

Seamless Luggage Experience

'From a hospitality sector perspective'



Master Thesis

Julius Blaauw
2017 - 2018



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from a hospitality sector
perspective

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Julius Jan Bouke Blaauw
blaauwjulius@gmail.com
4129385

MSc Strategic Product Design
Faculty of Industrial Design Engineering
Delft University of Technology

Chair:
Prof. dr. mr. ir. S.C. Santema (Sicco)
Department of Product Innovation Management
S.C.Santema@tudelft.nl

Mentor:
J.Tanghe (Jürgen)
Department of Product Innovation Management
J.G.Tanghe@tudelft.nl



Preface

The aviation industry and the act of flying have been a part of my life since I was 3 months old. As a child in an expat family, flying had become second nature to me at a very young age. However, my interest in the industry would not be piqued until I started my Strategic Product Design Master's degree at the IDE faculty of the Technical University of Delft.

During my masters I have become very interested in innovation and the discipline of Service Design. The design thinking and user centered approach of creating innovative solutions and business proposition is what fueled my interest in how this method could be applied to a broad spectrum of different industries.

By broadening my horizons by further developing my Service Design skills through specific electives courses, I got reintroduced with the aviation industry through means of a Service Design project for the American airline South West Airlines. It was at this moment that I realized that the specific skillset that I have developed in my studies are of great value to the aviation business and how much pleasure I derived from working on projects related to this industry.

This final body of work entails my solo journey of applying my Service Design skillset to a problem that was intertwined within both the Aviation and Hospitality industry. The breadth and depth of the original assignment was seen as a demanding but exciting challenge. The extensive work that I have put into the creation of this thesis has led to an end result of which I am proud of. I would of course not be able to have completed this project without the help of certain people. Therefore, I would like to thank the following people.

Sicco, I would like to thank you for giving me the opportunity to be part of the PASSME project. As a chair I found that your direct comments and questions helped me reassess my findings and further set the scope of my thesis. Jürgen, I would like to thank you for your tutoring during the project. I have always found that I could approach you at any moment with any problem.

I would also like to thank everybody who has participated in any form within this graduation assignment. Without the dozens of interviews and creative sessions, I would not have been able to develop and deliver this thesis. I am forever grateful and hope I have triggered you in some way to make this concept become reality.

Lastly, I would like to thank my family for their continuous support and their never ending interest in my studies. It is time for me to close this chapter in my life and open the next!

Kind regards,

Julius Blaauw



Executive summary

This master thesis is part of the Horizon 2020 EU funded research project Personalized Airport Systems for Seamless Mobility and Experience (PASSME). The goal of this research project is to reduce door-to-door travel time for passengers (PAX) traveling within Europe by 1 hour and at least improve the overall travel experience for 70% of all PAX.

Earlier research has indicated that by eliminating traditional luggage actions and processes from the PAX's journey, an average of 32 minutes can be saved. Through the introduction of a door-to-door (D2D) luggage service, PAX are enabled to send their luggage ahead of their journey. Thereby, eliminating the need to travel simultaneously with their Check-In luggage and bypassing all traditional C.I. luggage processes.

To reduce shipping cost and abide by aviation law G37, larger integrators such as DHL, UPS, and FedEx/TNT are utilized to fulfil the shipment of luggage via road transport. Offering such services through the aviation industry has shown to be complicated and not yet in the best interest of the check-in luggage involved stakeholders.

This research focused on how this D2D service could be realized from a hospitality perspective. Hence the following research question was developed:

'Design a 'door-to-door luggage ancillary' for **hospitality businesses** operating in the **destination** part of the **customer journey**, that enhances the **customer experience** of aviation passenger traveling with **check-in luggage**. The ancillary should provide a more **seamless** experience and reduce total **door-to-door** travel time.

&

Write an **implementation** and **marketing** plan for this ancillary.'

The adoption of new product and services is dependent on certain risk and acceptance criteria (Evans et al. 2013). Through qualitative research, it was found that the most important risk and acceptance criteria related to the door-to-door luggage service, where the level of compatibility, trialability, relative advantage, financial risk and functional risk.

Through extensive analysis of the current luggage service and hospitality market, 5 initial possible target customer segments were identified. These being: Luxury travelers, Business travelers, PAX traveling with odd-size, Families traveling with young children, and Elderly travelers.

Based on the likeliness of the customer segment traveling with check-in luggage within Europe, the compatibility of the service, and the relative advantage the service offers them, Families traveling with young children and Elderly travelers were found to be the most promising customer segments to pursue. The preference of the author has led to picking Families traveling with young children as target customer segment.

Research showed that the majority of PAX have a specific booking order when it comes to booking their trip, in which they first arrange their flight and ancillaries after which they will book their accommodation. Combining this booking issue with the lack of general awareness concerning door-to-door luggage services means that the chances that a PAX will book a luggage ancillary through the accommodation supplier is slim to none (as yet).

An analysis of the hospitality sector showed that Tour Operators are hospitality establishments that are fully vertically integrated and manage their own booking flows. Moreover, as families traveling with young children is an important customer segment for such establishments it makes them the perfect hospitality business to offer the service.

A study in ancillary strategies identified that more expensive ancillaries can be seen as extravagant and too expensive far from the use state (Travelport, 2017). Thus, the question arises how to convince PAX to make use of a more expensive luggage ancillary, without prior experience or knowledge, and far from the use state. Therefore, the following design brief was developed:

How might larger European Tour Operators.....

'Create more **awareness** concerning the 'D2D luggage services' at the right moment within the customer journey and through the correct channel?

'Persuade 'families traveling with young children (0-12)' within **Europe** to purchase the 'D2D luggage service' without having prior **experience** of the service?'

'Stimulate **repurchases** of the 'D2D luggage service'? Thereby, creating more **loyal customers** and **drive ancillary revenues**?'

Instead of trying to sell PAXs an expensive luggage ancillary without any prior knowledge or experience, it is suggested to offer PAXs who have bought regular luggage ancillaries with the ability to have their luggage shipped back-home on their return journey. Therefore, the initial experience with the service is seen as a priming tool to drive returning purchases for the next holiday. Thereby, creating a more loyal customer base.

To realize this back-home service, a new online customer journey was designed which acts as an extension of the current App and online platform of the Tour Operator. Additionally, a set of offline touchpoint were designed to approach PAXs who were not able or hesitant to make use of the online touchpoints.

Furthermore, to create more awareness and drive recurring sales, a referral strategy was designed in which both the sender and the receiver of the referral are rewarded. Thus, stimulating further ancillary sales and create brand loyalty. To help implement both the back-home service as well as the referral strategy a blueprint explaining the necessary resources and processes is developed.

A validation test with 3 couples falling within the families traveling with young children category has indicated that they are interested in the concept and will be positively influenced in their next purchase intention if the experience was pleasant. Furthermore, the validation results show that the best moment to approach PAX with the back home service offer is 1 week prior to departure or during their holiday at their final destination. However, further research should point out which moment creates the highest and most fruitful conversion rate.

The business case identified that implementing the door-to-door concept as proposed is not without risk. The profit margin level required and consumer selling price have significant influence on the overall attractiveness of this venture, as well as the needed sales. It was found that selling the luggage ancillary for €79,- with a required profit margin of 17,2% on each sale, no less than 4,55% of the entire tour operators clientele needs to purchase the ancillary to add 10% profit to the overall ancillary sales profit. Thus, the author strongly advises to check the assumptions made within the business case in a systematic manner and adjust the revised reverse income statement accordingly before large amounts of resources are dedicated to the implementation of the door-to-door luggage ancillary.

Reading guide

This graduation report is structured in a logical and comprehensive manner. To give the reader the ability to fast track through the report, key insights have been written after each chapter on specific summary pages.

These conclusion pages can be found at the end of each chapter and are easily recognised by the grey background.

How the key insights have influenced the project is shown by sorting them into three categories

Input for research:

Which relevant insights have I discovered and what should be further looked into?

Requirements for design:

Essential requirement that the design should fulfill.

Opportunities for design:

Promising opportunity which can improve the design.

Glossary

Aviation related:

AAS - Amsterdam Airport Schiphol
C.I. - Check-In
C.O. - Carry-on
CUDOP - Common drop-off point
D2D - Door-to-door
PAX - Passenger
SSDOP - Self-service drop-off point

Literature related:

G-D - Goods Dominant
S-D - Service Dominant
BMC - Business Model Canvas
VPD - Value proposition design

Technology:

API - Application program interface

Hospitality:

OTA - Online travel agency
SME - Small to medium establishments

Design:

CPS - Creative Problem Solving
PSS - Product Service System

Business:

ROS - Return on Sales
NPS - Net Promoter Score

Content

Preface
Executive summary
Reading guide
Glossary

1. Introduction		
1.1 Introduction	13	
1.2 Focus & scope	14	
1.3 Assignment	15	
1.4 Deliverables	15	
1.5 Approach	16	
2. Literature study		
2.1 Service-dominant logic and value in use	19	
2.2 S-D logic implications for hospitality sector	20	
2.3 Dimensions of customer value	21	
2.4 New service adoption	22	
2.5 Insights literature study	24	
3. Luggage service analysis		
3.1 Current luggage service landscape	27	
3.2 Levels of competition	29	
3.3 Insights luggage service landscape	33	
3.4 Case study service process D2D luggage service	35	
3.5 Insights service process	37	
3.6 Case study business model D2D luggage service	39	
3.7 Insight business model	41	
4. Tourism and hospitality industry		
4.1 Tourism and hospitality industry composition	45	
4.2 Competitiveness within European tourism industry	45	
4.3 Key resources, customer segments, and pitfalls	47	
4.4 Insights tourism and hospitality analysis	51	
5. Trends and developments		
5.1 Trends and developments	55	
5.2 Insights trends and development	56	
6. PAX analysis		
6.1 Identified customer segments	59	
6.2 Market size outgoing tourism industry	59	
6.3 Sales cyclicity customer segments	60	
6.4 Insight market size and sales cyclicity	61	
6.5 Context mapping sessions	62	
6.6 Insights context mapping	66	
7. Parcel delivery market analysis		
7.1 European parcel market competitive landscape	69	
7.2 Compatibility with European network of integrators	70	
7.3 Direct routing: decreasing shipping lead time	70	
7.4 Free trade of goods within Europe	70	
7.5 Cost of parcel shipments within Europe	71	
7.6 Insight parcel delivery market analysis	72	
8. Ancillary strategy analysis		
8.1 Ancillary strategies within the booking process	75	
8.2 Designing triggers for action	76	
8.3 Insights ancillary strategies	76	
9. Design brief		
9.1 Target customer segment	79	
9.2 Main problem with D2D luggage service	79	
9.3 Chosen hospitality firm	80	
9.4 Behavior towards ancillary purchases	80	
9.5 Design brief	80	
10. PAX deep dive		
10.1 Most important jobs	83	
10.2 Most significant pains	83	
10.3 Most significant gains	84	
10.4 Insight PAX deep dive	84	
11. Ideation		
11.1 Starting point of the ideation	87	
11.2 Awareness through referral strategy	87	
11.3 Back-home service	87	
11.4 KAAS	88	
11.5 Final choice idea	88	
12. Final concept		
12.1 Focus of design	91	
12.2 Eligibility back-home D2D luggage service offer	91	
12.3 How to approach PAX	91	
12.4 Back-home concept description	93	
12.5 Referral strategy description	99	
12.6 Adjusted booking flow	101	
12.7 Validation test	103	
12.8 Evaluation of design	108	
12.9 Service blueprint	110	
13. Business case		
13.1 Discovery driven planning	113	
13.2 Reverse income statement	113	
13.3 Pro forma operations spec	115	
13.4 Key assumptions tracklist	117	
13.5 Revised reverse income statement	118	
13.6 Sensitivity analysis	119	
13.7 Milestone testing: Implementation plan	121	
14. Final conclusion		
14.1 Graduation assignment and goals	127	
14.2 Sub-research questions	127	
14.3 Final design recommendations and opportunities	128	

References



ye **KEO** *Respect on the Sky*
arrived
aufwiedersehen



1. Introduction

1.1 Introduction

1.2 Focus and scope

1.3 Assignment

1.4 Deliverables

1.5 Approach

INTRODUCTION

1.1 Introduction

Over the last couple of decades, air travel has transformed itself from a luxury way of travel to more of a commodity. IATA estimated that 3.6 billion passengers were flown on a global scale in 2016. Of which 756 million passengers were transported within Europe alone. It is expected that the number of commercial flights, within Europe, will rise from 9,4 million in 2011 to 25 million in 2050 leading to bigger passenger flows in the near future (European Commission, 2011).

As seen in the last couple of months in the Netherlands, Schiphol airport is struggling with congestion that is created by the unpredictable flow of passengers during peak seasons (Santema, 2017., NOS, 2017). To facilitate the predicted increase in future passenger flows, airports and processes need to be redesigned and optimized.

The increase of PAX flows has been identified by multiple parties and that is why in the summer of 2015, the Technical University of Delft, faculty of Industrial Design Engineering (IDE) started a collaboration with 11 other partners to establish the PASSME project, funded by the Horizon 2020 Research and Innovation program.

The partners that form the research group PASSME, are experts in the field of aviation, logistics, design and research. By combining their knowledge and skills the PASSME research group aims to reduce the door-to-door (D2D) travel time within the European Union (EU) by 60 minutes. Whilst at the same time improving the D2D experience at least for 70% of the passengers by making the overall journey more seamless and less stressful.

To ultimately achieve this goal, multiple research topics have been created covering the following design directions: Real time centric systems, Redesigned passenger centric airports and aircraft interiors, Personalized devices and smartphone applications, and Passenger independent systems for luggage.



'Personalised Airport Systems for Seamless Mobility and Experience'

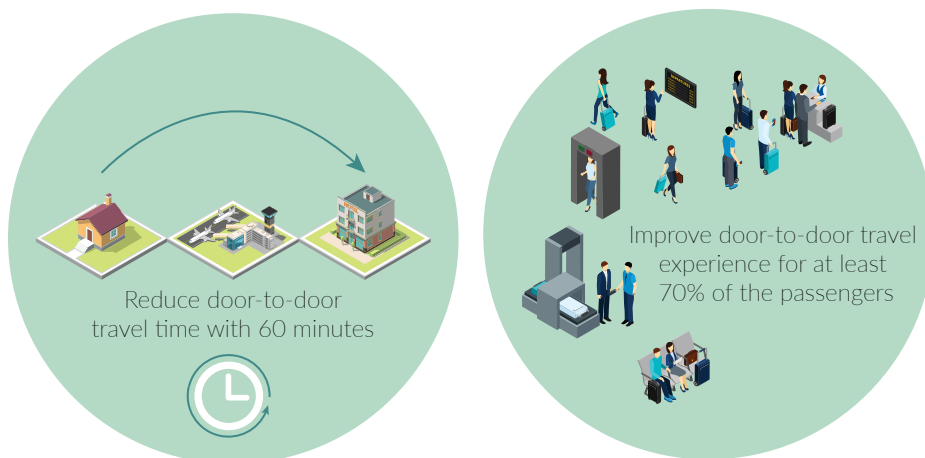


Figure 1.1: Goals PASSME project

1.2 Focus and Scope

Former graduate student Amandine Marie, discovered that by eliminating the current check-in (C.I.) luggage process, a total of 32 minutes can be saved on average per passenger (Marie, 2016). This means that if the PAX journey could be decoupled from the luggage journey, more than half the PASSME target time goal could be achieved. The rest of desired time gain could be achieved through other concepts designed in the former mentioned design directions.

A study conducted by the Airport Council International - Europe (ACI), found that passengers experience different levels of stress during different moments within their journey (ACI, 2014). It was discovered that, luggage related processes such as luggage drop-off and reclaim were experienced as mildly to extremely stressful.

That luggage related touchpoints are stressful is further confirmed by SITA, who found that a third of the passengers experience negative emotions of anxiety and anger at the luggage reclaim point (SITA, 2016A). Looking at the second goal of PASSME, improving the travel experience for at least 70% of the passengers, it is fair to say that a lot can be won from an experience point of view by redesigning the check-in luggage journey.

Therefore, this graduation project focusses on the topic of creating a 'Passenger independent system for luggage'. To be more precise, creating a 'Door-to-door luggage service' thereby eliminating the need for passengers to travel simultaneous with their check-in luggage during their journey.

Marie's graduation project and the initial results of co-creational workshops with involved aviation industry partners (Schiphol & KLM), have indicated that offering a D2D luggage service from an airline or airport perspective is complicated or not yet in the best interest of the involved stakeholders (Marie, 2016, PASSME, 2017A). KLM has indicated that it is satisfied with its current luggage ancillary strategy, whilst Schiphol stated it is focused on optimising their return on investment of their new baggage handling system (PASSME, 2017A).

These two developments have led to the creation of the following scope:

Approach the design of a European 'Door-to-door luggage service ancillary' from a 'Hospitality sector' perspective. Thereby, disrupting the traditional check-in luggage journey and bypassing big aviation stakeholders such as airlines and airports.

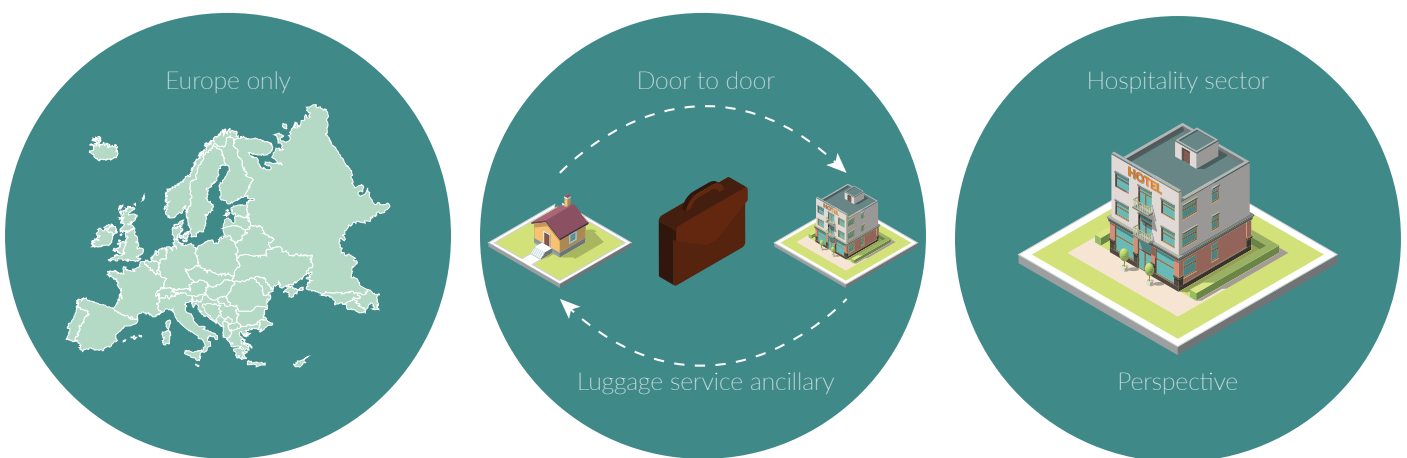


Figure 1.2: Scope project

INTRODUCTION

1.3 Assignment

Combining the focus, scope and initial boundaries of the PASSME project has lead to the creation of the following graduation assignment:

‘Design a ‘Door-to-door luggage ancillary’ for hospitality businesses operating in the destination part of the customer journey, that enhances the customer experience of aviation passengers traveling with check-in luggage. The ancillary should provide a more seamless experience and reduce total door-to-door travel time.

&
Write an implementation and marketing plan for this ancillary’

To be able to achieve this redesign four initial sub-research questions need to be answered.

1. What is the target customer segment?
2. Which company operating within the hospitality sector is going to offer the service?
3. Who is going to be the logistics partner transporting the luggage from origin to destination and back?
4. Is it feasible, desirable and viable to design a D2D luggage service?

1.4 Deliverables

The goal of this graduation assignment is to deliver a service and business case proposal that can contribute to the goals of the PASSME project and help generate new forms of revenue for the involved stakeholders. To accomplish this, the following results will be delivered:

- A conceptual service ancillary for hospitality businesses operating in the destination part of the passenger journey, which helps to improve the customer experience of passengers traveling with check in luggage and reduce total door-to-door travel time.
- A business, marketing and implementation plan for the involved stakeholders to help them realize and implement this ancillary. This will be accomplished by delivering visualizations of the possible ancillary, a service blueprint, business case and an implementation roadmap.

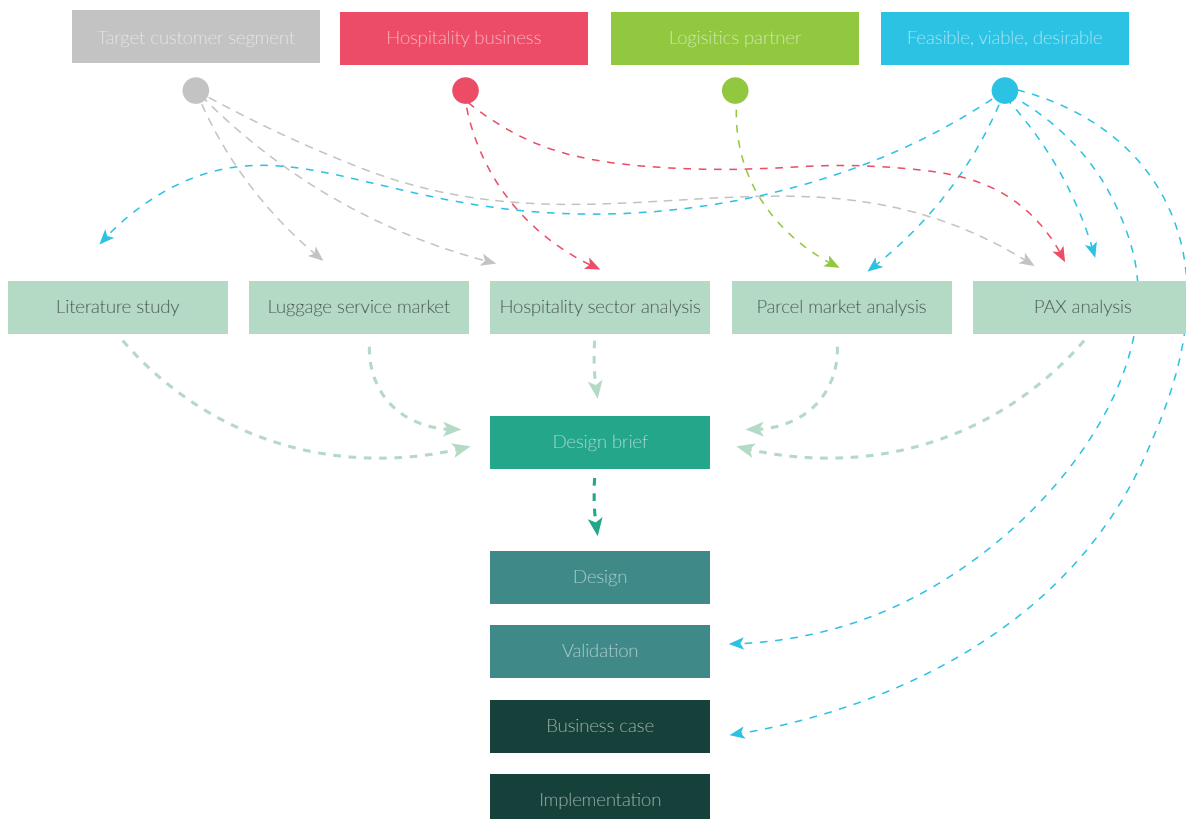


Figure 1.3: Sub-research topics deconstructed by structure of report

1.5 Approach

Throughout the Industrial Design Engineering Bachelor and Master program, students are taught how to apply different design methodologies. For this assignment the Double Diamond (British Design Council, 2007) approach is chosen. The model consists of the following 4 phases:

- Discover
- Define
- Develop
- Deliver

This method of design thinking, forces designers to approach the problem in an iterative and human centered fashion. Thereby, designers are pushed to create solutions that are not only feasible and viable but also desirable. Below a brief description is given on what each diamond represents and further show which actions will be taken in which phase of the project.

Discover:

The 'Discover' phase is used to gather data and transform it into information and knowledge. This is achieved by analyzing the current state of the luggage service and hospitality market. This knowledge is expended upon, by looking into the possible target customer segments and their current behavior. Once the divergence of information gathering has reached its peak, the converging stage can commence.

Define:

Within the 'Define' phase the findings from the 'Discover' phase are analyzed. Through converging of the relevant found insight a clear design brief can be developed, which helps to narrow the search field for which a solution will be developed. However, new findings can be found during the entire project therefore making the 'Discover & Define' phases iterative.

Develop:

The newly formulated design brief acts as the backbone of the ideation phase. It is from here that the project can enter the ideation phase in which possible solutions for the newly developed design brief can be created. Through rapid prototyping and user testing, the initial concept can be developed into a full-fledged service proposal.

Deliver:

Within the 'Deliver' phase, the final chosen concept should be transformed into an actual service element that can be implemented by the chosen service provider as an ancillary. This is done by not only making the service, desirable, but also feasible and viable. Through the creation of a service blueprint, implementation roadmap and business case, the author aims to deliver a new D2D luggage service concept.

