kun mielestäsi matka on hyvin tärkeä ja olet halukas vakuutamaan sen, ota yhteys viisaan lennootomat ja matkatilo GE sisältä kiitos. Skyscanner ei edelleenkään maksaa, vaan kiitos täysin maksuton ja mukavuuden. Sitten sinä saat selvää matkakannan halvat lennot ja haluat muutama aikaa asetettavat matkakävelys.
Appendix 7. Skyscanner.fi search results page capture

This screen capture of skyscanner.fi page has been taken on 14 September 2018. This appendix consists of 3 images.
### Karsainväliset sivustot

<table>
<thead>
<tr>
<th>Sivuston sana</th>
<th>Sivuston sana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheap Rights</td>
<td>France - bons</td>
</tr>
<tr>
<td>Suzum - bonot</td>
<td>Italia - vit</td>
</tr>
<tr>
<td>Irland - Rights</td>
<td>Sverige - flag</td>
</tr>
<tr>
<td>Singapur</td>
<td>Swiss - Flüge</td>
</tr>
<tr>
<td>España - vuelos</td>
<td>China - flug</td>
</tr>
<tr>
<td>United Arab Emirates - Rights</td>
<td>Deutschland - Flüge</td>
</tr>
</tbody>
</table>

© Byggeverner Ltd 2000-2019
Appendix 8. Skyscanner order confirmation page capture

This screen capture of skyscanner.fi page has been taken on 14 September 2018. This appendix consists of 1 image.
Appendix 9. Online survey design

Survey design extracted from Webroplo platform on 4 October 2018.

Survey on Air Travel Price Comparison Websites

Thank you for showing your interest in the survey, conducted by a student of Haaga-Helia University of Applied Sciences for thesis research purposes!

The aim of this survey is to determine users’ preferences with the interfaces of online air travel aggregators. This online questionnaire will not take more than 5 minutes of your time.

1. Which price comparison websites do you usually use for booking flights? *

- momondo.fi
- ebookers.fi
- skyscanner.fi
- travellink.fi
- supersaver.fi
- expedia.fi
- Other websites
- I usually don’t use price comparison services and book flights directly from the airline’s website (finnair.fi, sas.fi, ba.com, etc.)
- I usually do not book flights on websites

2. Do you continuously reside in Finland? *

- Yes, I live in Finland
- No, I live in a different country
3. Which age group do you belong to? *

- Under 20
- 20 – 24
- 25 – 29
- 30 – 34
- 35 – 39
- 40 – 45
- Over 45

4. How often do you search ideas for new flight destinations on price comparison websites? *

- Never, I always know exactly where I want to travel
- Very often, I am open to discovering new places for travelling
5. Among these three options, choose the format of suggesting new travel destinations, which seems the most attractive to you *
6. How important are the following factors for you when you start looking for flights?

<table>
<thead>
<tr>
<th></th>
<th>Not important at all</th>
<th>Not very important</th>
<th>Somewhat important</th>
<th>Very important</th>
<th>I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>My current location is filled automatically to the &quot;departure&quot; field</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can choose the whole month as departure time and select particular dates later, depending on the price</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can select the number of adult travellers and kids</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can select to see only direct flights</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can select to see the prices for a higher class of travelling (e.g. business class)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can book a hotel together with the flight</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I can hire a car additionally to booking the flight</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>The website has a customer loyalty programme</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

7. Which of the following “Search” buttons seems the most attractive to you? *

![Buttons 1, 2, 3](image)

8. When choosing from a large number of flight options, do you usually use filtering tools to specify your search? *

☐ Yes, I use filters to specify the details of my journey

☐ No, I scroll through all the options until I find the most suitable one
9. How important are the following factors for you when you start looking for flights?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Not important at all</th>
<th>Not very important</th>
<th>Somewhat important</th>
<th>Very important</th>
<th>I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorting by price</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting by flight duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting by departure time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting by arrival time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting by the airline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting by airline alliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorting by travel class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explore the following three samples and give your opinion on the questions below.

Please, do not base your answer on the departure airport, the travel destination, dates or prices as those are only provided as examples.

Sample 1

<table>
<thead>
<tr>
<th>Departure Time</th>
<th>Flight Time</th>
<th>Airline</th>
<th>Flight Number</th>
<th>Price</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.25 - 20.20</td>
<td>3 h 55 min</td>
<td>Finnair</td>
<td>HEL - BCN</td>
<td>214 €</td>
<td>menopaluu</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ansaitse 2,14 €</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>lisäksi saat 2,14 €</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BONUS+ - etuna</td>
</tr>
</tbody>
</table>

Lentoyhtiö saattaa veloitaa maksutavasta riippuen erillisien lisämaksun mukaisesti. Maksu ei näy lipun hinnassa.
10. Which of the samples above informs you the best about

<table>
<thead>
<tr>
<th>Information</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>The name of the airline</td>
<td></td>
<td></td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>Departure and arrival time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airports of departure and arrival</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration of the flight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possibilities to save money or get benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexibility of the price</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good experience of booking by other users</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast payment option</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 10. Online survey results

Survey report was extracted from Webropol platform without modifications on 17 October 2018.