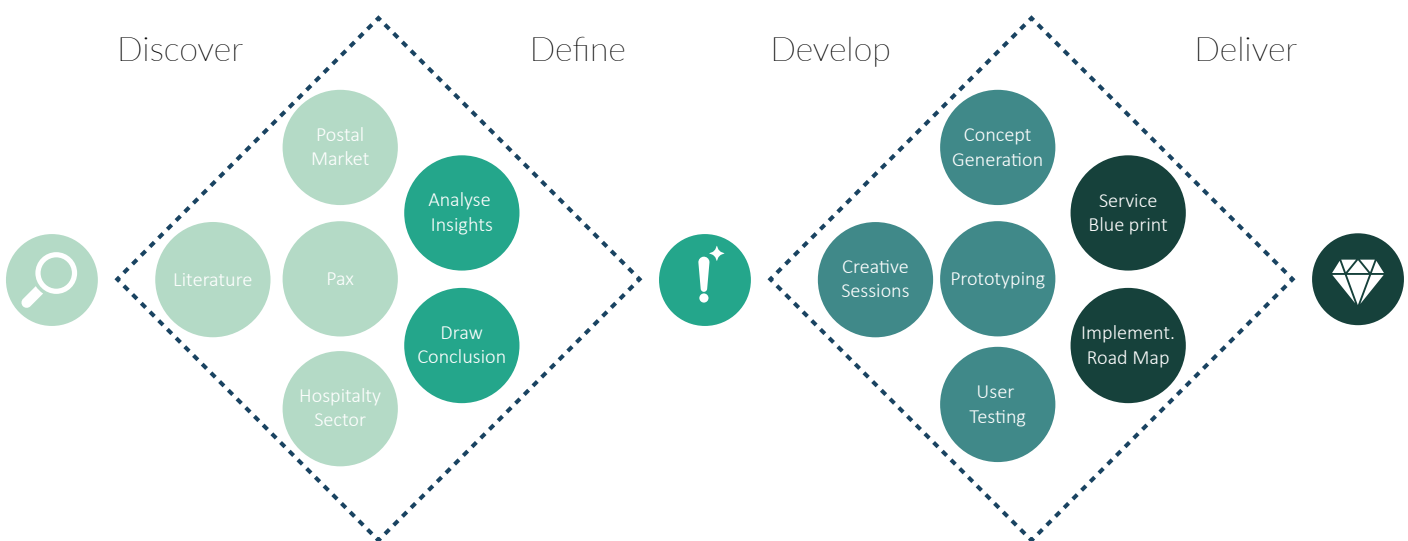


Figure 1.4: Double diamond approach

→ Verschil tussen SD & GD

et al., 2006, p. 40). That is, goods are service-delivery vehicles. In S-D logic, knowledge and skills are key resources for competitive advantage (see also Johnson et al., 2005). The crux of the contrast between service-dominant and goods-dominant logic lies in the basis of exchange. S-D logic focuses on the action of *operand resources* (those that act upon other resources), such as knowledge and skills, whereas G-D logic focuses on the exchange of *operand resources* (those that an act or operation is performed on, such as goods) (Constantin and Lusch, 1994; Vargo and Lusch, 2004).

For S-D logic, value results from the beneficial application of operand resources, which are sometimes transmitted through operand resources or goods (Vargo and Lusch, 2004). Thus, from this view, value is co-created through the combined efforts of firms, employees, customers, stockholders, government agencies, and other entities related to any given exchange, but is always determined by the beneficiary (e.g., customer). Table 1 provides an overview of the major differences between G-D logic and S-D logic related to value and value creation. Table 2 provides the ten foundational premises of S-D logic (as revised in Vargo and Lusch, 2008a).

The S-D logic notion of value co-creation suggests that "there is no value until an offering is used — experience and perception are essential to value determination" (Vargo and Lusch, 2006, p. 44). That is, offerings must be integrated with other market-facing (i.e., from other firms) and non-market-facing (e.g., personal/private and public) resources for value to be created — as in the example of a car gaining its value only through the combination of the manufacturer's production processes (including its supply chain and other market-facing elements) and the customer's private (e.g., driving skills) and public (e.g., roadways) resources.

The firm's roles in value creation, the proposition of value and provision of service, are intermediary to the value

Table 2 Foundational premises of S-D logic

Premise number	Foundational premise
FP1	Service is the fundamental basis of exchange. Indirect exchange masks the fundamental basis of exchange.
FP2	
FP3	Goods are a distribution mechanism for service provision.
FP4	Operand resources are the fundamental source of competitive advantage.
FP5	All economies are service economies.
FP6	The customer is always a co-creator of value.
FP7	offer value propositions.
FP8	A service-centered view is inherently customer oriented and relational.
FP9	All social and economic actors are resource integrators.
FP10	Value is always uniquely and phenomenologically determined by the beneficiary.

co-creation process. Value propositions establish conditions and relationships among service systems. Value co-creation, value is ultimately derived with the customer through use (often called "consumption process of acquisition, usage, and disposal" (Normann, 1987).

Normann (2001) provides additional conceptualization and process of consumption. The following dictionary definitions: "destroy" or "use up" or "waste" means "complete" or "perfect". To rely on the first definition of

Table 1 G-D logic vs. S-D logic on value creation

	G-D logic	S-D logic
Value driver	Value-in-exchange	Value-in-use or experience
Creator of value	Firm, often with input from firms in a supply chain	Firm, network of firms, and customer
Process of value creation	Firms embed value in "goods" or "services", value is 'added' by enhancing or increasing attributes	Firms provide value through customer interaction
Purpose of value	Increase wealth for the firm	customer well-being
Measurement of value	The amount of nominal value, price received in exchange	customer well-being
Resources used	Primarily operand resources	operand resources and operand resources
Role of firm	Produce and distribute value	operand resources and operand resources
Role of goods	Units of output, operand resources that are embedded with value	operand resources and operand resources
Role of customers	To "use up" or "destroy" value created by the firm	operand resources and operand resources

→ Value alleen maar door van andere

LITERATURE STUDY

2.1 Service-dominant logic and value in use

A value proposition is a bundle of either products and or services that fulfill specific needs for a certain customer segment. The ability of a firm to fulfill these needs with either a good or a service is what ultimately provides the customer with some sort of value.

For an extended period of time the evaluation of value has been based on the balance of the perceived value of the product against the asking a price which has been deemed acceptable within the marketplace (Almquist et al., 2016).

In this mindset, value is created by the firm through the manufacturing of a good after which it is distributed in return for a certain amount of money. This logic of value creation, dispersion, and economic exchange is known as **Goods-Dominant logic** (G-D Logic) and is based on the beliefs of 'Value in Exchange' where there is a clear differentiation between value producer (the firm) and consumer (Vargo et al., 2008). The G-D logic of value creation and exchange is solely dependent on the use of operand resources which are resources that an act or operation is performed on, such as goods (Constantin and Lusch, 1994; Vargo and Lusch, 2004).

However, in a world where big data and knowledge is becoming more valuable, a different mindset needs to be adopted by firms to create value for the targeted customer segment and capitalize on it. When looking from a service(s) perspective, how value is created and perceived is dependent on how well the service fits with the specific needs of the targeted customer segment (Osterwalder et al., 2015).

To be able to achieve this fit, it is necessary that the service(s) facilitates the customer to achieve set goals through the use of their own set of skills, knowledge, and other resources. This implies that value creation, is not an action that is done by one entity for another but through cooperation.

It was Vargo and Lusch (2004,2006) who said that: 'Service is the application of competences (knowledge and skills) by one entity for the benefit of another'. This statement implies that value creation is a co-creational process between the firm and the consumer due to the fact that the firm is building a value proposition upon the knowledge and skills of its consumers and vice versa.

Furthermore, as services mainly consists out of intangible goods, which offer value when they are experienced and used, value of a service is determined by 'Value in Use' rather than the 'Value in exchange'. This is further confirmed by the following statement of Vargo and Lusch (2006): 'There is no value until an offering is used -- experience and perception are essential to value determination'.

In literature the logic of this type of value creation and determination is referred to as **Service-Dominant logic** (S-D Logic). In S-D logic, all exchange is based on service and involved goods are merely tools for the delivery and application of resources. Thereby, goods are seen as service delivery vehicles (Vargo et al., 2006) facilitating the exchange of knowledge, skills, and information between firm and consumer. Non tangible or non-monetary resources, such as knowledge and skills are known as operand resources and act as the building blocks of the S-D Logic.

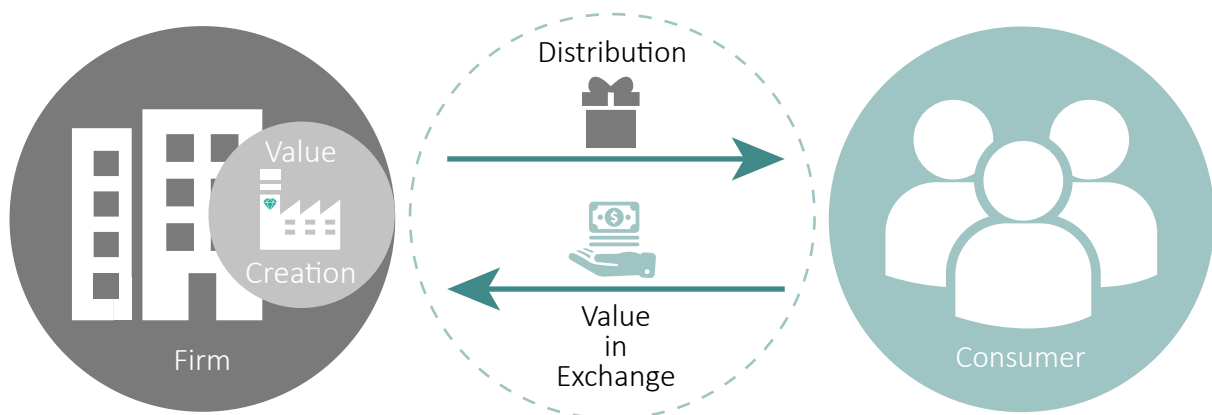


Figure 2.1: G-D logics

The exchange of operant resources happens between the use situations of both the firm and consumer, also known as service systems. Each service system in turn is part of a larger network of different service systems that are present in the use context. These other service systems relate to stakeholders that can either be market facing (other firms) and/or non-market facing (public or private service systems). For value to be created, offerings must be able to integrate within the use context, thereby sharing operant resources with the other involved service systems (Vargo et al., 2008).

2.2 S-D implication for hospitality sector

It is Füller et al. (2012) who argues that hospitality guests (customers) seek to actively part-take in the creation of value to better fulfill their own needs and/or create memorable experiences. Combining this insight with the fact that value creation is a co-creational process shows why S-D logic holds great potential in the creation of value for firms active within the hospitality sector.

The hospitality sector is a service oriented industry that strives to provide consumers with unique and memorable experiences. This is necessary for hospitality firms to differentiate themselves from the market and maintain a competitive advantage (Pine & Gilmore, 1999).

Currently consumers are more capable of making informed decisions, due to technological advancement and availability of information through the internet. Search engines, ticket/hotel comparison sites, and review sites have enabled consumers to arrange their own unique travel experiences suiting their specific needs and behavior.

Thus, it can be said that customers are taking part in the value creation process even before their travels begins, by applying their own operant resources and using others provided by contextual related service systems (online reviews, planning sites such as TripAdvisor, word of mouth through friends and families) to improve their own service system (Roeffen & Scholl-Grissemann, 2016).

To be able to offer as much value as possible, it is necessary for firms active within hospitality sector to look beyond the consumption phase of their products and services and take a holistic approach to value creation over the entire customer journey.

This is further confirmed by Grisseemann & Stokburger-Sauer (2012), who found that the more active a firm involves its customers in the arrangement of their booking, the higher the willingness-to-pay for the package is. Furthermore, it is Schreier and Kaiser (2010) who argue that customers feel a sense of accomplishment and increased loyalty intentions after positive holiday experiences, when active customer involvement in the service arrangements and booking process have been applied.

These finding implies that by actively engaging and involving the customers, in the creation of value can lead to higher revenue and loyalty. Moreover, it shows that offering a choice is valued by customers, ultimately providing a sense of control.

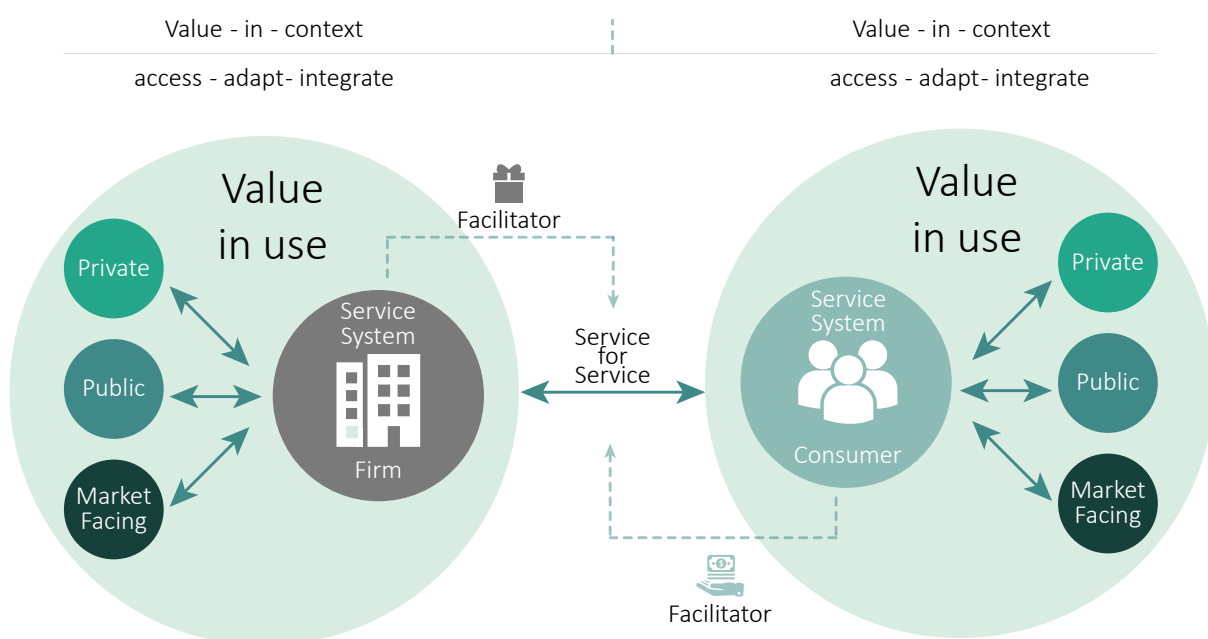


Figure 2.2: S-D logics

LITERATURE STUDY

Another benefit of S-D logic approach within the hospitality sector is that, the service networks of guests could hold more potential value. Due to the fact that more operant resources are shared between different stakeholders and potential new customers. The sharing of operant resources is achieved by sharing reviews and memories through channels such as review sites and social media platforms.

Thus, applying a S-D dominant approach to value and new service creation holds great potential for hospitality firms during the entire customer journey of its customer.

2.3 Dimensions of customer value

Within S-D Logic, value of a new service or product is determined by value in use. However, there are different dimensions of value that can have big influences on how a service is overall valued. It was Almqvist et al. (2016), who through the assessment of 50 well known American companies, identified 30 different value attributes which in turn have been clustered over the following 4 value dimensions:

- Functional
- Emotional
- Life changing
- Social impact

The value pyramid is based on Maslow's hierarchy of needs. Within this hierarchy, Maslow argued that human actions arise from an innate desire to fulfill needs ranging from the very basic (security, warmth, food, rest) to the complex

(self-esteem, altruism) (Evans et al., 2013). Where basic needs are required to survive, the more complex (such as self-actualization) are more desired. This is also true for the value attribute pyramid.

Almqvist et al. (2016) found that excelling in multiple value attributes resulted in a higher Net Promoter Score (NPS), a key performance indicator for customer experience which indicates likeliness of word of mouth recommendation. Furthermore, it was found that companies who scored high on emotional value attributes had an overall higher NPS than companies who only focused on functional attributes.

However, the perceived quality of a product or service influences the overall value more than any other value attributes. Therefore, it is of great importance that the basic offering meets or surpasses expected quality goals.

With this in mind it becomes clear that to create a new service that acts as an ancillary service for firms active within the hospitality sector, one must look at how this ancillary can add emotional, life changing and social value dimensions to the current product offering

This is further confirmed by Krasna (2008), who found that only relying on price strategies is out of date and that the emotional experience of a hotel has a significant influence on the repurchase intention and NPS. Therefore, it can be concluded that customers appreciate and value service attributes differently from each other and that firms should focus on providing multiple service attributes within their products and services.

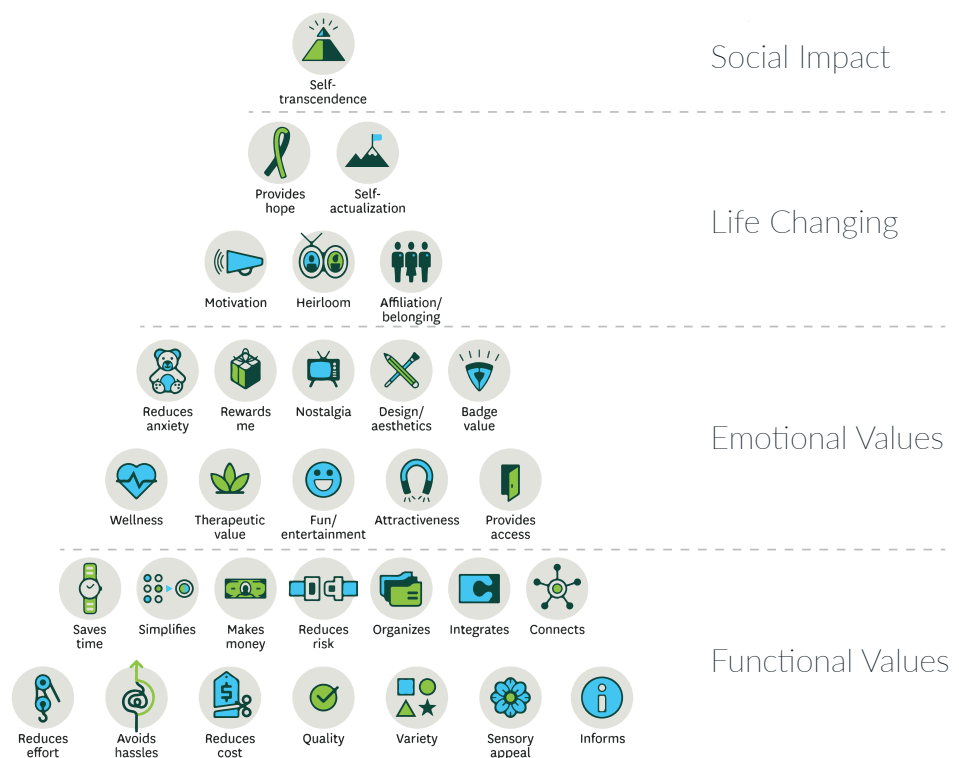


Figure 2.3: Value hierarchy pyramid

2.4 New product adoption

Now that a common understanding has been created on how value can be co-created, how value is assessed and which dimensions influence the perceived value, a closer look needs to be taken at which factors lead to greater adoption of new products and services.

The willingness of a consumer to adopt a new service or product depends on multiple factors. Adoption is seen as the continued use of a product or service. The overall adoption process consists of 5 steps (Evans et al., 2013). These 5 steps are:

- Awareness
- Interest
- Evaluation
- Trial
- Adoption

Initially the consumer must become aware of the existence of the product. After awareness has been created, the product or service must spark some sort of interest with the target group. Possible adopters need to be able to easily find product information to further fuel their curiosity.

Once the consumer has been primed, the next process step they undertake is to evaluate the product or service. It was Sweeney and Soutar (2001), who found that: 'customers assess products and services not just in functional terms of expected performance, value for money and versatility; but also in terms of enjoyment or pleasure derived from the product, and the social consequences of what the product communicates to others.'. This is in line with the value hierarchy theory of Almquist et al.

However, Evans et al. (2013) describes that consumers also base their evaluation on certain acceptance and risk criteria.

The following acceptance criteria have been identified as having driving effects on consumer adoption (Evans et al., 2013).

- **Compatibility:** Degree to which a product fits with the consumers' current values, cognitions and behavior.
- **Relative advantage:** Degree to which an item has a sustainable, competitive differential advantage over other products.
- **Trialability:** Degree to which a product can be tried on a limited basis or divided into small quantities
- **Observability:** Degree to which a product or its effects can be sensed by potential adopters
- **Speed:** How fast the benefits can be experienced by the consumer
- **Simplicity:** Degree which a product is easy for a consumer to comprehend

The perceived risks that consumers contemplate about during the evaluation/trial phase of the adoption process, is based on the following types:

- **Functional:** Refer to the risk of the product qualities or features not meeting expectations or delivering the marketed benefits.
- **Social:** The risk that the use or purchase of the new product or service can significantly reduce a consumer's status with friends, family or society.
- **Financial:** The risk of significantly reducing a consumers monetary resources in current times or the near future.
- **Physical:** Potential the purchase might lead to bodily harm of the consumer or loved one
- **Time:** Fear that the adoption and use of the product will consume a lot of time which may be wasted

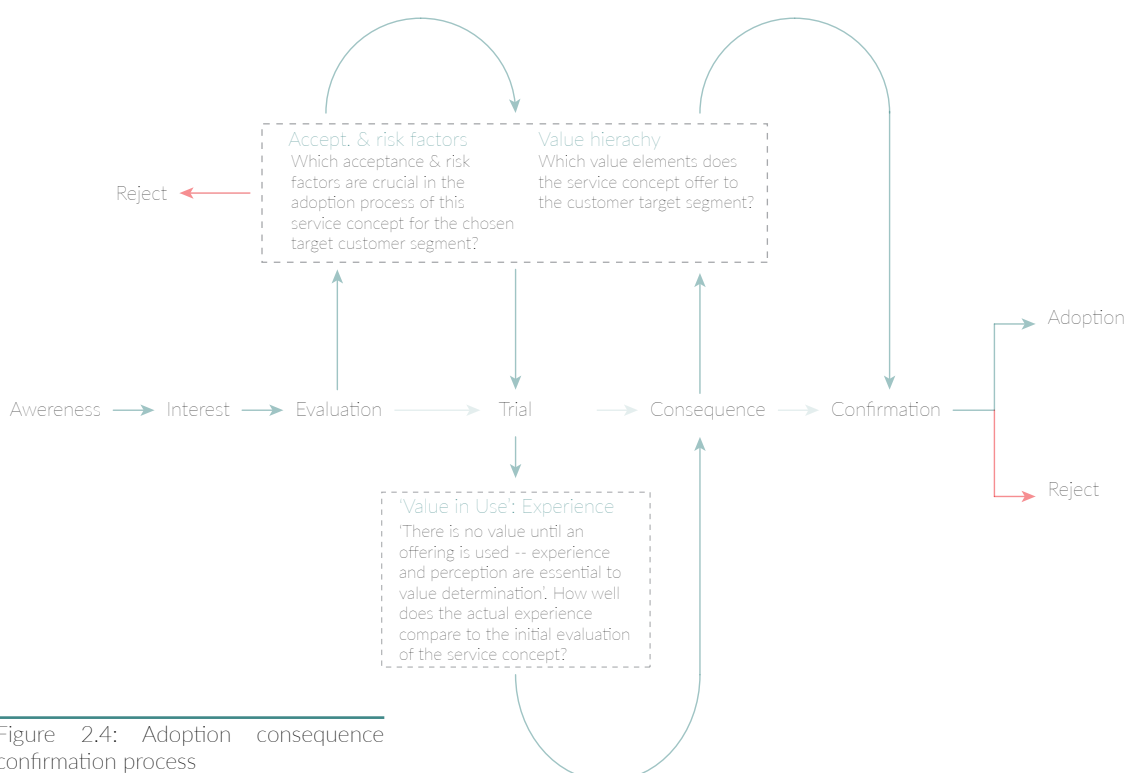


Figure 2.4: Adoption consequence confirmation process

LITERATURE STUDY

If the offering has not been rejected after the initial evaluation, a trial of the product can be experienced. Due to the product trial, the consumer can experience certain consequences of the product or service. Antil (1988), described the consequences of product or service use as: '(1) A behavioral/experience variable that focuses on how the product or service is implemented or used, and (2) the behavioral and/or lifestyle changes that may result from product usage'. It is this process step that helps assess the 'value-in-use' of the product or service and confirm the initial assumptions on which value(s) the product or service offers.

Finally, adoption will occur on how well these consequences affects the consumers' lifestyle by either fulfilling certain needs or providing a desired type or sets of values.

An overview of the adoption process with the consequence - confirmation steps developed by Antil (1988), and where 'Value in use', value hierarchy, acceptance and risk criteria play a role within this process, can be seen in figure 2.4.

To increase the chances of the D2D luggage service to be successfully adopted by the target customer segment, it is essential that both the concept as well as the marketing strategy score well on the acceptance and perceived risk criteria and fulfil the desired values of the customer target segment.

Thus, the most relevant acceptance and risk criteria, and the desired values for the targeted customer segment will be further explored through means of qualitative research. Based on those findings, a new concept and/or marketing strategy can be designed to help improve the adoption level.

2.5 Insights literature study

Value through co-creation

Within the S-D logic, value is co-created between the firm and the customer (guest). This is done through the exchange of operant resources. Therefore, this graduation project should look further into what operant resources the target customer segment has, and how these can contribute in the awareness creation and adoption process of the new service.

Customer network value

For value to be created, the service should be able to integrate well into the service system of the customer. Not only is this a necessity for the success of the service, it also holds great potential for further value creation with other stakeholders within the customers' service system. Therefore, further research should look at how this service can seamlessly fit within the service system of the user, and how further value can be created and capitalized with stakeholders of the consumers' service system.

Value in use and trialability

There is no value until an offering is used. Thus, the customer should be able to somehow experience the value of the service or clearly comprehend the added benefits to insure a higher adoption rate. As a consequence, the new D2D service or marketing strategy should somehow include features that enable this.

Hospitality sector and S-D logic

Hospitality firms need to differentiate themselves in the market place to maintain a competitive advantage. To do so, hospitality businesses should look at the operant resources of their guests as well as their service system to co-create value and services that fulfill the customers' specific needs. Furthermore, this approach holds great opportunity from a marketing perspective as there is a possibility that the customer will share its experiences with other stakeholders within its service system. (e.g. through review sites, social media etc.)

Value hierarchy within services

Consumers do not assess products only based on their utilitarian properties or cost, but also on the pleasure derived from them and social consequences. Services can score on different value dimensions; functional, emotional, life changing, and social. For customer to value a service more, it is necessary to look beyond functional value attributes. It is therefore advised to link emotional, life changing, and social value elements to the design.

Acceptance and risk criteria relevant to service adoption

New services are adopted when the perceived acceptance criteria out way the risk criteria. Further research should point out which acceptance criteria and risks criteria are related to the D2D luggage service and how they can be designed for to improve adoption of the new service.

Final conclusions:

Input for research:

- Determine which operant resources the target customer segment possess and how these can be used in the co-creation of value.
- Find a solution for how customers can experience the service or clearly see the value beforehand?
- Which acceptance and risk criteria are related to D2D luggage services and how can the design convince customers that the acceptance criteria out way the risks?

Requirements for design:

- The new D2D luggage service should fit seamlessly within service system of customer.
- The final design should include multiple value dimension attributes and preferably attributes corresponding with the emotional, life changing, and social values.

Opportunities for design:

- Examine how more value can be created with other stakeholders of the customers' service system.
- Discover how the service system of the customer can be utilized as marketing channel.



LUGGAGE SERVICE ANALYSIS

3.1 Current luggage service market landscape

Over the last couple of years, the luggage service market has seen the introduction of multiple new luggage service concepts. Before a competitive analysis can be conducted, a clear overview of the different luggage services needs to be created

When comparing the different luggage services to each other it becomes apparent that the scope in which they operate can be seen as differentiating factor. In this context, scope is meant as the luggage pickup and drop-off location of the customers' luggage

When the market is analyzed from this perspective the following service clusters can be made:

- D2D services (door-to-door)
- D2R services (door-to-reclaim)
- D2DO (door-to-drop-off)
- P2D services (pick-up-to-door)
- DO2D services (drop-off-to-door)
- Wardrobe storage services

Further differentiation can be made on the premise that luggage service firms offer their services on a global or continental scale. This will be further discussed in subchapter 3.2 levels of competition

Figure 3.1 gives an overview of all the current active luggage services and on which scope they operate. The illustrations shown in figure 3.1 is an iteration of a model created by Katinka Bergema (2017). It must be said that certain luggage services fall within in multiple categories due to the fact that they offer multiple service option.

An in depth description of all the illustrated services can be found in appendix A. On the next page brief descriptions on the different operating scopes are given.

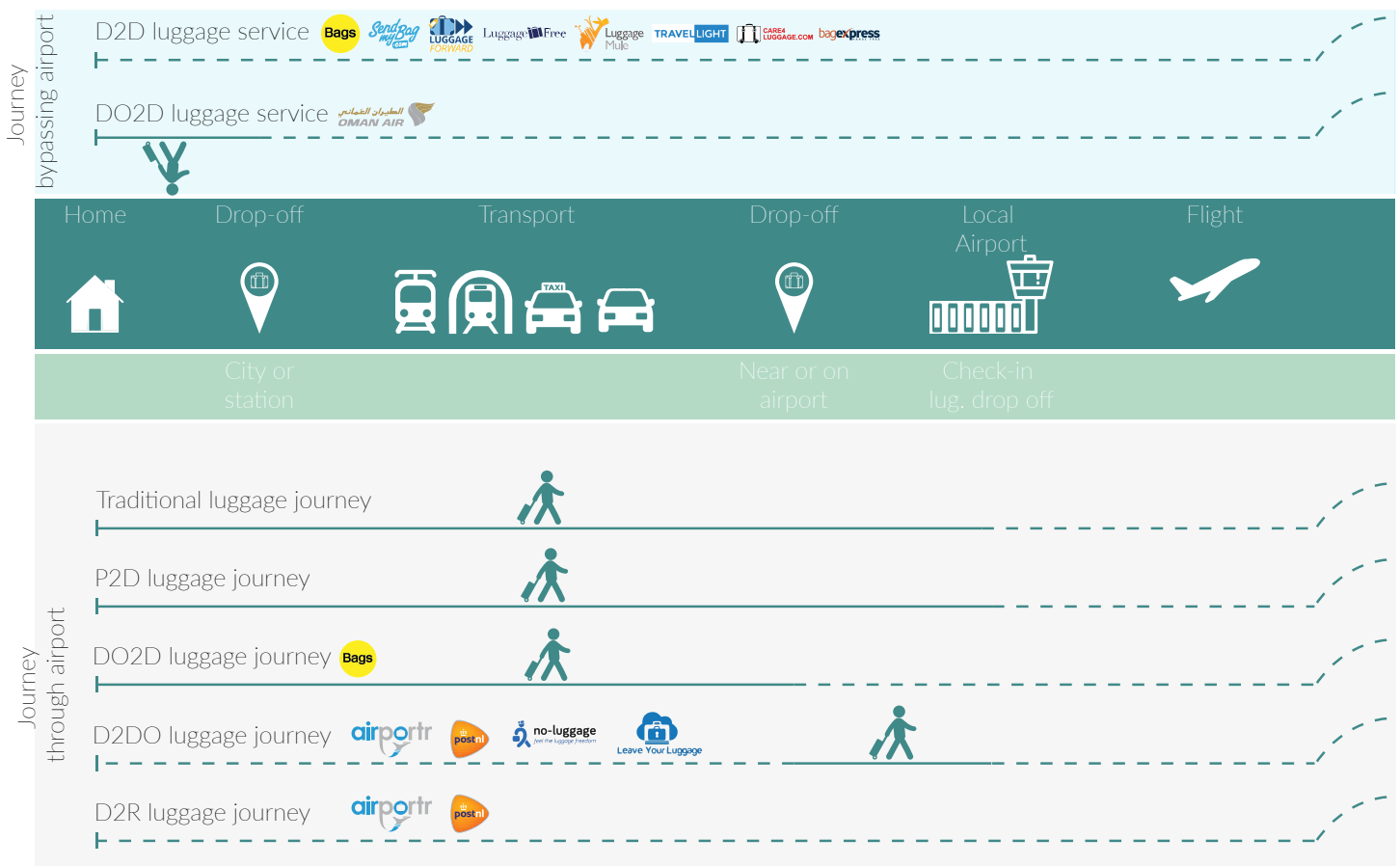


Figure 3.1: Luggage service market landscape and operating scope

D2D services:

D2D services offer passengers the ability to ship their luggage from their place of origins to their final destination. For now, there are multiple companies who offer this service by making use of logistics companies such as FedEx, UPS, and DHL. Thereby, D2D service bypass the traditional airport luggage journey entirely and allow customers to travel without luggage to their final destination.

D2DO service:

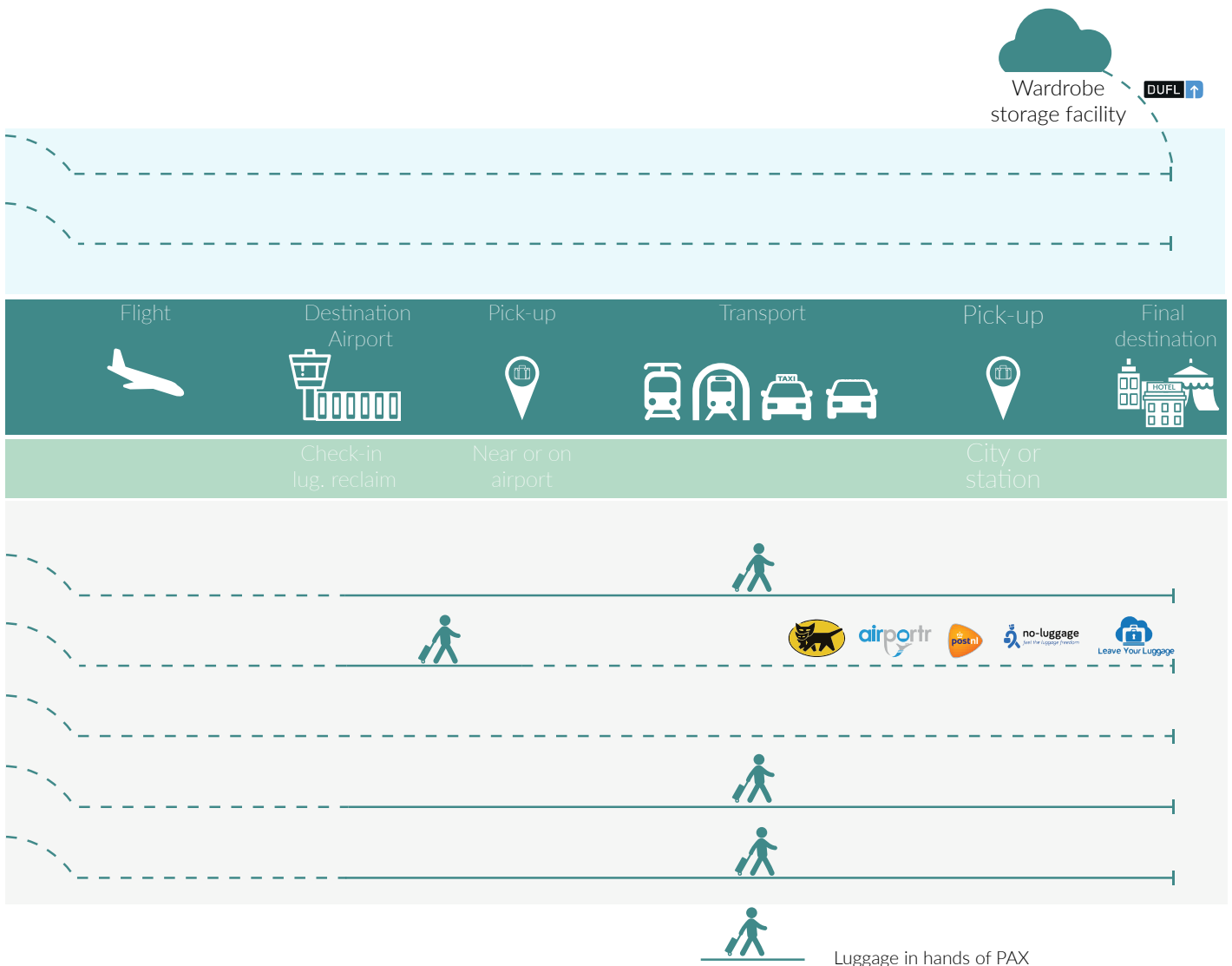
D2DO services offer customers the ability to ship their luggage between their homes or other accommodation to a drop-off point near or in the airport. By making use of this service, customers are able to travel to the airport without having to experience the inconvenience of lifting heavy luggage into the car or public transports. However, customers still need to collect their luggage from a drop-off point situated at or near the airport after which it needs to be checked-in. Thereby, once arrived at the airport, the customer is lead back to the traditional check-in luggage journey. It must be said that the companies that offer such services are only active in one leg of the journey, this either being in the origin or destination country.

DO2D:

DO2D services enable customers to ship their luggage from a designated drop-off point, that is either situated in the city or at an airport, to the final destination of the passenger. This service requires customers to travel with their luggage prior to their departure towards this designated drop-off point. Thereby, allowing them to skip the traditional through airport luggage journey once their luggage has handed over at the designated drop-off point.

Wardrobe storage services:

Wardrobe storage services consist of firm(s) that store personal outfits of customers at a central location. Once the customer has arranged its travel itinerary, they are able to select which outfits they would like to have shipped towards their final destination. By making use of this service, the customer is unburdened from packing and traveling with their luggage and even washing their personal belongings.



LUGGAGE SERVICE ANALYSIS

3.2 Levels of competition based on operating scope

All identified luggage services are seen as competitors as they offer the same or a similar type of service that the to be designed service should offer. The competitors are analyzed by making use of the framework of Bergen and Petered (2002). Within this framework a differentiation can be made between competitors based on the market and resource commonality.

Since the new D2D luggage service still needs to be designed it is not exactly possible to know which market is being served and which resources are available. Therefore, the author of this graduation report has decided that the market commonality is based on the operating scope of D2D luggage and the resource commonality is based on owning a logistics solution capable of shipping over the entire European continent. With this in mind, three different competitor levels are created based on the competitor model of Bergen and Petered (2002):

Direct competitors: Services that have high market and resource commonality. Services that are active over the entire customer journey and offer D2D luggage services are incorporated within this category.

Indirect competitors: Services that have high market commonality but low resource commonality. Services that are active in one leg of the customer journey and offer some form of point to point luggage services are incorporated within this category.

Generic competitors: Services that have high resource commonality but low market commonality. Thereby, firms that do have the resources to ship luggage D2D but do not have luggage shipments as their main target market. In this case logistics companies are included within this category.

Figure 3.2 illustrates the competitive overview of the current luggage service landscape based on the 3 levels of competition. To help identify possible target markets and customer segments, the promotion and distribution channels of the direct and indirect competitors have been analyzed.



Figure 3.2: Levels of competition

3.2.1 Direct competitors

During the writing of this graduation thesis, 10 direct competitors have been identified. The majority of these direct competitors (i.e. 6 out of 10) are established outside of Europe and focus more on the American and intercontinental travel market. Thereby, these firms are currently seen less of a threat in comparison to its European counterparts. This is assumption is further substantiated by the large difference in price and shipping lead times, as can be seen in table 3.1.

Direct competitors established and (predominantly) active within Europe are still limited with the products and services that they offer, as one of the destinations needs to be within the country that this D2D luggage service firm operates. Promotion and place of the direct competitors are limited. Overall, the majority of the competitors make use of social-media and search engine marketing strategies. Additional referral strategies are implemented through partners related to the aviation and hospitality sector (e.g. AAS, Heathrow airport, British Airways, Neckermann, Kras, etc.) but are done in a manner where the customer needs to actively look for the service. Furthermore, booking D2D service is only possible through the native sites of D2D luggage services. Thus, if the customer is not aware of the existence of D2D luggage services, the likeliness of booking one is slim to none. Hence, a major current bottleneck for luggage services is creating awareness.

For as now, it can be concluded that in general there is a low to mid level of competition due to the newness of the D2D luggage service concept, lack of awareness around D2D luggage shipping services, and the immaturity of the European luggage service market. Resulting in a low threat of entering this market from a competitive point of view.

Further research should point out if it is viable and feasible for the chosen hospitality business to offer D2D luggage services on its own or if a partnership should be formed.

3.2.2 Indirect competitors

The indirect competitors form a threat due to the market commonality. They offer luggage services between home and drop-off or pick-up locations near or on the airport. Thus, such services can be seen as less intimidating by new users. Thereby, poaching potential D2D luggage service customers.

However, the current indirect competitors are limited with their product offerings as they are only applicable to customers living within the Dutch northwestern conurbation known as 'De Randstad' or within the cities of Barcelona and London.

Nonetheless, to be able to compete with such luggage service concepts, the to be designed D2D luggage service should be seen at least as effortless and low-risk as the indirect competitor luggage services.

3.2.3 Generic competitors

Generic competitors consist of B2B and B2C parcel and logistic companies that own global or Euraeopean logistics networks. All identified generic competitors are currently utilized by D2D luggage service providers for their logistics services.

The luggage service market in its current state, excluding aviation related shipments such as lost and delayed luggage, is not attractive enough for large logistics companies to pursue actively.

However, if D2D luggage shipping is more widely adopted, the luggage service market can become a lucrative additional revenue stream for these logistical companies to pursue themselves. Therefore, it is key to offer services or a process that stipulates more to the needs of the user which companies such as logistics companies cannot provide with their own resources. (e.g. be included within the booking flow of the customers favorite booking channel)




		Global D2D Luggage Services					EU D2D Luggage Services		
									
	<20 Kg	€177	€332	€306	€73	—	€162	—	€79
	<30 Kg	€188	€499	€414	€77	—	€184	€70	€99
	Days in transit	5-6 days	5 days	3 days	4 days	—	3 days	3 days	3-4 days

Table 3.1: Competitor pricing and lead time overview

LUGGAGE SERVICE ANALYSIS

Competitive clusters based on target customer segment and travel markets

Based on the in depth luggage service analysis (found in appendix A) and an extensive partner analysis of the individual luggage services (found in appendix B), competitive clusters have been formed. These cluster show which current customer segments are being targeted and through which travel markets and channels by luggage services. This, will ultimately show where opportunities will emerge within the European luggage service landscape. Figure 3.3 illustrates the different clusters, these being:

Targeted customers

- **Luxury leisure travelers:** Leisure travelers that stay at high-end hotel chains (e.g. St. Regis, The Luxury Collection, etc.) and make use of service such as private jet rentals and concierge services.
- **Odd-size leisure travelers:** Leisure travelers traveling with odd-size sporting equipment such as skis, snowboards, golf bags, bicycles, etc.
- **Business travelers:** Aviation PAX who travel for business purposes to meetings abroad or to multiple day conventions.

Travel Markets

- **Cruise ancillary market:** Offering D2D luggage services through referrals to passenger of cruises by cruise companies such as Costa cruises, Holland America line, and Norwegian Cruise line.
- **Tour operator ancillary market:** Offering D2R luggage services through referrals of tour operators such as Neckermann, Kras, and Corendon.
- **Aviation ancillary market:** Offering D2R luggage services through referrals of airports and airlines such as Amsterdam Airport Schiphol, London Heathrow, and British Airways.

Looking from a European market perspective one could argue that offering services to the targeted customer segments and travel markets by current luggage service firms seem strategically unwise due to the high level of rivalry.

However, as state before the European luggage service market is still immature. Therefore, the identified competitive clusters, with the exclusion of aviation ancillary services due to the scope of the assignment, will be used as input for further research within this graduation assignment.

Targeted customer segment clusters			Target travel market clusters		
LuggageFree 	Bags DUFL	TRAVELLIGHT Luggage Mule	Bags LuggageFree bagexpress Luggage Mule	TRAVELLIGHT postnl	airportr TRAVELLIGHT postnl

Figure 3.3: Competitive clusters

3.3 Insights luggage service landscape

Low threat direct competitors and possibility for competitive advantage

The current underdeveloped state of the European luggage service market results in a low threat of entry for a new D2D luggage service. Currently there are no well-established D2D luggage services that reach a large audience. This is due to the lack of awareness around the D2D luggage service concept and lack of correct channels through which these services are offered.

Therefore, it is advised to market the new D2D service through channels which don't need the potential customer to actively look for D2D luggage services. (e.g. as inclusion within the booking flow of the hospitality firm)

Furthermore, using such channels can result in a competitive advantage over generic competitors, such as logistics companies, once the market starts to become more appealing for them. As this way potential customers are more likely to first encounter a touchpoint of the new D2D luggage service offered by the hospitality firm.

Operating Scope U.S. vs EU, and single service scalability

Currently most U.S. based luggage services offer D2D services on a global scale in comparison to its European counterpart. Furthermore, most of the U.S. luggage services provide shipments on trips where the origin country of the establishment isn't within the itinerary. Whereas only BagExpress offers this option within the Europe. When looking from a scalability perspective, it might be possible to create a single service that can be implemented throughout Europe as BagExpress and Care 4 luggage ship to all member states of the European Union.

Furthermore, it must be said that making use of U.S. based luggage services in comparison to European based services is significantly more expensive as can be seen in table 3.1. If a partnership must be formed with a D2D luggage service, it is advised to first look at European luggage services as they seem more economically viable.

Partnerships parcel delivery companies

One key partnership that is necessary for luggage services is that of a parcel delivery company. Many of the global D2D luggage services utilize a combination of different parcel delivery companies (FedEx, DHL, UPS, Parcelforce, DPD, ACE). Whilst the Europe only D2D services make use of a single parcel delivery partner (TNT, Königs). This implies that it is possible to offer a D2D luggage services within the EU by making use of a single logistics partner.

Lead time shipment and needed change in packing behavior

Depending on the type of service offered (D2D or D2DO), luggage services handle a certain shipping lead time. Thereby, passengers need to prepare their luggage a few days or hours ahead of their departure to allow the luggage service

enough time to ship their luggage to the final destination or pick-up point. The final luggage service design should help change current behavior of passengers who don't pack their luggage way ahead of departure.

Non successful referral strategies and lack of booking flow integration

Multiple luggage services have formed partnerships with either airlines, cruises, golf resorts, hotel chains and convention centers. However, when looking at the current booking flows of these partners the luggage services aren't presented. In most cases the luggage services are presented as an afterthought at the bottom of an ancillary page. This shows that passengers need to personally seek out such services. Thus, there still is an opportunity for D2D luggage services to become a more prominent service within this industry. To further create awareness and increase bookings of luggage services, these products need to be marketed in a more prominent and integrated manner

Additional ancillary revenue streams within ancillary revenue streams

Even though luggage is an ancillary in the journey of the passenger, luggage services offer their own ancillaries in their services. These can range from filling in and printing all necessary labels and customs document to express shipping thereby reducing the lead time of the shipment itself. This shows that the shipment of luggage is not merely the sole revenue stream of these businesses. Therefore, there is an opportunity to further capitalize on the D2D service.

Shipping regulations EU vs. US. and bypassing airports

The analyses of the luggage service market has shown that by making use of any part of the traditional luggage journey at airports, regulations prohibit third parties to directly reroute the luggage from the belly of the plane to the final destination of the passenger. This is only possible within the U.S. where different regulations are present with regards to goods shipped domestically or to airports which are fitted with preclearance facilities. This shows, that a new European D2D luggage service should bypass the entire traditional luggage journey at the airport.

Target customer segments

It has become apparent that the current luggage service market, and especially the U.S. based D2D luggage services, are focusing on more luxury and service oriented PAX or PAX who are traveling with odd-sized luggage. What also seemed to be an interesting target customer segment are business travelers who are visiting multiple day conventions or need to attend general business meetings. Therefore, these three target groups will be included within the PAX analyses.

Possible service providers

The analysis hasn't shown a definitive business active within the hospitality sector that should offer the D2D luggage service. However, the amount of partnerships formed with businesses active within the hospitality sector has shown that there is interest from within this industry. Further hospitality market and PAX research should identify the most promising candidate to offer such a service. However, this analysis has shown that tour operators, cruises, hotel chains, and convention centers hold potential. Therefore, these hospitality business will be included in further research.

Drop-off and pick-up locations

The luggage service of Ta Q Bin shows that it is possible to have pick-up and drop-off locations that are not a type of accommodation (i.e. the convenience store 7/11). Therefore, it is advised to look into possible pick-up and drop-off locations once it has been established that either a D2D service cannot be realized or that other pick-up and drop-off locations are preferred by the targeted customer segment.

Final conclusions:

Input for research:

- Determine if it is possible to introduce a single luggage service that is scalable for the entire European Union.
- Determine if it is possible to use a single logistics partner for all the D2D luggage shipments within the European Union.
- Tour operators, cruises, hotel chains, and convention centres have been identified as possible service providers. Which establishment is the most suitable service provider should be determined.

Requirements for design:

- Design should change luggage preparation behavior of passengers who don't pack well in advance.
- Service awareness should be created at the right moment within the booking flow to increase bookings
- Design should bypass the airport luggage system to offer true D2D luggage service

Opportunities for design:

- Different business and service models to further capitalize on the D2D luggage service. For example, different pricing levels based on amount of service or products provided, e.g. luggage labeling and printing services, reduced lead time, luggage pick-up hour slot options etc.
- If a partnership needs to be formed between a hospitality business and a D2D luggage service, which European luggage service this should be, needs to be determined.
- Explore possible different pick-up and delivery points for the new luggage service if D2D luggage service deliveries are not viable, feasible or desirable.

LUGGAGE SERVICE ANALYSIS

Case study Travel Light

A case study based on the Dutch D2D luggage service Travel Light has been conducted. The goal of this study is to identify key resources and processes necessary to run a D2D luggage services. This case study is based on a creative session in which Sven de Laaf (Chief marketing) and Robin Scholtes (Operations and Customer Care Manager) participated. During this session a Business Model Canvas (BMC) was created and a service blueprint clearly illustrating the current process. The extended case study can be found in appendix C. Below the main findings and conclusions will be discussed.

3.4 Case study service proces 'D2D luggage service'

The process starts when a customer has decided to use a D2D luggage service instead of the traditional luggage journey. In general, the actions taken by Travel Light can be divided into 5 steps. These steps being:

- Priming
- Processing
- Preparing
- Supplying
- Informing

A service blue print of the Travel Light D2D luggage service can be seen in figure 3.4. It shows the necessary steps and process taken by each of the involved stakeholders based on the time before and after departure of the customer. The red exclamation marks within the service blue print indicate key insights or bottlenecks within the current service and will be discussed on the insights page. Below a brief description on the necessary actions within each of the individual stage is given below.