Survey on Air Travel Price Comparison Websites

1. Which price comparison websites do you usually use for booking flights?
Number of respondents: 53, selected answers: 117

<table>
<thead>
<tr>
<th>Website</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>momondo.fi</td>
<td>25</td>
<td>47.17%</td>
</tr>
<tr>
<td>ebookers.fi</td>
<td>17</td>
<td>32.08%</td>
</tr>
<tr>
<td>skyscanner.fi</td>
<td>38</td>
<td>71.7%</td>
</tr>
<tr>
<td>travelink.fi</td>
<td>5</td>
<td>9.43%</td>
</tr>
<tr>
<td>supersaver.fi</td>
<td>11</td>
<td>20.75%</td>
</tr>
<tr>
<td>expedia.fi</td>
<td>8</td>
<td>15.09%</td>
</tr>
<tr>
<td>Other websites</td>
<td>10</td>
<td>18.87%</td>
</tr>
<tr>
<td>I usually don’t use price comparison services and book flights directly from the airline's website (finnair.fi, sas.fi, ba.com, etc.)</td>
<td>3</td>
<td>5.66%</td>
</tr>
<tr>
<td>I usually do not book flights on websites</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
2. Do you continuously reside in Finland?
Number of respondents: 53

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, I live in Finland</td>
<td>47</td>
<td>88.68%</td>
</tr>
<tr>
<td>No, I live in a different country</td>
<td>6</td>
<td>11.32%</td>
</tr>
</tbody>
</table>

3. Which age group do you belong to?
Number of respondents: 53

<table>
<thead>
<tr>
<th>Age Group</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 20</td>
<td>1</td>
<td>1.89%</td>
</tr>
<tr>
<td>20 – 24</td>
<td>14</td>
<td>26.41%</td>
</tr>
<tr>
<td>25 – 29</td>
<td>11</td>
<td>20.75%</td>
</tr>
<tr>
<td>30 – 34</td>
<td>14</td>
<td>26.42%</td>
</tr>
<tr>
<td>35 – 39</td>
<td>6</td>
<td>11.32%</td>
</tr>
<tr>
<td>40 – 45</td>
<td>1</td>
<td>1.89%</td>
</tr>
<tr>
<td>Over 45</td>
<td>6</td>
<td>11.32%</td>
</tr>
</tbody>
</table>
4. How often do you search ideas for new flight destinations on price comparison websites?
Number of respondents: 44

<table>
<thead>
<tr>
<th>Min value</th>
<th>Max value</th>
<th>Average</th>
<th>Median</th>
<th>Sum</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4</td>
<td>2.16</td>
<td>3</td>
<td>95</td>
<td>1.52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slider value quantity</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>9</td>
<td>20.46%</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>20.45%</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>6.82%</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>27.27%</td>
</tr>
<tr>
<td>4</td>
<td>11</td>
<td>25%</td>
</tr>
</tbody>
</table>

5. Among these three options, choose the format of suggesting new travel destinations, which seems the most attractive to you
Number of respondents: 44

<table>
<thead>
<tr>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>38.64%</td>
</tr>
<tr>
<td>2</td>
<td>59.09%</td>
</tr>
<tr>
<td>3</td>
<td>2.27%</td>
</tr>
</tbody>
</table>

6. How important are the following factors for you when you start looking for flights?
Number of respondents: 44
Option: I don’t know - excluded from average