Priming

Priming is the initial and necessary step to activate and acquire new customers. Potential customers are primed with inspirational posts and videos on social media channels, google search engine optimization and referrals placed on tour operator and airport websites.

Processing

Within this stage the necessary data (e.g. departure date and pick-up and drop-off address) is shared where after Travel Light can assign a consignment number to the shipment. The knowledge of the shipment is communicated 4 days before departure to the logistics company to limit the chances of disruptions occurring.

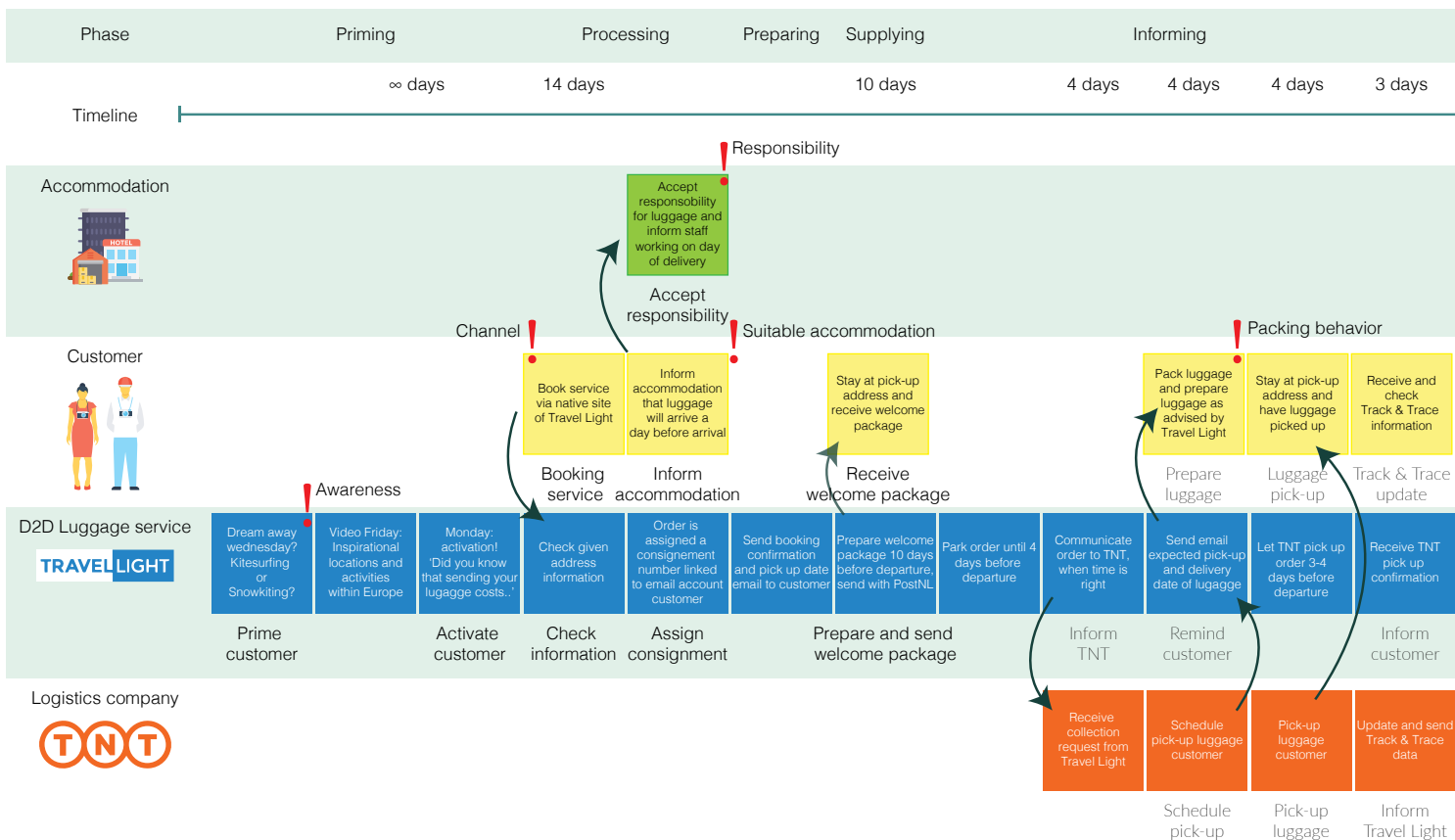


Figure 3.4: Travel Light service blueprint

Preparing

Special welcome packages, including shipping labels and the correct shipping material such as boxes and plastics bags need to be prepared for each individual shipment. Furthermore, the shipments of these welcome packages need to be arranged with the Dutch national logistics company PostNL.

Supplying

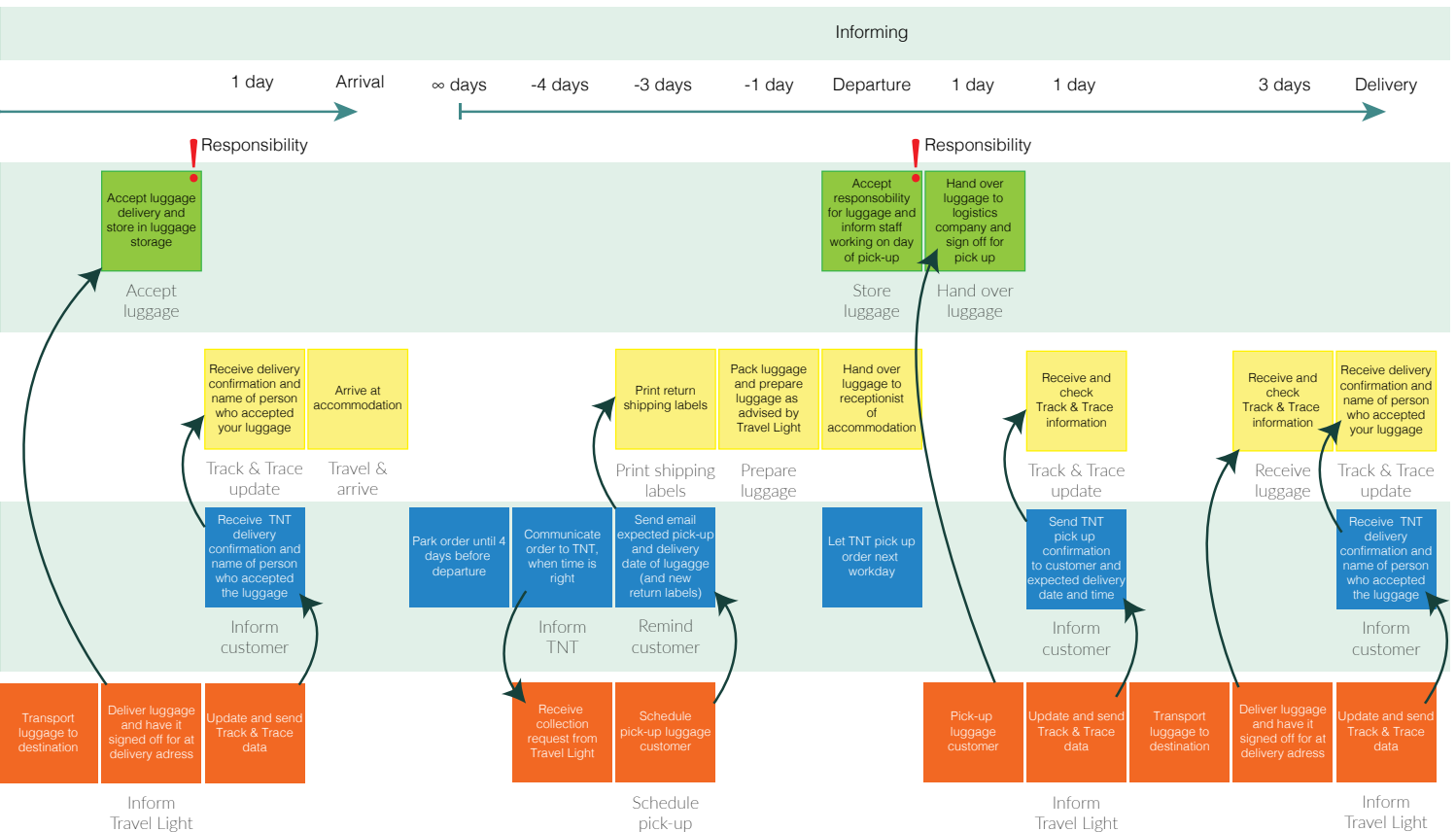
Travel Light provides its customers with the welcome package 10 days in advance of their trip. The customer is expected to have their luggage prepared and ready for shipment 4 days in advance at the designated pick-up address. This allows the logistics company with enough lead time to fulfill the shipment.

Informing

The last phase of the service process consists out of informing the customer on the status of the shipment based on the 'Track & Trace' data provided by the logistics company. This is a crucial step as it was found that new customers experience high levels of anxiety due to the newness of the concept.

Return journey

The process of the return journey is similar to that of the outbound journey. One main difference is that the responsibility for the luggage is trusted to the operators of the accommodation instead of the customer themselves.



3.5 Insights service process

Suitable accommodations for drop-off and pick-up

The type of accommodation needs to be suitable to make use of D2D luggage service. This means that there needs to be someone to be able to accept and store the piece of luggage until the customer arrives. For now, this would mean that holiday apartment rental and Airbnb's aren't suitable for a D2D luggage service as offered by Travel Light and other similar luggage services.

'A lot of guests still make minor mistakes when filling in the address of their accommodation, that is why we have to check the addresses manually. It would be ideal to collaborate with a tour operator such as TUI, because they own all their own hotels and other accommodations. They could even say, this hotel accepts the service, this one doesn't and this one accepts it if an extra fee is paid.'
(de Laaf, Travel Light, 2017)

Hotel chains and tour operators were highlighted as potential service providers, as these firms possess the necessary resources to accept D2D luggage shipments (e.g. accommodations that have staffed receptions, and luggage storage facilities). Thus, these hospitality firms will be included within further research.

Timing packing and lead time of service

The transportation of the luggage is performed by making use of road transport. This method of transportation is used to reduce shipment costs. Road transport takes significantly longer than air freight hence the necessary shipping lead time of 4 days. This means that a change in behavior and habits need to be created if the customer isn't used to being packed 4 days before departure.

Import taxes shipping outside EU member states

The manner in which TNT handles its shipments doesn't enable the company to identify a return shipment as the same parcel. Therefore, shipments outside of the EU can be held at customs until import taxes have been paid. Countries that are part of the EFTA (European Free Trade Association), do allow the free shipment of goods. However, the process is not seamless and requires a lot of documentation to be prepared prior to the journey.

'Even though Switzerland and Norway are part of the EFTA you still need to have an import customs invoice. The whole declaration of goods is an administrative chore and can lead to shipments being held at customs. Due to the fact that express shipments are seen as commercial goods this is necessary'
(van der Noll, TNT, 2017)

Therefore, it is advised to focus on designing a D2D luggage service that ships to European Union member states.

Responsibility luggage during journey

The service process map shows that multiple stakeholders hold responsibility of the luggage during different stages of the journey. In case a disruption occurs and a piece of luggage is lost, clear agreements should be in place to see who is responsible and how this problem can be resolved as quickly as possible. This should prevent the customer from experiencing any additional pain.

Customer anxiety: Functional risk factor

The case study identified that currently, especially first time users, experience a lot of anxiety when sending their luggage beforehand. Customers fear that their luggage will not arrive, thus not meeting the functional expectations (risk factor).

'The thing that we accomplish at the moment is maintaining intensive personal contact with our clients. The moment they are anxious about something it is our job to reassure them. Our customers should be anxiety free, especially since the disruption rate within the logistics industry is far less in comparison to that of the airlines.'
(de Laaf, Travel Light, 2017)

Therefore, the design should communicate that making use of the service is perfectly safe and less prone to disruptions in comparison to the traditional luggage journey. This is due to the fact that the disruption rate within the logistics sector is 0,1% in comparison to 3% within the aviation sector (de Laaf, 2017).

Final conclusions:

Input for research:

- Tour operators and hotel chains have been identified as promising establishments to offer the service, and will therefore be taken into consideration as service providers?

Requirements for design:

- The service should help change the packing behavior of customers to enable the logistics company enough time for shipping their luggage.
- Service should focus on offering its services to countries that are part of the European Union.
- Clear agreements should be included in the service who is responsible for the luggage during which step of the journey.
- Design should communicate the reliability of the service in such a manner that the customer perceives low levels of functional risk.

Opportunities for design:

LUGGAGE SERVICE ANALYSIS

3.6 Case study business model 'D2D luggage service'

A Business Model Canvas (BMC) was created to get an overview on which customer segments are approached, which value propositions are offered, and which key resources are necessary to be able offer a D2D luggage service. Furthermore, a closer look is taken at the current cost and revenue structure to ultimately help create a viable business case for the new D2D luggage service. The in-depth analysis and created BMC can be found in appendix C. Below the key findings are presented.

Newly identified customer segments

The reason why certain customers make use of a D2D luggage service can vary from one another. Thus, it is possible to target multiple customer segments with the same service. The case study found two additional promising target customer segments.

- Active family and group holiday seekers: Families, couples or a group of friends who go on an active holiday. The activities these customers perform on their holiday requires them to bring along odd-size luggage. This can include Ski's, snowboard, kiteboard sets, bicycles, golf bags, or other large sporting equipment.
- Elderly (Long stay) customers: Elderly customers are targeted due to the fact that in general this customer segment is less mobile than other travelers. Thus, experience a lot of pain during their travels due to necessary actions related to C.I. luggage. Furthermore, within the Elderly segment the sub-segment 'Long stay elderly' is targeted. This sub-segment spends the winter months abroad and therefore bring a lot of check-in luggage.

'The most important target groups are elderly, customer who go on ski holidays and cyclist. And also families, however they are not the early adopters. The other groups make use of the service out of necessity, they encounter the most pain during their journey. Families are more focused on comfort and ease. Once this service will reach more widespread adoption, companies will figure out how to approach families. It's necessity vs. comfort, people are writing to me that due to this service they are able to go on holiday again' (de Laaf, Travel Light, 2017)

Multiple value propositions in a single service

A single luggage service can create different value propositions for different customer segments. For example, odd-size travelers (odd-size heroes) might value the additional comfort such services offer. Whilst, elderly and less mobile travelers can feel empowered by enabling them to independently go on holiday again.

One thing that can be agreed upon is that the service ultimately improves customer experience eliminating the need to bring your luggage during your entire journey. Hence, bypassing stressful processes found in the traditional luggage journey.

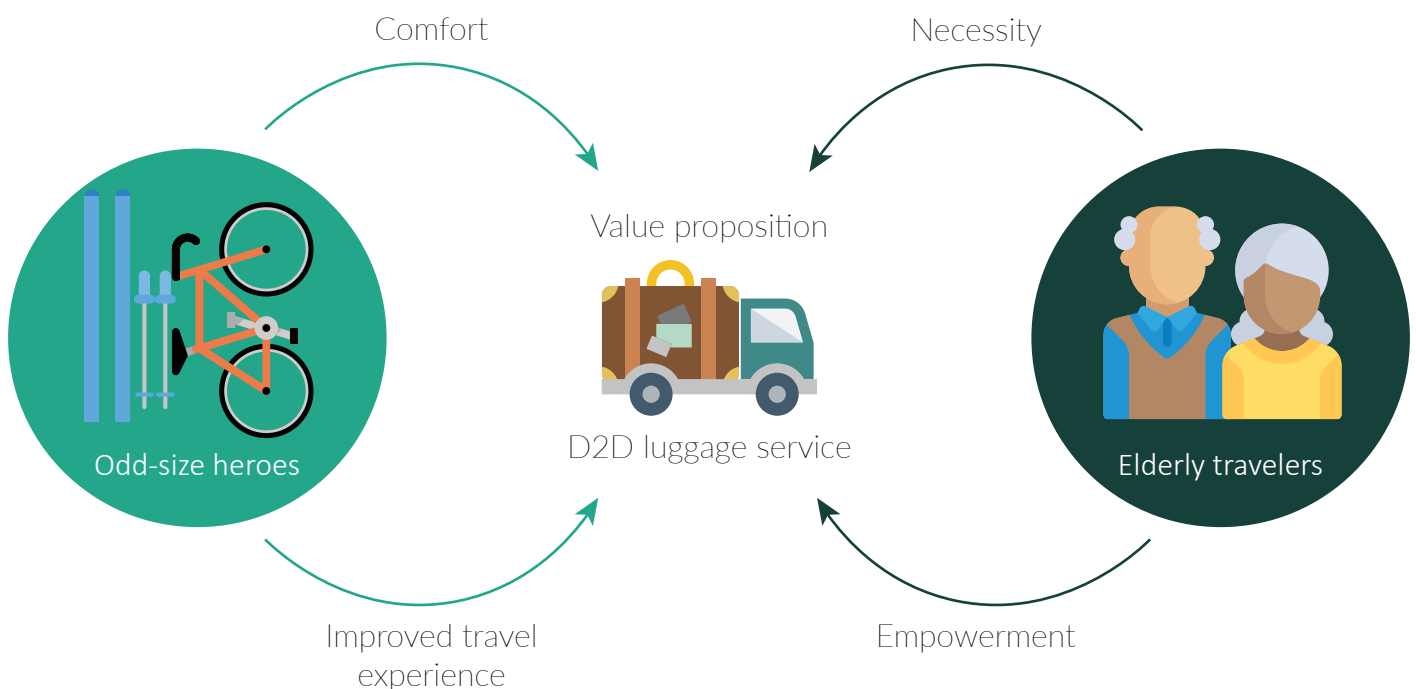


Figure 3.5: Example of different value proposition for different customer segments

Channels and luggage service awareness

Currently the main channels used by multiple D2D luggage services to acquire customers is through google search engine optimization, forums and social media channels. Furthermore, referrals marketed through the native airport sites and sites of tour operators. However, the service is not prominently market through those channels and customers need to actively look for other luggage options.

It can be concluded that there is a lack of awareness around the D2D luggage service concept. This was also found by a study conducted by former IDE graduate student Eero Ervast. Furthermore, this finding was confirmed by de Laaf (2017) as the following quote shows:

***'When people buy their tickets, Transavia will approach you if you want to buy additional check-in luggage, it is at this moment that the passenger should hear this little voice in their head saying 'Travel Light'. This not the case. It is so difficult to penetrate the B2C market for a small startup like us that it would be best to sell our services B2B2C.'* (de Laaf, 2017)**

Key resources through digital assets

Key resources are needed to perform key activities. The key activity of D2D luggage services is to ship luggage from point A to B and back again. Looking from a more abstract point of view, D2D luggage services can be seen as facilitators between the customer and the logistics company. The main resource enabling this is an online platform through which the corresponding stakeholders (i.e. the customer and the logistics company) are connected with each other. Through the creation of an Application Program Interface (API), the sharing of relevant data between stakeholders can be automated therefore reducing the need of additional resources. (e.g. additional staff)

Key partners and reach to larger audiences

Logistics companies are key partners for D2D luggage services. The partnership analysis (found in appendix B) and this case study show that it is possible to use a single logistics company for European shipments. Further, necessary partnership are those with suppliers of shipment packaging and materials.

Nonetheless, this case study identified that partnerships with well-established brands within the travel industry need to be established to be able to reach a larger audience.

Costs structure and key investments

The most significant costs are linked to the development and maintenance of the platform and the shipment of the orders. How much the development costs were, was not discussed. However, the following quote from Dennis van der Noll, TNT representative, can act as an indication:

***'The next couple of days I have 3 meetings with companies that are interested in the same subject matter. I am always surprised by the amount of financing they are willing to spend on the development of their online platforms. A big player is visiting me tomorrow, who is going to invest €8,5 million in the development of their online platform.'* (van der Noll, TNT, 2017)**

Furthermore, there are other costs related to staff, general operations and overhead. However, these are significantly less compared to the prior.

Single or multiple revenue streams

Depending on the D2D luggage service the amount of revenue streams can vary. Within the case study of Travel Light, it was found that this establishment has a single revenue stream. Namely, a margin of the luggage shipments. However, as the extended Luggage services analysis showed (found in appendix A), there is a huge potential for D2D luggage services to create multiple revenue streams. Additional revenue can be gained through referral strategies, upselling additional ancillaries, providing different service levels which can add extra value for the customers. Example of additional revenue streams is shown in the following quote:

'I'm not ruling out that I will also sell suitcases and bags in the future. A lot of customers contact me asking if I could also sell them such items, ski bags or a Samsonite suitcase. Why not?' - (de Laaf, 2017)

3.7 Insights business model 'D2D luggage service'

Elderly, Families and Odd-Size traveler customer segments

Elderly and odd-size travelers were highlighted as important customer segments. It was stated by de Laaf that families are also a promising customer segment but are not early adopters. Therefore, not actively pursued.

However, through the correct hospitality firm or channel families can be persuaded to make use of a D2D luggage service. Therefore, the decision has been to include all three customer segments in further research.

Different Value Propositions with same service

The difference in targeted customer segments has shown that the same service can hold different value propositions.

Therefore, user research should identify what specific values the use of a D2D luggage service holds for which customer segment and how this translates into product fit and service adoption.

Pricing strategy of D2D luggage service

The case study showed that the pricing of Travel Light is not competitive, when comparing it to regular airlines. Furthermore, the competitor analysis showed that another Dutch D2D luggage service, Care 4 luggage, offers its services for a lower price (see table 3.1). This means that the customer is paying a premium. Therefore, it can be assumed that Travel Light is currently applying a price skimming pricing strategy.

Seeing as this is the company's main revenue stream it is clear why this decision has been made. Nonetheless, the results of this graduation project should show whether it is necessary or more attractive to implement a skimming pricing strategy or that it would be better implement other pricing strategies.

Customer anxiety and functional risk factor

The creative session has shown that currently, especially first time users, experience a lot of anxiety when sending their luggage beforehand. This due to the lack of experience making use of such a service. Resulting in an higher functional risk factor ultimately leading to a lower acceptance rate of the new service. Therefore, the design should portray that making use of the service is perfectly safe and actually even safer. This is due to the fact that the disruption rate within the logistics sector is 0,01% in comparison to 3% within the aviation sector.

Develop own service or cooperate with existing services

The exact development cost of Travel Light's online platform are not known. However, the interview of with Dennis van der Noll, TNT, has shown that other IT companies are investing significant amounts in building similar products. A business case should clarify if it is more lucrative to develop your own platform or cooperate with existing services.

Multiple revenue streams through a single ancillary service

The case study has shown that the main revenue stream of D2D luggage services is a margin of the luggage shipments. However, both the creative session with de Laaf and the extensive luggage services analysis (appendix A) have shown that there are ancillary revenues to be made. Therefore, it is advised to look into the opportunities to further capitalize on the D2D luggage service.

Appropriate marketing in the appropriate context

Finding the right moment and context to create awareness is crucial for the adoption of the service. As the creative session with de Laaf and the graduation thesis of Eero Ervast (2017) showed, there is a lack of awareness when it comes to D2D luggage services. Furthermore, potential customers are not made aware of the existence of such services at the right moment and through the right channels.

Therefore, this graduation assignment should look further into how to create awareness among potential customers within the right context before they enter their traditional booking flow.

Final conclusions:

Input for research:

- Elderly, parents traveling with children and odd-size travelers have been identified as a possible target customer segment and will therefore be taken into further consideration.
- Determine which pricing strategy should be implemented based on the price the target customer is willing to pay?
- Identify which value proposition the D2D luggage service holds for which customer segment and see how this influences the chance of service adoption?
- Develop a business case for the new D2D luggage service to help determine if the hospitality firm should develop its own D2D luggage service or cooperate with an existing European D2D luggage service?

Requirements for design:

- Service awareness should be created at the right moment, within the right context, and before the customer has entered the traditional booking flow of booking ancillaries through the airline.

Opportunities for design:

- Further capitalize on D2D luggage service, by offering additional value adding services or products related to the D2D luggage ancillary.



HOSPITALITY & TOURISM ANALYSIS

4.1 Tourism & hospitality composition

In 2016, a total of 616 million international tourists (for either leisure or business purposes) visited a destination within Europe (WTO, 2017). That is equal to 50% of the global international tourist movement. Thereby, making Europe the number 1 tourist destination in the world. To facilitate such a large number of travelers, a diverse range of companies are needed. Small companies operate alongside large multinationals, and private and public activities are intertwined. Therefore, the tourism industry is a complex industry with a highly fragmented value chain serving multiple customer segments.

The hospitality sector forms the backbone of the tourism industry and consists out of 4 subsectors. These 4 subsectors are:

- Food & Beverages
- Travel & Tourism
- Lodging
- Recreation

A brief description is given below on each of the 4 subsectors.

Travel & tourism

The travel & tourism subcategory is comprised of businesses that transport people from destination to destination (e.g. airlines, bus companies, cruises, public transports etc.). Moreover, businesses that encourage and facilitate travel & tourism are also included in this subcategory (e.g. travel agencies, tour operators, tourist information offices, booking aggregate sites, Online travel agencies, etc).

Lodging

The lodging subcategory consists of establishments that offer customers some sort of accommodation for one or multiple nights. The differentiations can be made on the level and quality of service (i.e. Hotels, resorts, motels) and the economical principle that they work (i.e. traditional lodging industry vs. sharing economy).

Food & Beverages

The food & beverages subcategory consists of establishments that are engaged with preparing meals, snacks, and beverages for immediate consumption on and off the premises (United States. Bureau of the Census, 1997). Within this industry, subcategories can be made concerning the different types of active establishments. (i.e. Full service restaurants, quick service restaurant, catering)

Leisure & recreation

The leisure & recreation subcategory consists of establishments that provide some sort of rest, relaxation, and enjoyment to customers (e.g. Amusement parks, zoo's, museums, spectator sports, etc.). What these establishments are can differ greatly due to the subjective nature of recreational activities.

Scope of analysis

The author of this graduation thesis has set the scope of this analysis to only include establishments active within the 'Lodging' and 'Travel & Tourism' subcategory. This is due to the fact that necessary resources to enable D2D luggage services (e.g. storage space for luggage, staff able to take responsibility for luggage deliveries, resources ensuring scalability through Europe) are more likely to be found within these subcategories.

Furthermore, this was based on the findings of the PAX analysis, which showed which establishments are encountered by which customer segment within their customer journey.

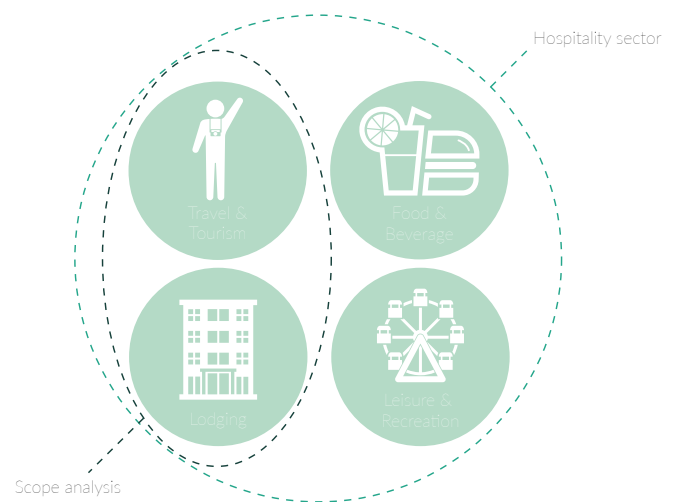


Figure 4.1 Scope analysis

4.2 Competitiveness within the European tourism industry:

Larger Hotel chains versus smaller hotels, and the rise of house sharing platforms in the European landscape

The lodging market within Europe is quite diverse. In a competitiveness study performed by the Horwarth HTL on the European Hotel & Chains (2017), it was found that the penetration of larger hotel chains varies greatly between countries. In the 4 most popular tourist destinations (Spain, Italy, France, and UK), the penetration of larger hotel chains varies between 4.2 and 33.3 % as can be seen in figure 4.2.

Even though these larger hotel chains might have varied market penetration percentages, roughly 50% of all available rooms within those destinations are supplied by such chains. However, Italy is an outlier in this case where only 14% of all available rooms are supplied by larger hotel chains (Horwarth HTL, 2017).

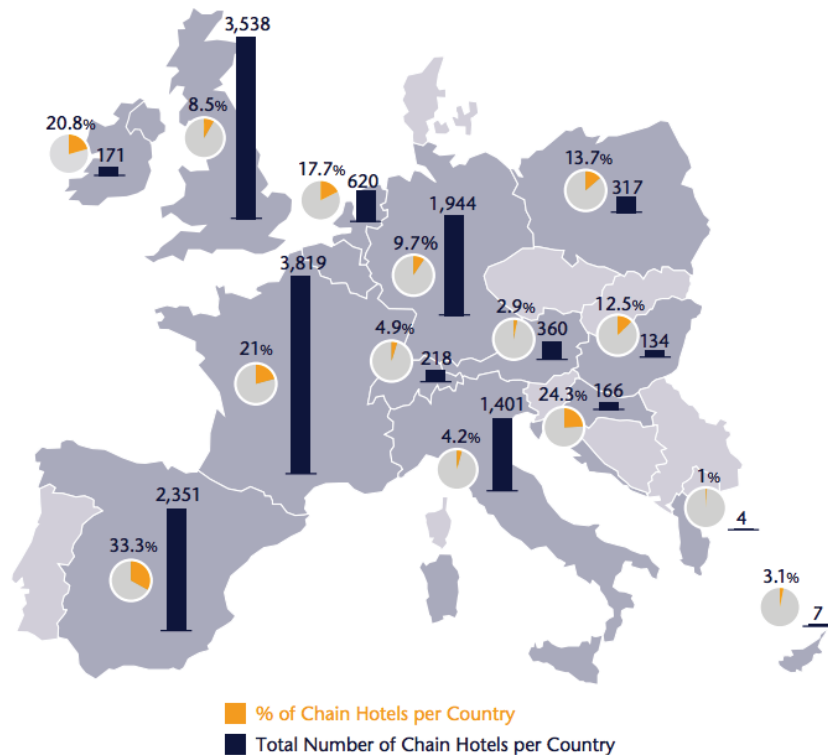


Figure 4.2: Penetration larger hotel chains in Europe

Combining this with the average occupancy rate of 68,3% for the top three large hotel chains in Europe, it can be assumed that larger hotel chains supply lodging facilities for a large amount of travelers within Europe (Statista, 2016A). Currently the largest hotel chains within Europe based on available rooms are:

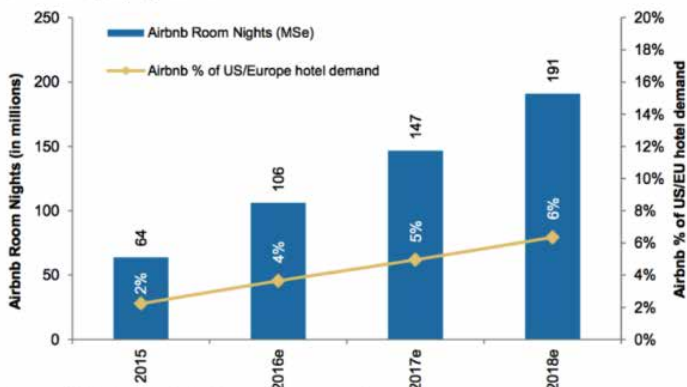
Besides larger and smaller hotels, house sharing platforms are becoming more popular, due to the further development and acceptance of the sharing economy (Emarketer, 2017A). Currently Airbnb offers more than 3 million rooms globally, thereby making it the biggest accommodation supplier in the world (Haywood et al. 2016). In 2016, the house sharing giant supplied 5% of all the nights formerly supplied by hotels. Furthermore, it is expected that this statistic is to rise to 6% by the end of 2018.

Even though Airbnb is the largest house sharing platform, it is not the only accommodation supplier based on the sharing economy. Another example is the Dutch lodging platform Belvilla that facilitates the rental of privately owned holiday homes. It has seen strong growth of its user base growing from 618.000 PAX in 2014 to 967.000 PAX in 2016 (Travmagazine, 2017). Based on these findings it can be implied that house sharing platforms will play a more predominant role in the lodging industry in the coming future.

The role of tour operators within the European tourism industry

Tour operators (TO) supply a wide variety of package holidays to meet the needs of different customer segments. Purchasing package deals through TO's is still popular within Europe, and especially within the Northern and Western region of Europe (FVW, 2014).

...now expecting Airbnb to grow to 6% of hotel demand (across the US and Europe) by 2018



Source: AlphaWise, STR, MKG, Morgan Stanley Research

Currently TO's account for 21% of all the holiday bookings within the Netherlands, roughly corresponding to a total of 2,4 million Dutch PAX (NBTC-NIPO, 2017). Thereby, supplying a significant part of the Dutch outbound tourist industry. On a European scale, it is predicted that the amount of users of package holidays through TO's is to increase from 16.9 million to 20.9 million in 2022 (Statista, 2018). Based on these numbers TO's are identified as possible interesting service providers for D2D luggage services.

Figure 4.3: Airbnb % hotel demand

HOSPITALITY & TOURISM ANALYSIS

Booking behavior of European travelers and the rise of online travel agencies

A current global trend is making use of online travel agencies (OTA) (e.g. Booking.com, Expedia,) for the booking of holidays and trips. These online channels enable PAX to either book their mode of transportation, their accommodation, or a combination of the two as well as other possible ancillaries.

Currently, these booking channels are responsible for more than 50% of all travel revenue within Europe (Tnooz, 2016). Thereby, making OTA's big players within the European Tourism industry.

Their popularity and reach would look like a perfect channel through which to offer D2D luggage services. However, it was found that adding another step within the booking flow leads to more friction during the booking process of the customer ultimately leading to a drop in conversion rate. Therefore, such establishments are rather hesitant in offering D2D luggage services within their booking flow. This is also confirmed by de Laaf (2017), as shown by the following quote:

***'We have discussed our proposition with Booking.com and Trivago but they aren't interested. The reason being that they are a booking site and want to have an as high as possible conversion rate. With every extra step in the booking flow the conversion will drop.'* – de Laaf – Travel Light – 2017**

Therefore, such channels have been excluded for further consideration as D2D luggage service providers.

4.3 Key resources, customer segments and pitfalls for D2D luggage services

Approach and limitations

Multiple establishments falling within the aforementioned hospitality categories were approached to participate in a semi-structured interview. The interviews were based on Osterwalder & Pigneur's (2010), 'Business Model Canvas'. An example of the semi-structured interview guide and summaries of all the interviews can be found in appendix E.

This approach helped the author confirm initial assumptions corresponding to the targeted customer segments. Furthermore, these interviews helped identify key resources, key partnerships and activities of such establishments. Due to the exploratory nature of this graduation assignment, finding willing participating hospitality establishments was difficult. An overview of all participating establishments can be found in appendix D.

Key differences in resources between Larger hotel chains and smaller hotels

Larger hotel groups possess different resources to help cater the needs of different customer segments. This is due to their broad portfolio of different hotel brands and locations in which these hotels are situated throughout Europe.

Thus, scaling the possible D2D luggage service to serve other customer segments in different countries should be a possibility.

An interview with Chaim Scheepers, Innovation Manager of Starwood hotels (now acquired by Marriott International), showed that the Marriott-Starwood portfolio consists of 5500 hotels comprised of 30 different brands. In general, most of the hotels within the portfolio of larger hotel chains fall into the lower market segment. Catering to the needs of business travelers by making their travel more effortless. However, it was stated that the most value is found in the upscale and more luxurious market segment. In general, all larger hotel groups operate in the same manner by targeting different customer segments through different brands. With business and luxury travelers being of most value to these larger hotel chains.

This is different for smaller and boutique hotels, who only possess the resources to target predominantly one customer segments. Furthermore, in an interview with Maxine Hoogland, managing director, at Centre Hotels Amsterdam, it was found that due to the size of their hotels storing additional luggage might become a problem. Thus, implying that offering a D2D service is only possible to a few customers and if successful an alternative storage facility is needed.

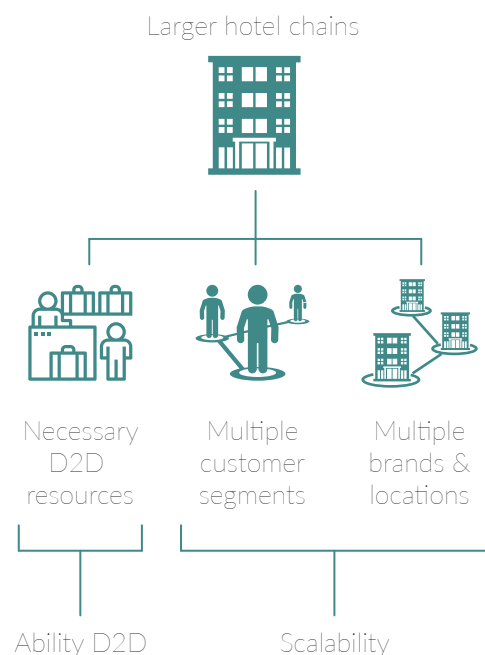


Figure 4.6: Scalability and ability D2D larger hotel chains

However, currently the biggest hurdle for smaller hotels is the lack of brand recognition. Roughly 76% of the reservations are not performed through native channels but through OTA's (Hoogland, 2017). Which is 27% higher than larger hotel chains (Mysoftinn, 2017). The consequence of this is that the booking flow of the accommodation is in control of the OTA. Thus, offering D2D luggage services is not possible within the initial booking. Therefore, limiting the chances of upselling such an ancillary as it is likely that the PAX has made other luggage arrangements.

Larger hotel chains have higher direct booking rates due to their brand recognitions and loyalty program which rewards returning customers who book directly. Therefore, loyalty programs are seen as one of the most valuable resource larger hotel groups possess. As it drives customers for return visits and drives direct bookings, thereby eliminating kickback fees to OTA's. As the following quote illustrates:

'The biggest value for our company and our main resource is SPG, Starwood Preferred Guest. You must imagine that our highest tier guests sleep 100 nights a year at on average at one of our establishments. So that is once every 3 or 4 nights. These guests are our most valuable customers and are extremely loyal to our brand. The purpose for their travel is always business, and we try to fulfill their every need.' – Scheepers, Starwood 2017

If new services are developed within larger hotel chains, it is always to better serve the most preferred guest (Scheepers, 2017). This implies that the service need to improve the journey of the higher tiered members of the loyalty programs (i.e. business travelers or luxury travelers).

To conclude, if a D2D luggage service would be offered through hotels it would be best to do so through larger hotel chains. This is due to the capability of being able to store large amounts of luggage, the ability to scale the service to other hotels brands and customer segments, and having a higher direct booking rate. However, if it is a desirable service for the luxury and business traveler will be seen in the PAX analysis in chapter 5.

Type of establishment	Necessary resources	Scalability PAX	Scalability locations	Direct booking rate
Larger hotel chains	+++	+++	+++	+/-
Smaller hotels	+	-	---	---

Table 4.1: Comparison larger hotel chains vs. smaller hotels

Tour operators and specialty tour operators within Europe

The larger Tour operators active within Europe are unique in the way that they are highly vertically integrated. TO's such as Thomas Cook and TUI own their own accommodation, airlines, and booking channels. Thereby, being in control of the entire customer journey of their customer.

Similar to larger hotel chains, TO's are currently actively pursuing multiple customer segments. This is done by offering different holiday packages tailored to the needs of the different customer segments through different brands all belonging to the same parent company. Thus, their product

portfolio includes promising holiday types as identified in the luggage service market analysis (i.e. cruises, sporting trips which odd-size luggage is necessary).

In an interview conducted with Toon Kessen, ancillary manager at Thomas Cook Netherlands, it was found that their main customer segment were couples aged between 40-50 and families traveling with young children. Especially from an ancillary revenue perspective the latter customer segment is promising.

'We don't do enough with children. If I look from an ancillary revenue perspective, and then before and after their holiday, we try to up sell merchandise from our mascots, entrance to waterparks and other activities, but there still is a lot to be gained. It is not totally optimized.' – Kessen, Thomas Cook, 2017.

Furthermore, it was found that throughout the TO industry, luggage ancillary revenues are dropping. PAX are becoming smarter when it comes to packing luggage and abusing C.O. luggage rules.

'The luggage conversion rates are currently declining, not only with us but everywhere. Customers are becoming smarter in how to pack, so I also think it is time to offer something else next to the standard luggage options.' – Kessen, Thomas Cook, 2017

Hence, offering a D2D luggage service could drive luggage ancillary revenue as it offers the customer a different option.

Another interview conducted with Paul van Thienen, tours and cruises manager for Kras (part of the TUI group), showed that 80% of their customer segment consists of travelers aged 50+ - 60+. The remaining 20% consisted out of families traveling with children to beach destinations in Turkey and Spain. With this in mind, both elderly travelers and families traveling with younger children are included as possible customer segments.

In general specialty TO's are smaller than its more mainstream counterparts and serve specific customer segments. For example, the Dutch specialty TO Pin High offers tailor made golf holidays to golf enthusiast. Whilst Cycle Tours is targeted at Dutch cycling enthusiast wanting to cycle through Europe. What these specialty TO's have in common is that their customer segments are prone to traveling with odd-size luggage.

Being one of the most targeted customer segments of current D2D luggage services, specialty TO's seem as a suitable type of establishment to offer a D2D luggage service. This was further confirmed by van Thienen who indicated that TUI sports currently offer D2D luggage services to road cyclist who travel with TUI sports to train for coming season. However, this service is not included in the traditional booking flow. Thus, possible customers proactively need to approach the tour operators to be able to make use of this service.

HOSPITALITY & TOURISM ANALYSIS

House sharing platforms and solutions to accepting luggage deliveries

House sharing platforms are unique in that they offer their customer segment unique experience to be able to live like a local for a reasonable price. This has led to the popularity of such platforms attracting not only city trippers, but also families traveling with young children, and also business PAX. However, looking from a resource standpoint, the ability to accept and store luggage shipments is a problem. This is due to the lack of a reception or in-house staff in general.

In an interview with Mark Groen of the Dutch holiday home rental platform Belvilla, it was found that their main value proposition was the uniqueness and remote placement of their holiday accommodations. To welcome new guest a single local employee could be responsible for up to 50 holiday homes within a region. Thereby, making it impossible for this D2D luggage services to be offered in its current form through this platform.

The most prominent house sharing platform Airbnb, shares this problem. Thus, to be able offer D2D luggage services a different drop-off and pick-up point needs to be approached. One solution would be to deliver the luggage to a luggage storage facility in larger cities. In an interview with Amsterdam based luggage storage facility Drop & Go, it was found that this would be a feasible solution. Furthermore, it was found that such establishments are quickly extending their service portfolio by also acting as a key pick-up and drop-off point for Airbnb's. Thereby, it could be possible to ultimately deliver the full D2D luggage experience, if the luggage storage facility is willing to personally transport the luggage to the Airbnb.

However, looking from a viability perspective including additional stakeholders would reduce the overall profit margin. Combining this with the difficulty of scaling this solution (e.g. approaching multiple different luggage storage facilities in cities throughout Europe), the author of this graduation assignment has decided to exclude house sharing platforms for further consideration as D2D luggage service providers.

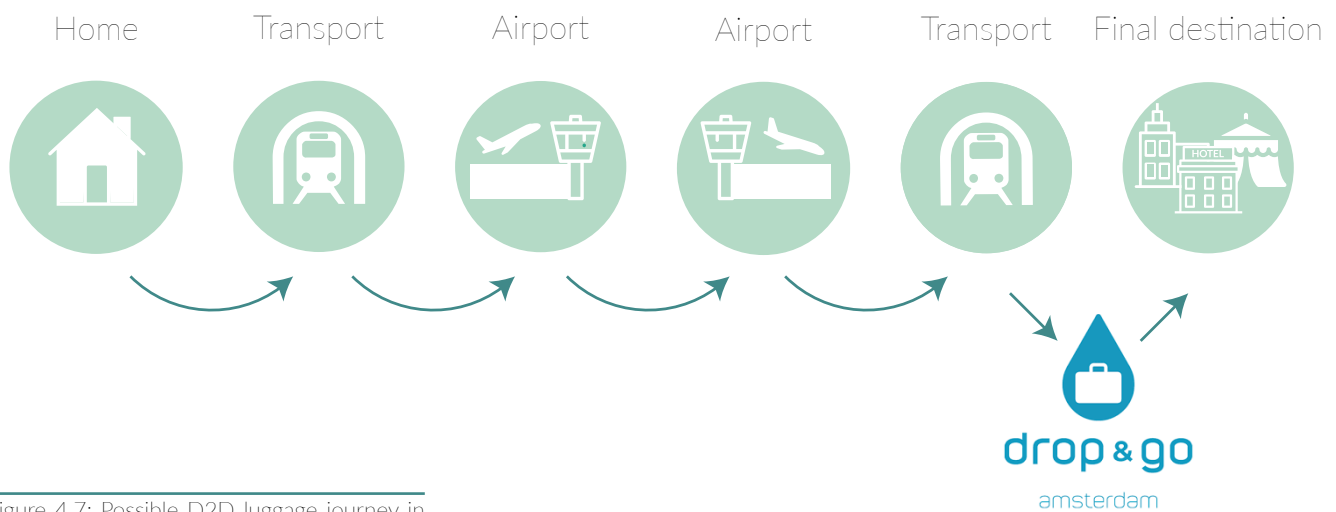


Figure 4.7: Possible D2D luggage journey in combination with house sharing

4.4 Insights tourism & hospitality analysis

Larger hotel chains reach, scalability and resources.

Larger hotel chains supply the accommodation needs of a large part of the European tourism industry. Furthermore, due to their brand recognition and well established loyalty programs such establishment receive a higher percentage of direct bookings in comparison to smaller hotels. Thereby, they are in control over the booking flow for more bookings thus being able to reach more potential D2D luggage service customers. Combining this with the ease at which they could scale this solution to all their locations and brands situated throughout Europe makes this a promising candidate to offer D2D luggage services. Therefore, larger hotel chains are chosen as possible service providers. However, the PAX analysis will ultimately show which combination of customer segment and hospitality firm will be chosen.

OTA's want to reduce booking flow length

OTA's responsible for 50 % of all travel related revenue within Europe (Tnooz, 2016). However, it was found that including an additional step in their booking flow increases friction for their customers. More friction in the booking flow leads to a decrease in conversion rate. Therefore, OTA's are not willing to implement D2D luggage services in their booking flow. Thus, OTA's are further excluded as possible D2D luggage service providers.

Elderly travelers, families traveling with younger children, business travelers, and luxury travelers identified as promising target segments

The interviews with TO's has shown that important customer segments are elderly travelers and families traveling with young children. Seeing as TO's are popular within Europe and are expected to keep continuing to growing their customer base. These customer segments have been selected to be part of the PAX analysis in chapter 6.

Furthermore, an interview with a larger hotel chain has identified business and luxury travelers as possible target customer segments. As these customer segments also are targeted by global D2D luggage services, the author has decided to include them in the PAX analysis.

Tour operators are in control of the entire customer journey and are looking for alternative luggage ancillary revenue

Tour operators are popular in Europe and highly vertically integrated. Thus, they are in control of a large part of the customer journey of the PAX. This enables them to offer D2D luggage service as they are in control of their own booking flow. TO's are seen as a promising possible service provider for the D2D luggage service, as they target multiple promising customer segments (i.e. elderly travelers and families traveling with young children). Furthermore, this industry is actively looking for an alternative luggage ancillary as traditional luggage ancillary sales are declining.

House sharing platforms do not possess the necessary resources

House sharing platforms possess different resources than traditional accommodation establishments. Due to the lack of a reception or general in-house staff member, D2D luggage services in its current form cannot be offered. Possible other drop-off and pick-up locations could be dedicated luggage storage facilities situated within larger cities. However, this would decrease the profit margin significantly. Furthermore, scaling such a solution and maintaining a consistent service level over all the different locations would be difficult. Therefore, house sharing platforms have been excluded as possible D2D luggage service providers.

Type of establishment	Necessary resources	Scalability PAX	Scalability locations	Direct booking rate
Larger hotel chains	+++	+++	+++	+/-
Smaller hotels	+	-	---	---
Larger tour operators	+++	+++	+++	+++
Specialty tour operators	+/-	-	+/-	+++
House sharing platforms	---	+++	+++	+++

Table 4.1: Establishment comparison

Final conclusions:

Input for research:

- Elderly travelers, have been identified as a promising target customer segment and will therefore be included within the PAX analysis.
- Families traveling with young children have been identified as a promising target customer segment and will therefore be included within the PAX analysis.
- PAX traveling with odd-size luggage as a promising target customer segment and will therefore be included within the PAX analysis.
- Business travelers as a promising target customer segment and will therefore be included within the PAX analysis.
- Luxury travelers as a promising target customer segment and will therefore be included within the PAX analysis.

Requirements for design:

Opportunities for design:

- Larger hotel chains have been identified as possible service provider for the D2D luggage service. A final decision should be made based on the target customer segment that will be pursued.
- General and Specialty TO's have been identified as possible service provider for the D2D luggage service. A final decision should be made based on the target customer segment that will be pursued.



TRENDS & DEVELOPMENTS

5.1 Trends & developments



Demographic:

Growing aviation PAX market and increase in customer segments

The travel market is growing after years of decline (Rabo, 2017). The global business travel revenue has risen from 1.2 to 1.3 trillion dollars (Statista, 2018A). Furthermore, it was found that household are shifting their spending habits from goods and products to services. This, developments have led to a healthy growth in the leisure travel sector. These developments will lead to more people traveling in general and it is expected that the amount of travelers will nearly double to 7.2 billion PAX in 2035 (IATA, 2016).

Combine this with the trend that the global population is aging and that elderly are becoming more active travelers (Treksoft, 2017), this customer segment will become a large target customer segment.



Economical:

Sharing economy keeps on booming

Sharing economy is gaining traction in multiple industries. The most well-known examples being Uber, Lyft and Airbnb (TrekSoft, 2017). Currently Airbnb is the largest supplier of accommodations on a global scale (Haywood et al. 2016). It is currently expanding its service portfolio by including unique tours provided by locals. Further making use of the sharing of (in this case operant) resources principle to deliver unique experiences. The take away from this trend is that new PAX are emerging that want to stray from the typical. Thus, it is advised to implement some sort of unique experience element within the service.

Ancillary revenues keep on rising within the aviation industry

Over the last decade ancillary revenue within the aviation industry has risen from \$2.1 billion in 2007, to \$28 billion in 2016 (Financial times, 2017). Airlines are becoming more reliant on on ancillary revenues. The current market leader in ancillary revenue is Delta, with a total of \$5.6 billion in ancillary sales translating into 17% of their total sales (Cartrawler, 2016). It is expected that ancillary revenue to further increase as ancillary strategies will further be adopted by legacy airlines. PAX are becoming accustomed to ancillary, even though they might not like it. This has led to more PAX packing C.O. luggage, which in turn causes delays and additional costs for airlines (Kessen, 2017).