### Importance of Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Not important at all</th>
<th>Not very important</th>
<th>Somewhat important</th>
<th>Very important</th>
<th>I don’t know</th>
<th>Total</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>My current location is filled in automatically to the “departure” field</td>
<td>13</td>
<td>14</td>
<td>14</td>
<td>3</td>
<td>0</td>
<td>44</td>
<td>2.16</td>
<td>2</td>
</tr>
<tr>
<td>I can choose the whole month as departure time and select particular dates later, depending on the price</td>
<td>0</td>
<td>4</td>
<td>9</td>
<td>31</td>
<td>0</td>
<td>44</td>
<td>3.61</td>
<td>4</td>
</tr>
<tr>
<td>I can select the number of adult travellers and kids</td>
<td>3</td>
<td>7</td>
<td>16</td>
<td>18</td>
<td>0</td>
<td>44</td>
<td>3.11</td>
<td>3</td>
</tr>
<tr>
<td>I can select to see only direct flights</td>
<td>2.27%</td>
<td>13.64%</td>
<td>27.27%</td>
<td>52.27%</td>
<td>4.55%</td>
<td>44</td>
<td>3.36</td>
<td>4</td>
</tr>
<tr>
<td>I can select to see the prices for a higher class of travelling (e.g. business class)</td>
<td>38.64%</td>
<td>34.09%</td>
<td>22.73%</td>
<td>4.54%</td>
<td>0%</td>
<td>44</td>
<td>1.93</td>
<td>2</td>
</tr>
<tr>
<td>I can book a hotel together with the flight</td>
<td>22%</td>
<td>10%</td>
<td>10%</td>
<td>2%</td>
<td>0%</td>
<td>44</td>
<td>1.82</td>
<td>1.5</td>
</tr>
<tr>
<td>I can hire a car additionally to booking the flight</td>
<td>50%</td>
<td>22.73%</td>
<td>22.73%</td>
<td>4.54%</td>
<td>0%</td>
<td>44</td>
<td>1.42</td>
<td>1</td>
</tr>
<tr>
<td>The website has a customer loyalty programme</td>
<td>65.91%</td>
<td>22.73%</td>
<td>9.09%</td>
<td>0%</td>
<td>2.27%</td>
<td>44</td>
<td>2.26</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>80</td>
<td>87</td>
<td>84</td>
<td>5</td>
<td>352</td>
<td>2.46</td>
<td>2</td>
</tr>
</tbody>
</table>
7. Which of the following “Search” buttons seems the most attractive to you?
Number of respondents: 44

<table>
<thead>
<tr>
<th>Option</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14</td>
<td>31.82%</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>13.64%</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>54.54%</td>
</tr>
</tbody>
</table>

8. When choosing from a large number of flight options, do you usually use filtering tools to specify your search?
Number of respondents: 44

<table>
<thead>
<tr>
<th>Response</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, I use filters to specify the details of my journey</td>
<td>38</td>
<td>86.36%</td>
</tr>
<tr>
<td>No, I scroll through all the options until I find the most suitable one</td>
<td>6</td>
<td>13.64%</td>
</tr>
</tbody>
</table>

9. How important are the following factors for you when you start looking for flights?
Number of respondents: 38

Option: I don't know - excluded from average
10. Which of the samples above informs you the best about
Number of respondents: 44
Option: None - excluded from average
<table>
<thead>
<tr>
<th></th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
<th>None</th>
<th>Total</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the airline</td>
<td>1</td>
<td>3</td>
<td>40</td>
<td>0</td>
<td>44</td>
<td>2.89</td>
<td>3</td>
</tr>
<tr>
<td>Departure and arrival</td>
<td>0</td>
<td>7</td>
<td>36</td>
<td>0</td>
<td>43</td>
<td>2.84</td>
<td>3</td>
</tr>
<tr>
<td>Airports of departure</td>
<td>0</td>
<td>33</td>
<td>10</td>
<td>1</td>
<td>44</td>
<td>2.23</td>
<td>2</td>
</tr>
<tr>
<td>Duration of the flight</td>
<td>9</td>
<td>6</td>
<td>27</td>
<td>2</td>
<td>44</td>
<td>2.43</td>
<td>3</td>
</tr>
<tr>
<td>Possibility to save</td>
<td>29</td>
<td>1</td>
<td>3</td>
<td>11</td>
<td>44</td>
<td>1.21</td>
<td>1</td>
</tr>
<tr>
<td>Flexibility of the price</td>
<td>13</td>
<td>2</td>
<td>14</td>
<td>15</td>
<td>44</td>
<td>2.03</td>
<td>2</td>
</tr>
<tr>
<td>Good experience of booking by other users</td>
<td>11</td>
<td>19</td>
<td>2</td>
<td>12</td>
<td>44</td>
<td>1.72</td>
<td>2</td>
</tr>
<tr>
<td>Fast payment option</td>
<td>4</td>
<td>9</td>
<td>7</td>
<td>24</td>
<td>44</td>
<td>2.15</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>80</td>
<td>139</td>
<td>66</td>
<td>351</td>
<td>2.25</td>
<td>2</td>
</tr>
</tbody>
</table>

**Average score**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the airline</td>
<td>2.9</td>
</tr>
<tr>
<td>Departure and arrival</td>
<td>2.8</td>
</tr>
<tr>
<td>Airports of departure</td>
<td>2.2</td>
</tr>
<tr>
<td>Duration of the flight</td>
<td>2.4</td>
</tr>
<tr>
<td>Possibility to save</td>
<td>2.2</td>
</tr>
<tr>
<td>Flexibility of the price</td>
<td>2.0</td>
</tr>
<tr>
<td>Good experience of booking by other users</td>
<td>1.7</td>
</tr>
<tr>
<td>Fast payment option</td>
<td>2.2</td>
</tr>
</tbody>
</table>