Thus, to optimally take advantage of ancillaries and maintain a good customer relationship, establishments should focus on how ancillaries add real value to the customer journey. e.g. make the time during traveling more useful, or reduce travel stress).



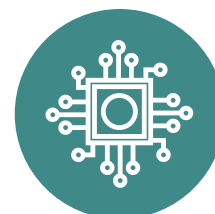
Social:

Validation through user generated content

Currently 9 out of 10 travelers find online reviews important (Treksoft, 2018). When it comes to the most trusted source of information on product and or services (including holidays), it was found that 31% of customers most trusted online reviewers and 23% most trusted the opinion of friends and family (Emarketer, 2017). This implies that customers highly value the opinion of real people and take this into consideration when booking holidays and other travel related services. Furthermore, unique and authentic experience can lead to a social ripple effect through social media (Deloitte, 2017). In general, the younger generation uses social media to communicate with friends and families. Gathering likes and shares drives company/service exposure which in turn can be capitalized on. Therefore, it is advised that the D2D luggage service includes a human element in its digital touchpoints through social media platforms (e.g. online reviews, peer to peer referrals, etc.) to convince potential customers of the value of the service and drive exposure.

Family holidays together with grandparents

It is found that more families with young children are flying to their holiday destinations (cheaptickets, 2013). A current rising trend is that grandparents are joining on such family holidays to help care for the children (Rabo, 2017). This is also seen in the specific packages that are offered by TO's, catered to the needs of the family as well as the grandparents. This trend would suggest that focusing on both parents traveling with young children as well as elderly travelers would be strategic sound decision.



Technology:

Give us mobile

Mobile smart devices have become indispensable in the majority of the western population. Current PAX are increasingly using their smart devices to make their journeys more seamless (Deloitte, 2017).

Furthermore, the booking of holidays, transportation, and ancillaries are increasingly being done on mobile devices (TrekSoft, 2017). Thus, it is of key importance that the D2D luggage service has a mobile touchpoint.

PAX want to be more empowered and in control of their journey through the channel they prefer

Customers are taking control over their holidays. This is seen in the manner in which they book. The degree of organization in holiday bookings has been shifting within Europe. This is also true for the Dutch population, were currently 18% mix and match their accommodation, ticket, and ancillaries through the use of OTA's (NBTC-NIPO, 2017). It is expected that this number will rise as more bookings will migrate to online channels. Furthermore, it was found that borders between online/offline, desktop/mobile are fading. Customers expect a personalized and omnichannel experience when it comes to arranging and experiencing their holiday (Capgemini, 2015). Therefore, it is advised for companies to enable customers to mix and match products and services to best meet their needs, through the channel they prefer. Thus, it is advised that all relevant D2D luggage service interactions are accessible through all available channels.



Political:

Political instability and the effect on the tourism industry

Global threats such as terrorism and political instability have huge impact on the tourist industry (Travmag, 2017). TO saw bookings to Turkey drop during and after the coup attempt in 2016. Furthermore, with the rise of populist political parties leading to events such as the Brexit, a lot can change within the European landscape. To prevent the potential D2D luggage service ancillary revenue from severely decreasing, it is recommended that the service is scalable to as many EU member states as possible. If something might happen (e.g. other member states leaving the EU, or holiday destination becoming unpopular due to terrorist attacks or political instability), the service can still be offered to customers traveling to other countries.

5.2 Insights trend & developments

The future cannot be predicted but a certain vision can be sketched. It is certain that the amount of PAX will continue to rise and that the elderly customer segment will increase drastically. The manner in which bookings will occur will migrate further to online and mobile platforms. Moreover, social media, opinions of friends and families and reviews of other PAX will be play a more dominant role in the booking decision process of the potential PAX. Additionally, PAX do expect to encounter the same experience through every touchpoint on demand. Thereby, making them owners of their own trip. Thus, an omnichannel presence is unavoidable. Ancillaries are becoming more present within the travel industry. To maintain good customer relationship, it is important that ancillaries are seen as services that add real value to the customer journey instead of costly necessary extra's. Lastly, with the unpredictability of the current political climate the D2D luggage service should not only focus on a single destination to reduce the risk of falling revenue's in case something happens

Final conclusions:

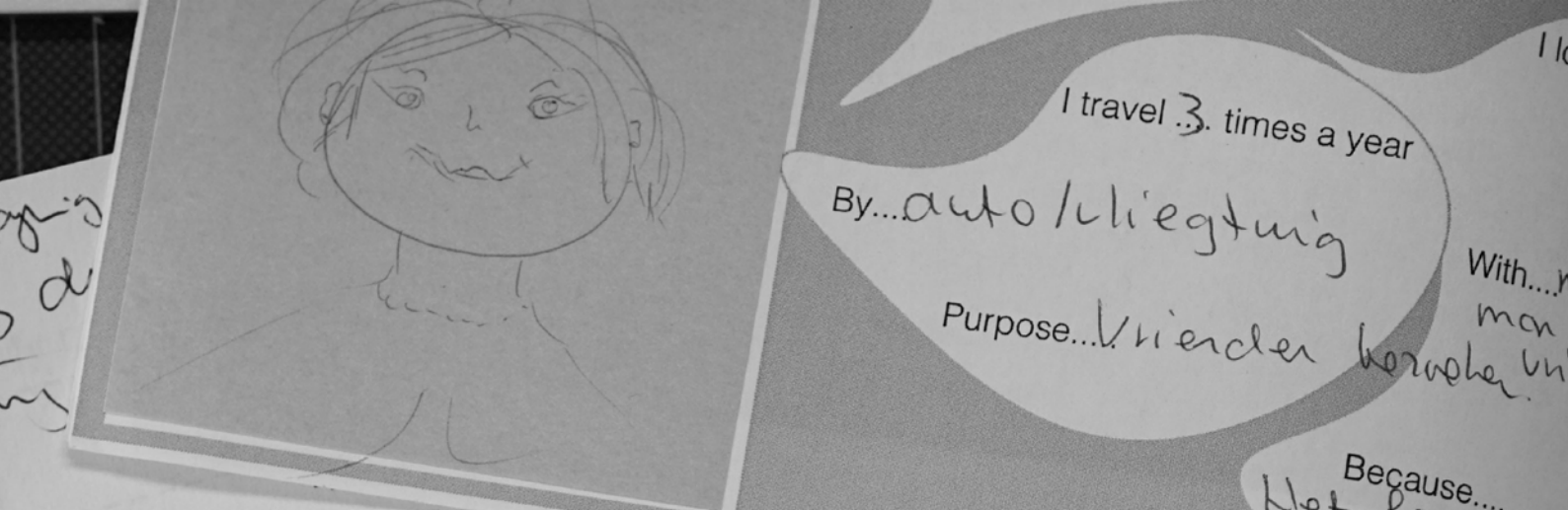
Input for research:

Requirements for design:

- Including a mobile touchpoint within the service offering is a must to stay relevant in the near future.
- The design must deliver same experience through every channel (e.g. online: mobile, desktop, and offline) thereby creating an omnichannel experience.
- The solution must be scalable throughout Europe to prevent drastic decrease in revenue in case of a negative political event occurs in one of the final destinations.

Opportunity for design:

- The elderly traveler customer segment will continue to grow, therefore making it a promising customer segment to target.
- Mobile devices are becoming the most used tool to arrange trips, tours and ancillaries. How mobile devices can play a key role in the D2D luggage service should be taken into consideration.
- Create social ripple effect on social media platforms by offering unique and authentic experiences.



I travel 3. times a year

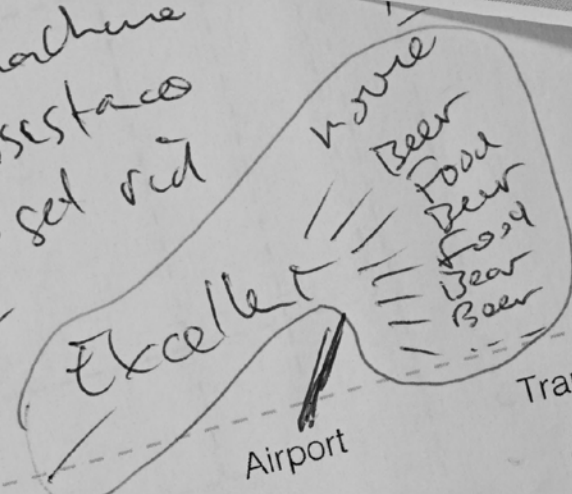
By... auto / vliegtuig

Purpose... vrienden bezoeken

With... man

Because... Het is in n warmere oord te gaan

for on the machine waiting for assistance of luggage Feeling Free



Flight



Airport

Transport



Final destination Excellence



with this type of luggage because...

handen vrij en onafhankelijk. kan mee als handbagage.

B: I most prefer to travel with this type of luggage because...

idem als bij A

C: I have had the worst experience with... koffer because... lange wachttijden bij check-in en verlies van bagage of te late bezorging.

PAX ANALYSIS

6.1 Identified customer segments

To quickly recap the 5 chosen customer segments are described. The PAX groups descriptions are based on the persona's created by Capgemini (2015) and NBTC-NIPO (2008). Moreover, through which analysis these customer segments have been identified is illustrated in Figure 6.1

Luxury travelers:

Luxury travelers appreciate the finer things in life, and value comfortable and reliable travel the most. They are service oriented and expect full service when on demand. Most luxury travelers are part of loyalty programs and redeem the rewards when possible. Their accommodation of choice are more luxurious hotels or holiday homes.

Odd-size heroes:

Odd-size heroes are passengers who choose to travel with odd-sized luggage towards their leisure destination. The type of odd-size luggage they tend to bring are sports related and thereby include items such as: skis, golf bags, surfboards, and bicycles.

Families traveling with younger children:

This customer segment comprises of families who at least travel with a younger child aged between 0 - 12. Families with younger children are more likely to travel to European destinations. Furthermore, due to the size and composition of the travel party, this customer segment is more prone to bring check-in luggage.

Business travelers:

Business travelers are veterans when it comes to traveling and try to make their journey as efficient and useful as possible. They know exactly what they are entitled to and enjoy privileges they attained due to their high frequent flyer program status.

Elderly travelers:

Elderly travelers are people who use flying as their mode of transportation and are at least 60 years old. An increasing wanderlust has been seen within this customer segment. In general, this customer segment enjoys to travel to warmer climate destinations to relax.

6.2 Market size of the Dutch outgoing tourism industry

Below the core data of the Dutch leisure and business travel market are given. A more thorough analysis of how these figures were generated can be found in appendix E. Within the year of 2016, a total 35,5 million holidays (NBTC-NIPO, 2017A) were partaken by the Dutch population. Of the total holidays, 51% were to foreign countries, resulting in a total of 17,9 million foreign holidays. Furthermore, on 38% of these foreign holidays (NBTC-NIPO, 2017A), flying was used as the mode of transportation. This results in a total of 6,8 million flying Dutch leisure PAX.

Combining this finding with PAX data and customer segment data provided by NBTC-NIPO (2017A), AAS (PASSME,2017A), and Cheaptickets (the following approximate customer segments sizes are found.

Luxury travelers: 816.000

Based on the fact 12% of Dutch leisure travelers can be seen as luxury and service oriented travelers (NBTC-NIPO, 2008).

Odd-size heroes: 36.000

Based on the pieces of outgoing odd-size luggage AAS handled during the year of 2016 (PASSME, 2017A).

Families traveling with young children: 683.316

Based on the results of a survey performed by cheaptickets.nl who found that 21% of households with children chose to fly during their holiday.

Business travelers: 990.000

NBTC-NIPO reported that there were a total of 1.98 million PAX of which 50% flying was used as mode of transportation (Nritmedia, 2017).

Elderly travelers: 884.000

Facts on departing PAX at Schiphol showed that 13% of PAX are 60 years or older (Schiphol, 2015).

Based on these figures one could assume that it would be best to focus on the largest customer segment. However, based on the scope in which this graduation assignment operates (i.e. the shipment of C.I. luggage within Europe) it is important to determine the likelihood of the customer segments to travel with C.I. luggage and how often this occurs on an annual basis. It is assumed that for trips longer than 3 days, the PAX is required to bring C.I. luggage.

On the next page the condensed version of the sales cyclicality is described. The extended description can be found in appendix G.

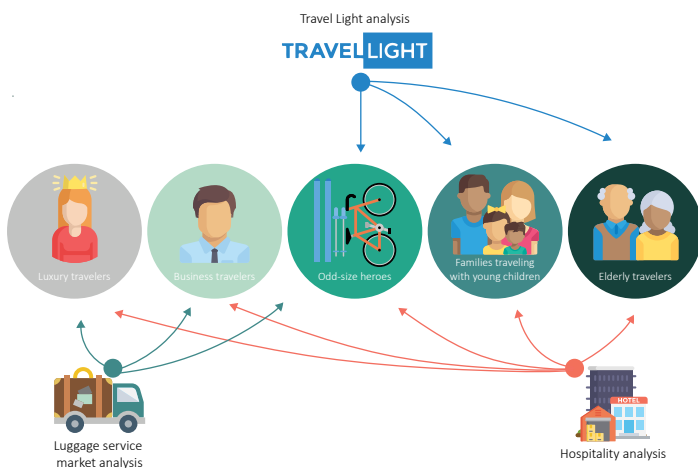


Figure 6.1: Identified customer segments

6.3 Sales cyclicity based on trips per year and type of luggage

Luxury travelers:

Research performed by NBTC-NIPO showed that this customer segments travels 5 times per year on average. Research performed by the National Institute for Budget Information (NIBUD) shows that only 4% of the Dutch population goes on holiday for more than 3 times a year. However, on average this segment partakes in 2 longer trips per year for which it is most likely that C.I. luggage is necessary. Thus, the sales cyclicity has been labelled as medium.

Odd-size heroes:

No exact data could be found on the cyclicity of this target group. However, based on the fact that most odd-sized luggage sporting equipment, such as skis and snowboards, are used during a specific season it is assumed that the cyclicity is low.

Families traveling with young children:

Research performed by the Dutch Central Bureau of Statistics (CBS, 2017B), showed that on average households with younger children go on 2 short and 1.9 long trips per year. In the context mapping session, it was found that this customer segment is prone to bringing check-in luggage, due to the amount of items needed for the children.

'We like to travel with two large check in trolleys because they are easy to roll around, and we can fit everything we need in them for our entire family. I would prefer to just travel with a small carry-on trolley, but that is not realistic.' (SP, quote 1991)

However, in research performed by Stena Line, showed that 40% of families' travel by car to their holiday destination (Stena Line, 2015). Therefore, the cyclicity is labeled as low for this customer segment.

Business travelers:

In total there were 2.35 million foreign business trips where flying was used as mode transportation. When divided by the amount of Dutch flying business PAX, an average of 2.4 trips per PAX is found. Eurostat data shows that 74% of business trips undertaken by European citizens' ranges between 1 and 3 days, resulting in 0.6 trips being longer than 4 days.

'I prefer to travel with my Rimowa carry-on trolley. It is the ideal trolley. It is big enough for short travels and saves me a lot of time. No waiting at the check-in and no risk of losing it' (RB, quote 1755)

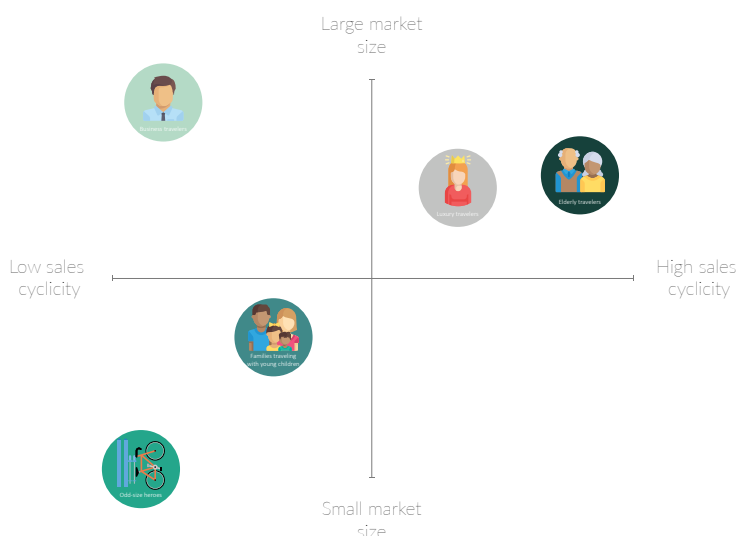
Therefore, the sales cyclicity has been labeled as low.

Elderly travelers:

In general elderly travelers travel more often on average when compared to the general Dutch population (NIBTC-NIPO, 2017B). Dutch leisure travelers aged from 65 to 75 take 2 short trips and 2.4 long trips on average per year (CBS, 2017B). In contrast to other customer segments it was found that this customer segment often shares 1 piece of check-in luggage even for shorts trips. This was also found by Delft University alumnus Eero Ervast (2017) and further proven by the participating couple within the context mapping sessions discussed in subchapter 5.6.

'When we travel for longer periods of time, let's say 2-3 weeks, we both carry a large samsonite suitcase. But if we would only go for a short trip, 4-7 days, we would choose for a smaller check-in trolley. I always need to bring check in luggage, I just need the extra kg's.' (SS, quote 1133)

Therefore, the sales cyclicity of this customer segment is seen as high.



PAX Market analysis		
Customer seg.	Market size	Sales cycl.
Luxury	Large	Medium
Odd-size	Small	Low
Families	Small	Low
Business	Large	Low
Elderly	Large	High

Figure 6.2: Market size/ sales cyclicity matrix

Table 6.3: Market sizes & sales cyclicity results

6.4 Insights market & sales cyclicity analysis

Most promising customer segment from a business perspective

Taking both the market size and sales cyclicity into consideration, the most promising customer segment to focus on would be business travelers, followed by elderly travelers and luxury travelers. However, how well the D2D luggage service fits with the behavior of the customer segment, how well the service reliefs pain, and how this fits with the choice of hospitality establishment of the customer segments remains to be seen. Therefore, it advised not to exclude any customer segment yet. Nonetheless, these findings will be used in the ultimate selection of customer segment.

Final conclusions:

Input for research:

- Determine which customer segment experiences the most pain during their journey and would benefit most of using a D2D luggage service
- Determine which customer segments' travel and preparation behavior fits best with the concept of a D2D luggage service, thereby decreasing the necessary change in behavior.

Design requirements:

Opportunities for design:

- Business, Elderly and luxury travelers have been identified as attractive customer segments from a business perspective.

6.5 Context Mapping sessions:

Introduction

To gain more insight in the current customer journey of the identified customer segments, context mapping sessions were organized with 15 different participants. The reasons why this research method was chosen, is due to the fact that participants are primed to think more about their experiences, rather than only sharing explicit knowledge. By doing so tacit and latent knowledge is gained on the context and use of certain products and services (Sleeswijk Visser et al., 2005). It is within the levels of tacit and latent knowledge that true needs and values of users can be found (Sanders & Stappers, 2014). Therefore, this analysis should ultimately identify specific gains, pains and values which will help determine which customer segment should be targeted.

Context mapping method:

To prepare the participants for the context mapping session, a sensitizing booklet was developed which included a total of 7 assignments. The booklets were provided a week before the set context mapping sessions. The participants were asked to complete the booklet over a set couple of days, thereby priming them on the subject.

The goal of the assignments was to gain more insights on the following subject.:

- General information on the participant and what type of traveler they thought themselves to be.
- Booking and preparation behavior of the travelers.
- The type of luggage they usually travel with, what they usually bring in which type of luggage and what their general thought are on check-in luggage.
- Their experiences during their last trip with check-in luggage, through the creation of their own customer journey.
- Which services, process or items improve their trip and how their perfect trip would look like.

An overview of the sensitizing booklet and the semi-structured interview guide used in each session can be found in appendix F. During the context mapping session, customer journey maps were created for each participant. The individual customer journey maps can be found in appendix G.

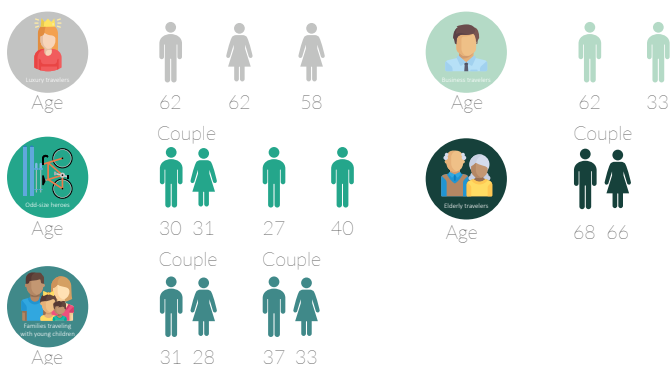


Figure 6.4: Participants context mapping sessions

General results fact and figures context mapping

Figure 6.4. gives an overview on the composition of the group of participants and which customer segment they represent. After conducting the context mapping sessions, the result of 1 participant were excluded as they did not fit with the identified customer segments. Furthermore, it was found that 1 participant fitted within 2 customer segments (luxury & business traveler).

Below the main findings of the context mapping sessions are presented.

Similar travel destinations and durations of trips

It was found that within the different customer segments most participants enjoyed trips to both EU and intercontinental (ICA) destinations. Most trips spend within EU where short city trips lasting no longer than 4 days. Customer segments who stayed longer at EU destinations were odd-size heroes, families traveling with young children and elderly travelers. Below an example for why the prolonged stay within the EU.

'Where we are going is strongly dependent on our budget. Flying in the holiday season is expensive. Also the total distance is important, that is why we mainly stay within the EU' (MP, family traveling with young children, comment in CJM)

Seasonality of travel and influence on stress in customer journey

Seasonality of the journey refers to how dependent the customer segment is on a certain moment in the year to travel. This variable is relevant, as traveling at certain seasons are experienced as more stressful due to the increase of passenger flow (NOS,2017).

Even though seasonality is strongly dependent on what the purpose of the trip is and the personal preference of the traveler, it was found that one customer segment copes with a higher level of seasonality in comparison to others. This segment being families traveling with younger children.

***'We are restricted to the holiday season due to work and the kids, so 6 months in advance we know when we can go on holiday. This is also the moment that we will start thinking about what we want to do.'* (SP, families traveling with young children, comment in CJM)**

Thus, this customer segment experiences increased level of stress due to the high level of seasonality.

PAX ANALYSIS

Booking behavior and major problem for proposed D2D luggage service

It was found that 13 out of 15 participants, once decided on where to go, start off with booking their tickets followed by their accommodation. Moreover, it was found that if necessary, ancillaries such as check-in luggage and rentals cars would simultaneously be booked. This implies that if a hospitality establishment is to offer a D2D luggage service, the PAX would already have paid for C.I. luggage ancillaries.

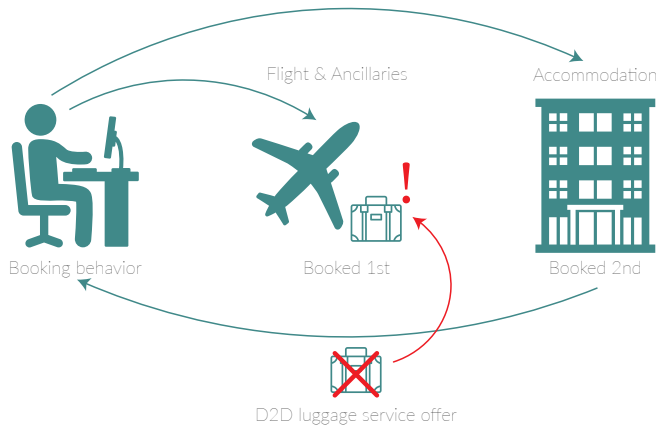


Figure 6.5: Booking order PAX

Therefore, this is highlighted as a major obstacle for the realization of a D2D luggage service from a hospitality perspective

Booking channel and preferred types of lodging establishments

In general, all participants made use of OTA to help organize their trips. Furthermore, it was found that Airbnb was becoming more popular as alternative to the traditional lodging establishments. Which is in line with earlier findings.

The only customer segments to make use of TO's and package deals were Elderly travelers and Families traveling with young children.

'I love to book package deal because I have the security that I both have my accommodation and trip arranged.... I went to a resort with my mom and my daughter once, I thought it was great....They unburden you of all these different actions you have to do.... I love it when everything is taken care off.' (MS, family traveling with young children, quote 275)

Brand recognition and a feeling of trust

Brand recognition was a recurring theme within the result. Multiple participants stated that they choose to fly with legacy carriers due to their overall rating and reputation. The reputation of the brand, created a form of trust and lead participants to belief that this is a safer option in comparison to low cost carriers. To improve overall trust in the D2D luggage concept, it is advised to link or market the service through or in connection with an established brand.

Type of luggage when traveling within Europe

As stated earlier, most trips partaken by the participants within the EU were shorter city trips. The context mapping sessions showed, that along these trips participants were more likely to bring carry-on luggage. Main reasons for this type of luggage were due to the amount of items needed during trip, the ability to skip queues, a sense of safety as the PAX is self-responsible for their luggage, and because it is free of charge.

The only customer segments found to travel with C.I. luggage towards European destinations were Elderly travelers, Families traveling with young children, and Odd-size heroes. Main reason being due to the items needed on holiday (Elderly and families) and the lack of other options (Odd-size).

'We like to travel with two large check in trolleys because they are easy to roll around, and we can fit everything we need in them for our entire family. I would prefer to just travel with a small carry-on trolley, but that is not realistic.' (SP, family traveling with young children, quote 1991)

Thus, the assumption has been made that the likeliness of elderly travelers, families traveling with young children, and odd-size traveling with C.I. luggage in Europe is estimated to be high. For the remaining customer segments the likeliness is estimated to be low.

Preparation of holiday and packing behavior

PAX need to offer their luggage 3-4 days in advance to have enough lead time for the luggage to be shipped to the final destination. The results of context mapping sessions showed that most participants prepared and packed their luggage the day before or on the day of departure.

From an adoption perspective there could be a mismatch between the compatibility of the service as is possible to offer now, and the identified customer segments. On the contrary, families traveling with young children prepare and pack their luggage more in advance in comparison to the other customer segments. Hence, this customer segment wouldn't necessarily need to change their packing behavior positively influencing the chances of service adoption.

'A week before departure I will start to look at swimsuits and other necessities for the kids. I will check their closet to see if they have grown out of anything and thus if I need to buy some clothing for this trip..... yes, usually one week in advance and then start packing 3 days before departure.' (SP, families traveling with young children, quote - 2032)

Stressful touchpoints within the customer journey

An overview of how certain touchpoints within the customer journey affect the emotional status of each customer segment can be seen in figure 6.6. Overall most of the findings based on stress and touchpoint are in line with the findings of ACI (2014). Which showed that the highest levels of stress are experienced during the:

- Journey towards the airport
- Security check
- Boarding control
- Transfer
- Passport control
- Baggage reclaim

However, as figure 6.6 shows, families traveling with young children and odd-size heroes experience significantly more emotional stress within their journey in comparison to the other customer segments. Whilst the luxury, business, and elderly travelers experience the most stress during the security check in their journey, it was found that the remaining customer segments negative experiences are more related to C.I. luggage in general.

Parents are burdened with the responsibility of entertaining the children, having to carry multiple pieces of luggage, and navigating through busy airports due to the holiday season. This often leads to this customer segment splitting up, as both parents have different responsibilities within the family dynamic. Whilst, odd-sized heroes are mainly struggling with transporting their odd-size luggage and not knowing how or where to drop it off properly.

‘What are you going to do? Wait with a trolley two suitcases and two children in the queue? This is the moment the family is split up. Mom goes away to entertain the children whilst I wait in the queue for 25 to 30 minutes because it is holiday season. You are always waiting and standing in a queue.’ (MP, families traveling with young children, quote - 2063)

Furthermore, C.I. related actions are experienced as stressful due to the fact that the PAX are reliant on the airline or airport and thus not in control themselves. Hence, it can be concluded that families traveling with young children and odd-size heroes would benefit most from using a D2D luggage service from an experience point of view. Lastly, these customer segments like to be in control of their own journey, want to know what to expect, and want to remain together as a traveling party at all times during their journey.

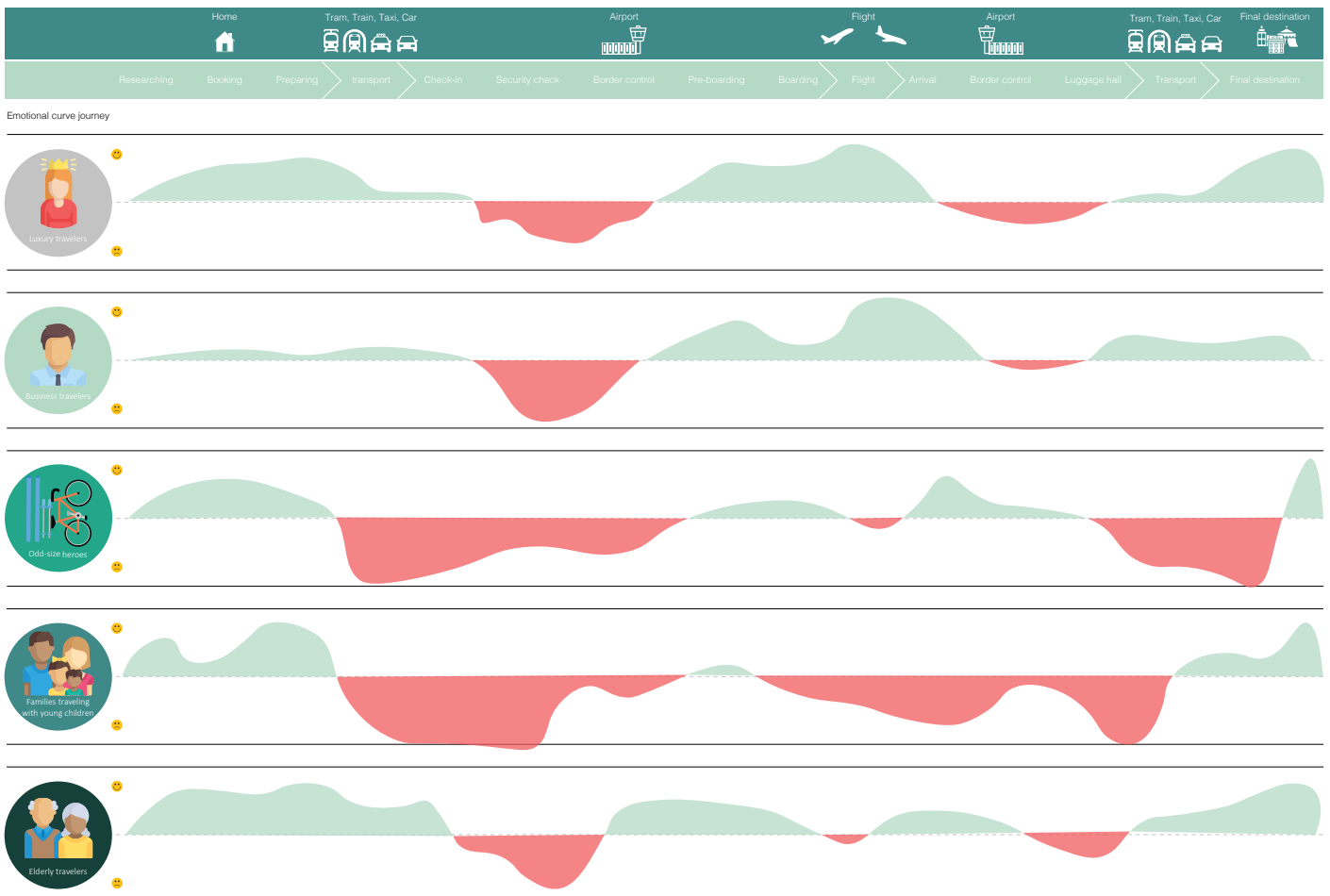


Figure 6.6: Stress experienced by customer segments during customer journey

PAX ANALYSIS

What makes the perfect trip?

The general consensus was that queueing would not be part of the participant's perfect trip. Furthermore, 9 out of 14 participants stated that it would be best if their luggage would beat them to their final destination, could skip any luggage related processes, or no longer had to carry their check-in luggage.

Thus, it can be concluded that there is a desire for an alternative to the current C.I. luggage process.

Final reactions on the concept of a D2D luggage services?

When confronted with the concept of a D2D luggage service, most participants responded to be interested in making use of such a service dependent on final costs and lead pick-up time of the luggage. In general, the lead time for sending luggage to the final destination should be as short as possible.

Furthermore, the PAX should not be restricted in what they could bring. A recurring theme was that sending toiletries a head would be a problem. However, this might hold potential for the hospitality firm offering the service to further capitalize on the concept of D2D luggage by offering additional products such as toiletries.

Lastly it was confirmed that a D2D luggage service holds different value propositions for different customer segments (as stated by de Laaf). Families traveling with young children saw the service more as a necessity and an incentive to fly to their next holiday.

'If I could make use of such a service I would consider flying with the kids more. But still, I need to be able to bring what I want and need.' (MS, families traveling with young children, quote 380)

'So I would say that in this age group making use of such a service would be more a necessity and as a way to relieve stress, but there will be a tipping point that it will transform into something you do pure from a luxury standpoint.' (MP, families traveling with young children, quote 2126)

Figure 6.7 gives an overview on how much the participants were willing to spent on making use of such a service. It was found that 7 participants were willing to pay as much as the regular ancillary luggage fees which is taken as €50 (KLM), whilst the remaining participants were willing to pay between €50 and €100 resulting in an average of €67,00. One outlier was excluded, due to the item shipped (i.e. a bicycle).

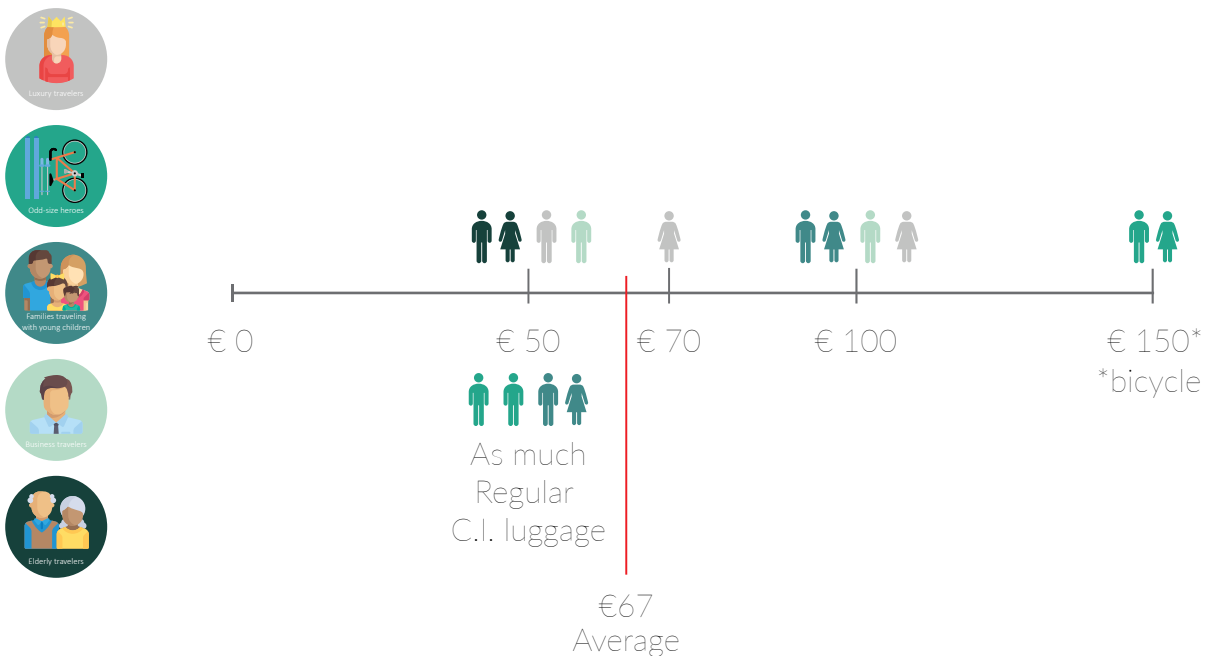


Figure 6.7: Price willing to pay for D2D luggage service

6.6 Insights Context mapping

Travel destination, type of luggage, and season of travel.

The results of the context mapping showed that the customer segments most likely to remain within the EU for longer than 4 days were: families traveling with young children, odd-size heroes and elderly travelers. This also implies that these customer segments are more prone to bringing check-in luggage within the EU. Looking from a service adoption perspective these segments therefore score well on the relative advantage criteria.

Moreover, it was found that families traveling with young children have a high level of seasonality when it comes to traveling. Thus, having to travel during peak holiday season leading them to experience more stress due to increased passenger flows. Thereby, making it an interesting customer segment to approach from a relative advantage and user experience perspective.

Furthermore, families traveling with young children also score well on the compatibility perspective as they start preparing and packing earlier in comparison to the other customer segments. Thereby, less change in behavior is necessary to allow enough transit time for the luggage to be delivered.

Booking behavior and major problem for proposed D2D luggage service

All participants researched and booked their trips through digital channels. It was found that most participants would book their flight and necessary ancillaries first after which they would look at an accommodation. Therefore, it is key that possible customers are made aware of luggage services before they enter their traditional booking flow.

Trust in well-known brands

Participants stated that well-known brands seem more reliable and thus are seen as more trustworthy. This in turn aspires to more confidence in the functionality of the service which is a risk factor criteria in the service adoption process. To increase the chances of the service being adopted it is advised that the D2D luggage service is marketed through or in connection with a well-established brand.

Touchpoint experience among customer segments in customer journey

As figure 6.6 illustrates, individual customer segments experience certain touchpoints differently. From an overall perspective it can be said that parents traveling with young children experience the most stress during their journey followed by odd-size heroes. It was found that these customer segments combined experience high levels of stress due to C.I. luggage related action. The results from the elderly context mapping sessions shows that they experience relative low levels of stress in comparison to the other customer segments. However, based on the interview with de Laaf (2017), who stated that Elderly PAX make use of the service out of necessity and thereby are able to go on holiday again, their experience improvement has been labeled high.

Therefore, it is concluded that these customer segment have a high experience improvement if C.I. luggage is removed from their customer journey. Luxury and business travelers experience levels do increase but more from a luxury perspective than from pure necessity. Hence, it has been decided that these customer segments experience a medium increase in experience improvement.

PAX Market analysis			Context mapping	
Customer seg.	Market size	Sales cycl.	C.I. lug. in EU	Exp. Improve.
Luxury	Large	Medium	Low	Medium
Odd-size	Small	Low	High	High
Families	Small	Low	High	High
Business	Large	Low	Low	Medium
Elderly	Large	High	High	High*

Table 6.2: Market and context mapping results

Identified acceptance and risk criteria

The context mapping session has shown that the most relevant acceptance and risk criteria on which PAX evaluate the D2D luggage concept are:

- Relative advantage
- Compatibility
- Trialability
- Functional risk
- Financial risk

Therefore, these risk and acceptance criteria will be taken into further consideration during the ideation phase of the project.

Final conclusions:

Input for research:

- Determine pricing possibilities for the D2D luggage service to see if it is viable to offer the service for average suggested price by the participants.
- Use the identified relevant acceptance and risk criteria within the Ideation phase of the project.

Requirements for design:

- Customer segments need to be made aware of luggage services before they enter their traditional booking flow.
- Service should be marketed through or in connection with established brand to increase trust and reduce anxiety.

Opportunities for design:

- Luggage service provider can further capitalize on the D2D luggage service by providing additional ancillaries such as toiletries and entertainment.
- Families traveling with young children score well on multiple acceptance criteria for new service adoption. Making it an interesting customer segment to approach from an adoption and experience perspective.



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Verify the freight and handling charges. If applicable, it is the
shipper's responsibility to pay for the freight and handling charges.
Check the integrity of the goods before accepting the
goods. If damaged, please notify the carrier immediately.

PARCEL DELIVERY MARKET ANALYSIS

7.1 European parcel market competitiveness landscape

The European parcel market landscape is a well-developed market with a large variety of parcel delivery companies that offer different services. These parcel delivery companies can be differentiated based on their scale and region of operation. The establishment active within the European parcel market can be grouped into the following clusters (Borbon-Galvez et al. 2015):

- **Local operators** (Competitive at national and local scale): Small express and parcel companies at local level, with many subcontractors.
- **National post operators** (Competitive at national and international scale within neighbouring countries): Large domestic parcel and postal companies with own distribution network.
- **European networks** (Competitive at European level): Large European parcel companies that deliver parcels through own network and those of subcontractors.
- **European alliances** (Competitive at European level): Group of postal, transportation and logistics companies that have formed an alliance to utilize each other's resources in order to fulfil parcel deliveries within Europe.
- **Integrators** (Competitive at global scale): Operators who have international networks including all transport modes, thereby maintaining full control of the door-to-door delivery chain.

As the scope of this graduation assignment is set on a European level, the services of local operators and national post operators can only be utilized for the delivery of the last mile. However, the in-depth partner analysis (appendix B) has shown that the majority of current D2D luggage services utilize the delivery services of global integrators.

As integrators are in full control of the D2D delivery chain, the chances of disruptions occurring due to miscommunication between different stakeholders within the delivery process is brought to a minimum. Furthermore, with an eye on the future of potentially expanding the D2D luggage service to a global scale it is advised to make use of the delivery services of integrators.

The majority of express shipments within Europe are performed by the three large integrators DHL, UPS, and FedEx/TNT.

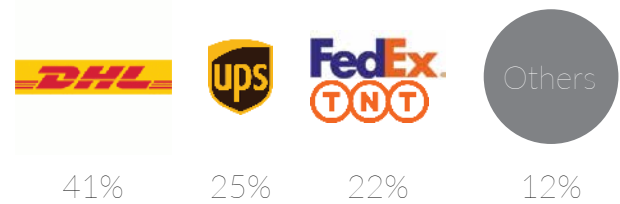


Figure 7.2: Integrator European express market share

Through an interview with former aviation luggage recovery manager at TNT, Dennis van der Noll, it was found that even though all three integrators focus on B2B markets, DHL and UPS also have a significant presence within the European B2C parcel delivery market.

Although the B2C market is not the target market of TNT, this integrator is currently relocating resources and expanding their network capabilities to fulfil the B2C shipments within Europe for large E-commerce establishments such as Amazon (van der Noll, 2017).

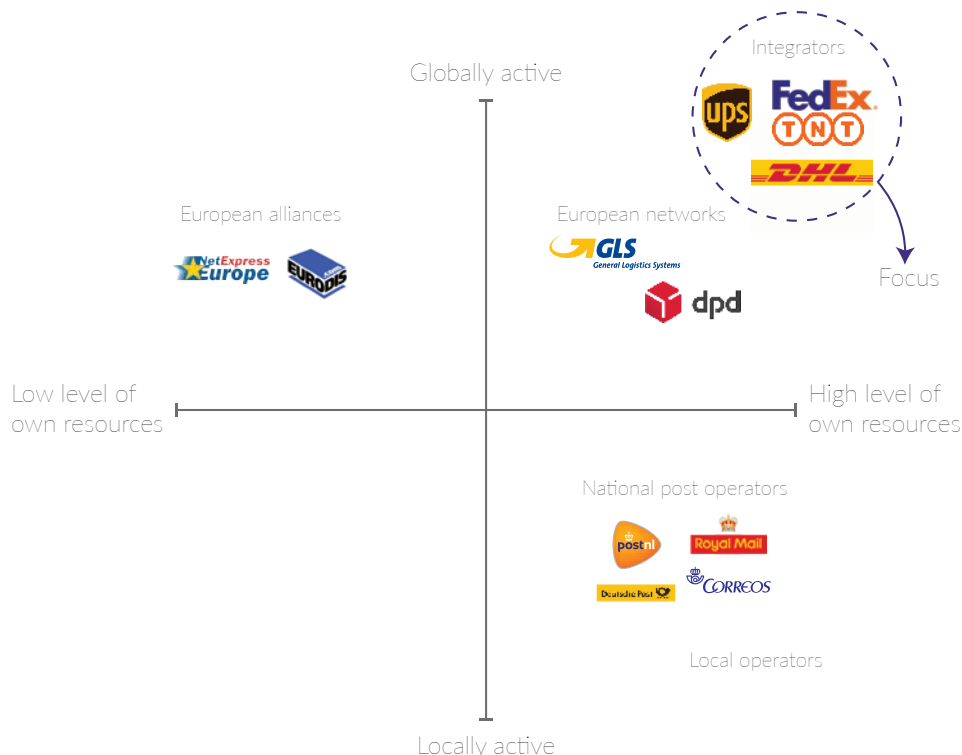


Figure 7.1: Parcel delivery market landscape

7.3 Direct routing: decreasing shipment lead time

One advantage that TNT has in comparison to its competitors is that due to their focus on B2B express shipments, their network is underutilized during the holiday season (mid-June to the end of September), as the parcel shipments within the B2B segment stagnates during this period. Thus, TNT could fulfil the D2D luggage shipments without having to invest in additional resources (e.g. expanding their road fleet).

Nonetheless, as the luggage market analysis has shown, all three large integrators have experience with the shipment of luggage. Thus, the final selection should be based on how reliable the service of the integrator is and with which party the best contract can be negotiated. Therefore, the author of this graduation assignment is advising to the chosen hospitality establishment to discuss this proposition with all three integrators.

7.2 Compatibility with European network of integrators

As the extensive luggage service partner analysis has shown (visible in appendix B), it is possible to make use of a single parcel delivery company to fulfil all luggage shipments within Europe. This was further confirmed by van der Noll who stated that it would be possible to solely make use of TNT's delivery network for the shipment of luggage to Western-European and Mediterranean destinations, provided that the final destination is not too remote.

'Everybody needs partners to fulfil the last mile of a delivery to remote areas. No company within this sector is able to deliver such D2D deliveries without making use of local couriers' (van der Noll, 2017)

Thus, to cut cost and decrease the chances of a disruption occurring it is advised to offer D2D luggage service to hospitality establishments which are not too remotely located within Western Europe and the Mediterranean.

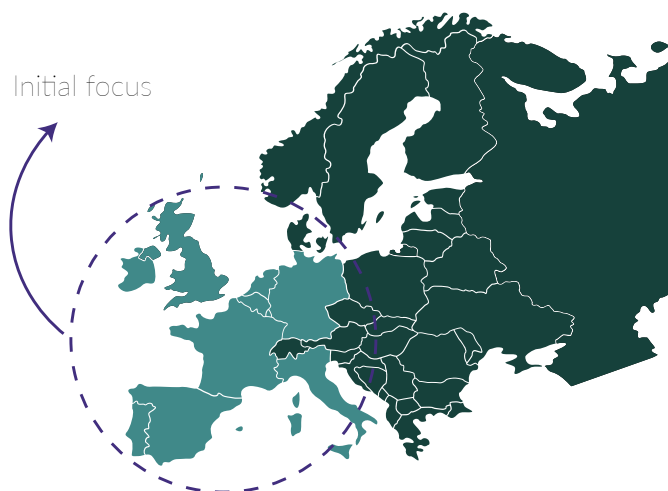


Figure 7.3: Countries to initially focus on for D2D luggage service

The manner in which D2D luggage services are currently offered a shipping lead time of 3-4 days is necessary to be able to fulfil the luggage shipment. This is due to the fact that current D2D luggage services make use the hub-spoke road transport network of the logistics companies (van der Noll, 2017). However, this lead time can be reduced with up to 24 hours if a direct line from the central hub to the final destination is established.

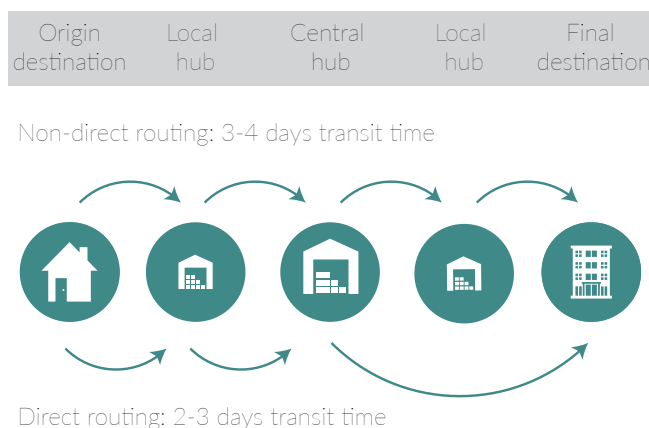


Figure 7.4: Indirect vs direct routing D2D luggage service

Thus, if the hospitality establishment can ensure the logistics company that it receives an x amount of luggage shipment requests from a single country towards a specific location, a direct route can be established. This in turn would decrease the shipping lead time, thus translating into a smaller change in behaviour needed of the PAX when it comes to their packing habits (i.e. having their luggage packed 2-3 days in advance, instead of 3-4). Hopefully, this decrease in lead time will lead to a higher level of compatibility with the PAX thus increasing adoption chances.

7.4 Free trades of goods within Europe and the effect on the delivery process

Businesses operating within the European Union have the right to export and import goods freely (European Union, 2018). This is also true for countries that are part of the 'European Free Trade Associations' (EFTA). However, shipments towards such EFTA member countries are underpinned by stricter border controls and need additional customs import invoices.

***'Even tough Switzerland and Norway are part of the EFTA you still need to have an import customs invoice. The whole declaration of goods is an administrative chore and can lead to shipments being held at customs. Due to the fact that express shipments are seen as commercial goods this is necessary.'* (van der Noll, 2017)**

Therefore, it is advised to only offer D2D luggage services to destinations that are present within the 28 European Union member states.

7.5 Costs of parcel shipments within Europe

The interview with van der Noll revealed that the shipping cost for TNT are €0,25 per kg within Europe. Additionally, €6,50 is charged for the front and back-end of the TNT's services (e.g. parcel collection from origin address, cost of administration, shipment preparation cost etc.)

Furthermore, it was found that the costs of having the courier prepare the luggage for shipment were too high. As this would lead to shipment prices that were not competitive with regular airline luggage ancillaries.

'We did offer the service that our drivers packed the ski's and suitcases, but the costs were too high. The total costs for the consumer would be more if you compare it to regular check-in prices offered by the Airlines. Our chauffeur is taking up to 5 minutes per shipment instead of 1, this means that he can collect less parcels. Thus, less revenue.' (van der Noll, 2017)

To increase the chances of adoption, it is advised to keep the costs as low as possible for the PAX thus decreasing their financial risk factor. Therefore, it is advised to first develop the core D2D luggage service concept (i.e. the shipment of luggage from point a to point b) before additional service such as packing and labelling are pursued.

7.6 Insights parcel delivery market analysis

Competitive landscape European parcel market

A wide variety of smaller and larger parcel delivery companies exist that operate on different scales when it comes to region. It was found that Integrators are in full control over the D2D delivery chain as they possess all their own necessary resources (e.g. distribution centres, air fleet, road fleet, IT systems, etc.). Furthermore, it was found that integrators have experience with the shipment of luggage. Based on these findings it is advised to choose between one of the three larger integrators. Which one should be chosen is based on which integrator offer the most reliable service for the best cost. This however needs to be established through negotiations by the chosen hospitality establishment.

Location and countries to offer the D2D luggage service to

It was found that integrators need to utilize the services of local couriers when it comes to the delivery of luggage to remote areas within Europe. To reduce cost and decrease the chances of a disruption occurring through the increase of involved stakeholders, it is advised to offer the D2D luggage service to locations that are situated within Western-Europe and the Mediterranean. Furthermore, due to the additional processes necessary for the shipment to EFTA member countries which can delay the delivery process, it is advised to only offer the service that are member of the European Union.

Reducing shipment lead time through chosen hospitality establishment

With the creation of a direct route from the main road transport distribution hub of the integrator, a total lead time reduction of 24 hours can be achieved. Therefore, the author of this graduation assignment advises to offer the D2D luggage service through a hospitality establishment that can ensure a steady number of luggage shipments from a single country to a specific establishment.

Cost of shipping luggage

Through an expert interview it was found that the cost of shipping luggage is €0,25 per kg with an additional front and back-end cost of €6,50. Additional services such as packing and labelling by the courier add extra costs which lead to less competitive pricing in comparison to regular airline luggage ancillaries. Therefore, it is advised to focus on realizing the core concept of D2D luggage service before pursuing value adding services such as labelling and packing service. Thereby, reducing total cost and financial risk for the PAX.

Final conclusions:

Input for research:

- Shipping lead time can be reduced by 24 hours through the creation of a direct delivery route, thus a hospitality firm which can ensure a steady shipment of luggage to a specific location should be pursued as final D2D luggage service provider.

Requirements for design:

- A single integrator should be used to fulfil the shipment of luggage to reduce the risk of disruption occurring.
- The D2D luggage service should not be offered by hospitality establishments that are situated within EFTA countries.
- The D2D luggage service should be offered to hospitality establishment that are situated within Western-Europe or the Mediterranean.

Opportunity for design:

- The B2B shipment industry stagnates during holiday season, making the shipment of luggage an interesting additional revenue stream for parcel delivery companies who focus on B2B shipments. This knowledge can be used within the negotiation process between the hospitality establishment and the integrator.



ANCILLARY STRATEGY ANALYSIS

8.1 Ancillary strategies in the booking process

Ancillaries revenue has become a major revenue stream for establishments active within the aviation and hospitality sector. PAX have become accustomed to the concept of ancillaries and having to pay for them. However, it is important for establishments to find the right balance between seeking ancillary revenue and creating a positive passenger experience (PWC, 2014). Creating a positive passenger experience can be achieved by offering (bundled) ancillaries that add extra value to that specific customer segments at the right moment.

However, during the booking process of holidays, or other trips, it is found that most PAX have a systematic and rational thought process (TripAdvisor, 2016). During the booking process, PAX make use of multiple channels to compare and orientate on the different options. Which factors influence the booking process depends on the service being booked, however one factor that always plays a key role is the price of the service. Therefore, the question arises, how do you convince a PAX to buy a more expensive luggage ancillary without having prior experience or knowledge of the service and from the calm environment from their homes?

Adoption process and the determination of value

As stated within the literature study in chapter 1, there is no value until an offering is used – experience and perception are essential to value determination (Vargo and Lusch, 2006). Thus, for the PAX to comprehend the real relative advantage, which is an acceptance criteria in new service adoption process, a form of experience needs to be created. This in turn leads to the next acceptance criteria trialability: the degree to which a product can be tried on a limited basis or divided into small quantities.

Thus, to increase the adoption of the new D2D luggage service it is essential that the PAX are approached at the correct moment within their journey (i.e. the moment in which they experience the most stress related to a possible ancillary). Initially PAX will discard upsells of ancillaries as extravagant or too expensive at a distance from the need state. However, such services seem more appealing when a PAX is mid-trip and desperate to save time or reduce stress (Travelport, 2017). Furthermore, to increase adoption chances it is key that the PAX are able to experience the service in forms of a trial, and are approached through the right channel.

8.2 Designing triggers for action

For the D2D luggage service to be successful, it is important that the PAX buys the ancillary. Buying an ancillary is a form of intentional behavior. It was Fogg's (2009) who found that intentional behavior occurs when there is a sufficient combination between the following three factors:

- Motivation
- Ability
- Trigger

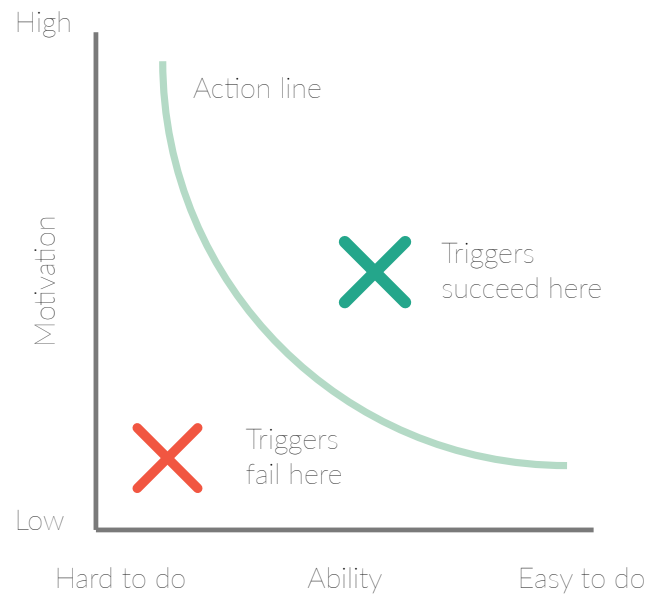


Figure 8.1: Fogg's behavioral model

Motivation:

Motivations is the basis why a PAX would want to make use of the D2D luggage service. In this case it would be to relieve stress. However, since the PAX has not yet purchased the ancillary the motivation level needs to be increased. This can be achieved by approaching the PAX during the right moment within their journey (i.e. the moment in which they experience the most stress related to C.I. luggage). Due to this increased stress (pain point within the customer journey), PAX have a higher motivation to be relieved of this pain. Therefore, it is recommended that the PAX is made aware of the D2D luggage service during or shortly after the moment they experience high levels of stress related to C.I. luggage.

Ability:

Ability refers to the level of which it is made easier for the behavior to be completed. In this case that would mean the ability to book the ancillary. It is found that persuasive design is heavily reliant on simplicity (Fogg, 2009). Simplicity in turn consists out of the following factors: Time, money, physical effort, brain cycles, social deviance, and non-routine.

Fogg found that simplicity is a function of a person's scarcest resources. As price plays an important factor within the booking process of PAX it is recommended that this simplicity factor is taken into consideration for the design of the final concept. Furthermore, as it is found by Trivago (2017), to increase conversion rates booking flows should be quick, short, and simple. Thus, it is also advised to reduce the time necessary to book the ancillary and make it less cognitive challenging by assisting the PAX as much as possible (e.g. fill in necessary data beforehand based on the personal account of the PAX or the information given in the initial booking.)

Trigger:

Triggers are cues calling PAX to perform a certain type of behavior and are essential for designing persuasive products (Fogg, 2009). If the motivation and ability factors are above the success threshold, all that is necessary for a certain type of behavior to be performed is a correct trigger. Triggers can fulfill 3 different roles: As a spark to increase motivation, as a facilitator to increase the ability of a user, and as a signal to remind a user who has sufficient motivation and ability.

Looking at the moment within the journey that the PAX should be approached (i.e. moment which they experience the most stress related to C.I. luggage), the PAX lacks the ability to book the ancillary. Therefore, it is advised to design a trigger that acts as a facilitator thus increasing the ability of the PAX to book and make use of the D2D luggage ancillary.

Offering ancillaries through the right channel at the right time

As stated within the trend analysis, mobile devices are becoming a more dominant booking channel for a majority of the PAX. It is the device the PAX has on them at all times.

Thus, delivering timely promotions or solutions through this channel can drive further ancillary revenue. Thus, it is advised to include a mobile touchpoint to increase the probability of the ancillary being booked.

8.3 Insights ancillary strategy analysis

Increase adoption and aid in the value determination

To increase adoption of the D2D luggage service PAX should be able to experience the service in a manner to help them determine the value and relative advantage of the service in comparison to the traditional C.I. luggage journey. Thus, it is advised that a form of trialability is implemented within the concept.

Approaching PAX at the right time and through the right channel

Relative advantage of a product or service are observed within the use context. This translates to touchpoints within the customer journey related to C.I. luggage. To make PAX as much aware of the relative advantage of the D2D luggage service it is advised to approach the PAX during these or shortly after these touchpoints. Furthermore, it is advised to do so through mobile devices as this are on the PAX at all time and are becoming more popular booking channel.

Persuasive design for the booking of ancillaries

For intentional behavior to occur it is essential that there is sufficient combination of motivation, ability, and triggers. As it is advised to approach the PAX during or shortly after the stressful touchpoints within their journey, the motivation for the PAX to book the D2D luggage ancillary should be sufficient. Therefore, it is advised to focus on how to increase the ability and facilitator trigger aspect of the persuasive behavioral model to induce an intentional behavior of the PAX. (i.e. the booking of the ancillary).

Final conclusions:

Input for research:

Requirements design:

- PAX should be approached during or shortly after the touchpoint related to C.I. luggage.
- Design should include a form of trialability to let the PAX experience 'value in use' and ultimately drive adoption.
- Design should focus on improving the ability of the PAX to perform the desired behavior and facilitator role of the trigger.
- Mobile should be part of the design to be able to approach the PAX at the correct moment through the right channel.

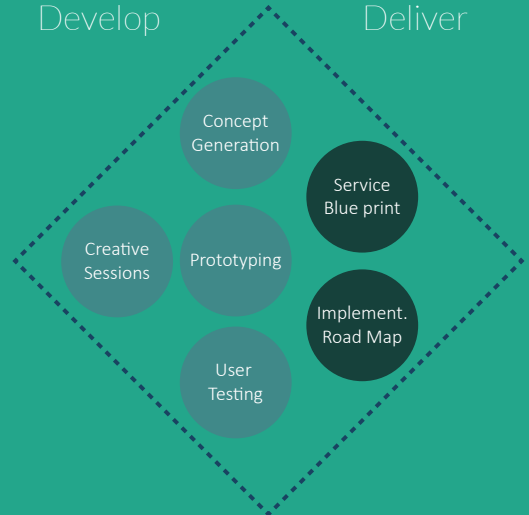
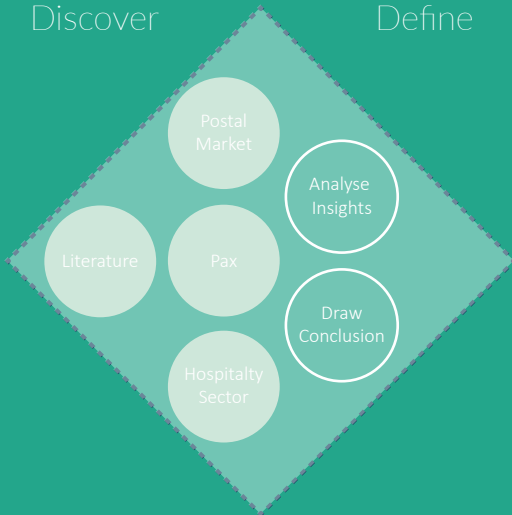
Opportunity for design:

Discover

Define

Develop

Deliver



9. Design Brief

9.1 Target customer segment

9.2 Main problem D2D luggage services

9.3 Chosen hospitality firm

9.4 Behavior towards ancillary purchases

9.5 Design brief

The goal of this graduation assignment is to design a D2D luggage service for an establishment active within the hospitality sector. For the D2D luggage service to be successful a good fit needs to be found between the establishment, the concept of D2D luggage as an ancillary service, and the customer segment.

DESIGN BRIEF

9.1 Target customer segment

The PAX analysis has given many insights on the identified potential target customer segments. The main variable on which to judge the customer segments are potential market size, level of sales cyclicity, the likelihood of traveling with C.I. luggage within the EU, and overall experience improvement through the introduction of the D2D luggage concept. The findings per customer segment over these variables is presented within table 6.2.



PAX Market analysis			Context mapping	
Customer seg.	Market size	Sales cycl.	C.I. lug. in EU	Exp. Improve.
Luxury	Large	Medium	Low	Medium
Odd-size	Small	Low	High	High
Families 	Small	Low	High	High
Business	Large	Low	Low	Medium
Elderly 	Large	High	High	High*

Table 9.1: Market and context mapping results

One could be mistaken to approach the largest identified customer segment. However, as traveling with C.I. luggage within the EU is directly related to the scope of this graduation assignment and the goals set by PASSME, business and luxury travelers are less promising as a target customer segment. This due to the low likeliness of them traveling with C.I. luggage within the EU.

From an experience point of view families traveling with young children, odd-size heroes and elderly travelers experience significant stress related to C.I. luggage touchpoints and actions. The likeliness of these customer segments to travel with C.I. luggage within the EU is high making them a suitable choice for selecting as target customer segment. However, due to the small size of the odd-size heroes' customer segment, the author has decided not to pursue this customer segment.

Both remaining customer segments, families traveling with young children and elderly travelers, hold potential to approach with the D2D luggage service concept. Research has shown that parents traveling with young children experience higher levels of seasonality leading to increased levels of stress. Thus, the relative advantage, which is an acceptance criteria, is high for this customer segment.

Furthermore, due to the preparation and packing behavior of this customer segment, which is well in advance before departure, less behavioral change is needed to be able to offer their luggage in advance of their departure. Hence, it can be assumed that there is a higher form of compatibility with

the D2D luggage concept as it is offered in its current state. However, as the trend analysis has shown the population is aging and elderly are becoming more active travelers. Thus suggesting that the elderly traveler customer segment will continue to grow within the near future.

Nonetheless, the combination of the findings related to the families traveling with young children customer segment combined with the personal preference of the author has led to the decision to select families traveling with young children as the target customer segment.



9.2 Main problem with the current D2D luggage service

The luggage service market analysis and Travel light case study has shown that there is a lack of awareness of the D2D luggage service concept. The concept of D2D luggage services are not well marketed through the websites of airports, airlines, and tour operators. Furthermore, OTA's have stated not to be interested in offering such a service as it will prolong the booking flow causing a decrease in conversion rate (de Laaf 2017).

Additionally, the current booking behavior of PAX is troublesome. It was found that the majority of PAX's first arrange their tickets and luggage ancillaries after which accommodation would be booked. Therefore, offering luggage services from a hospitality perspective would become increasingly difficult as arrangements for C.I. luggage have already been made. Thus, it is necessary to create more awareness when it comes to D2D luggage services as an ancillary and offer it at the correct moment within the booking process of the PAX.



Figure 9.2: Booking order PAX

9.3 Hospitality establishment that will offer the D2D luggage service

The tourism industry is a complex industry with a highly fragmented value chain serving multiple customer segments. Through desk research and interviews with multiple establishments active within the hospitality sector it was found that larger TO's are a popular one stop shop holiday supplier for families traveling with young children within Europe and possess the correct resources to offer D2D luggage services. (e.g. ability to accept and store luggage, multiple establishments throughout Europe, etc). Thereby, making it a fit with the authors chosen customer segment and the process of D2D luggage concept in its current state.

However, the most important resource that larger TO's have, is the control of their own booking. Due to the fact that they are a one stop shop for leisure holidays, they are in control over the booking process of the flight, ancillaries, as well as lodging facilities. Thus, larger TO's have the ability to offer the D2D luggage ancillary at the right moment within the booking process of the PAX. Thus, bypassing the problem of PAX first booking their tickets and luggage ancillaries through OTA's or direct channels of the airline.

Furthermore, an interview with Thomas Cook showed that current ancillary strategies are not optimized to add more value to this customer segments journey. Additionally, luggage ancillary sales have been dropping within this industry as PAX have become smarter at abusing C.O. luggage rules. This implies that more PAX are not satisfied with the current luggage ancillaries that are offered by TO's. Thus, offering a D2D luggage service can drive more ancillary revenue related to C.I. luggage, as it offers PAX an alternative option which adds value to their journey in comparison to the standard luggage ancillary.

Lastly, from a scalability perspective larger TO's are a good fit to offer the D2D luggage service concept as they have established themselves as prominent players within the European tourism industry. Thus, if the D2D luggage service is successful in one market, the service can easily be scaled up to also supply D2D luggage service to other customer segments within different EU member state countries.



Figure 9.3: Selection of large Tour Operators

9.4 PAX behavior towards ancillary product purchases and new service adoption

The ancillary strategy analysis showed that PAX have a rational and systematical approach when it comes to booking holidays and ancillaries. Upsells of more expensive ancillaries, (i.e. the option of a D2D luggage service in comparison to the traditional luggage ancillaries) will be discarded as extravagant or too expensive at a distance of the need state (Travelport, 2017).

Furthermore, it was found that adoption of a new service is based on certain values a PAX wishes to be fulfilled by the service and the evaluation of acceptance and risk criteria such as compatibility with current behavior, relative advantage, trialability of the service, financial, and functional risk. Adding to this, it was Vargo and Lusch (2006) who stated that 'There is no value until an offering is used -- experience and perception are essential to value determination'.

Thus, the question arises how do you convince PAX to buy more expensive luggage ancillaries at a distance of the need state without having prior experience or knowledge of the service?

9.5 New Design brief

Combining these findings have led the author of this graduation assignment to create the following design brief:

How might larger European Tour Operators.....

'Create more awareness concerning the 'D2D luggage services' at the right moment within the customer journey and through the correct channel?

'Persuade 'families traveling with young children (0-12)' within Europe to purchase the 'D2D luggage service' without having prior experience of the service?'

'Stimulate repurchases of the 'D2D luggage service'? Thereby, creating more loyal customers and drive ancillary revenues?'



10. PAX deep dive

- 10.1 Most important jobs
- 10.2 Most significant pains
- 10.3 Most significant gains
- 10.4 Insights PAX deep dive

Appendix I: Profile map customer segment

Since the target customer segment has been selected the Value Proposition design tool can be applied to identify specific jobs this customer segments want to accomplish, gains they intend to experience due to this job, and pains they experience during their journey (Osterwalder et al., 2015).

A profile map based on the participants falling with in the families traveling with young children customer segment has been created and can be found in the appendix I. Based on this profile, a persona was created which will be used as a tool in combination with the customer journey within the creative session, to help drive the ideation process.

PAX DEEP DIVE

10.1 Most important jobs

It was found that families traveling with young children are burdened by many factors. Encountered burdens can range from tricky public transportation issue due to the necessary amount of luggage, to busy airports and long queues due to seasonality. Each parent fulfills a specific role within the family dynamic to overcome these burdens.

In general, the roles assigned are: taking care of the children or being responsible for the travel itinerary and luggage. However, the ultimate goal of the parents during traveling is to entertain the children and create memorable experience. This ensures that they will not disturb any other PAX, which in turn leads the parents not feeling uneasy with the behavior of their children.

The specific needs that have been derived from the important jobs are:

- Entertaining the children to prevent them from misbehaving
- Deliver memorable experiences for the children

‘Our main goal of the journey is to entertain the kids and that they are ok. There is zero time to entertain yourself or relax a bit.’ – (MP, quote 2024)

10.2 Most significant pains

Due to the role division between the parents, there are multiple moments during the journey in which the family is split up. This leads to stressful situations as one of the spouses is responsible for entertaining the children, whilst the other is queuing to drop-off or pick-up C.I. luggage.

Furthermore, there are no clear instructions on what to do with the stroller and where it can be collected. (i.e. sky bridge, reclaim carousel, or odd-size carousel). This lack of knowing what to expect increases stress, thus negatively influencing the customer journey.

The specific needs that have been derived from the significant pains are:

- Knowing what to expect to reduce anxiety and stress
- Reduce the amount of queues related to C.I. related actions to keep the family together

‘Queues in general are a burden, but it is extra difficult with kids because they don’t understand why they have to wait.’ (MP, quote 2067)



Figure 10.1: Persona used as inspiration during ideation

10.3 Most significant gains:

The ultimate goal of going on holiday is to spend quality time together with the family. However, the customer journey shows that the moment in which parents are relaxed and have the feeling that their holiday has started is once they have arrived at the final destination.

By making use of the D2D luggage service a lot of friction and stress can be prevented for this customer segment. Furthermore, it enables the spouse responsible for the travel itinerary and luggage to help with the entertainment of the children. Thereby, unburdening their spouse. Thus, ultimately spending more stress free quality time together at an earlier stage within their journey.

- Unburden my partner and I by eliminating C.I. luggage related actions
- Spend quality time together with my spouse and my children during my journey

10.4 Insights PAX deep dive

Specific identified needs:

Based on the findings from the profile map 6 specific needs were identified. However, as the design brief is aimed at the booking of the service and not the benefits of the D2D luggage service itself certain needs become redundant within the ideation. Therefore, the decision has been made to make use of the following needs as inspiration for the creative sessions:

Entertaining the children to prevent them from misbehaving
Deliver memorable experiences for the children
Knowing what to expect to reduce anxiety and stress
Spend quality time together with my spouse and my children during my journey

Final conclusions:

Input for research:

Include the following needs as inspiration within the ideation phase of the project:

- How can the children be entertained to prevent them from misbehaving?
- How can memorable experiences for the children be created?
- How can PAX be informed on what to expect to reduce stress and anxiety?
- Spend quality time together with my spouse and my children during my journey.

Requirements design:

Opportunity design:



11. Ideation

11.1 Starting point of the ideation

11.2 Awareness through referral strategy

11.3 Back-home service

11.4 Kaas

11.5 Final idea choice

Appendix J: Creative session: planning & results

Through a creative session ideas were created to solve the problem defined in the design brief. In total 6 participant joined in the creative session. All had a background in innovation and design and were well experienced travelers.

The creative session was structured by making use of 'The Creative Problem Solving' technique (CPS) as described by Buijs & Vermeer (2013). Appendix J gives an overview of the session was organized, how the problem was approached, and what the initial problem clusters and results were. This chapter gives a brief description on the initial ideas and on which findings they are base

IDEATION

11.1 Starting point of the ideation.

To fuel the ideation process, the insights of the following analysis were used during the creative session.

Literature study:

- Service system of user (SD logic)
- Compatibility (acceptance criteria)
- Relative advantage (acceptance criteria)
- Trialability (acceptance criteria)
- Functional risk (risk factor)
- Financial risk (risk factor)

Luggage service market analysis:

- Change preparation and packing behavior PAX
- Create service awareness
- Communicate reliability of the service

Trends & developments:

- Mobile touchpoint is the way of the future
- Scalability through Europe as form of revenue risk management
- Empower Customers through their preferred channels
- Validation through user created content
- Add real value to customer journey through ancillaries
- Deliver unique experience

PAX Deep dive needs

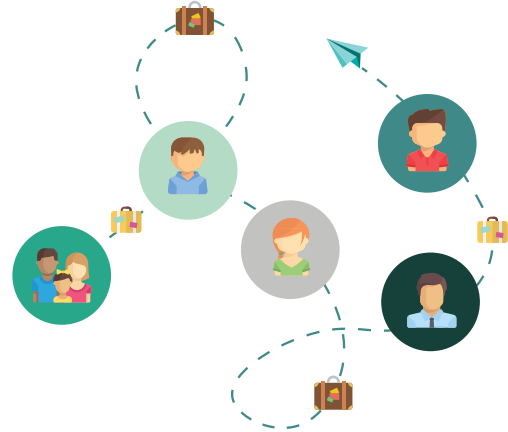
- Entertaining the children to prevent them from misbehaving
- Deliver memorable experiences for the children
- Knowing what to expect to reduce anxiety and stress
- Spend quality time together with my spouse and my children during my journey

Ancillary strategies analysis:

- Approach during or near C.I. related touchpoint
- Include a form of trialability
- Improve the ability of the PAX to book the service
- Act as a facilitator to book the service
- Mobile should be part of the design

Due to the wicked nature of the problem a large part of the creative session was used to discuss and come to grips with the problem. Therefore, mostly partial solutions were ideated to solve the design brief.

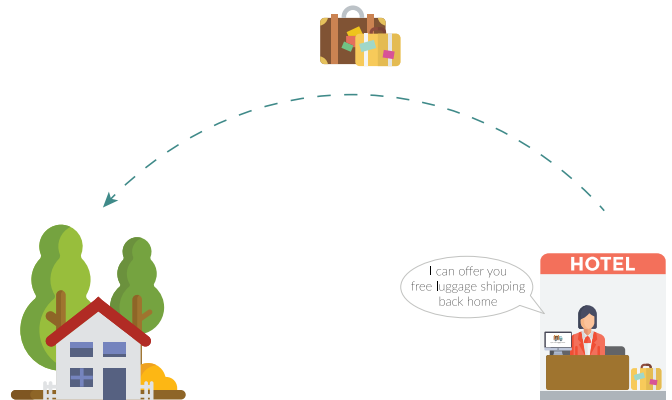
11.2: Awareness creation through referral strategies



The first idea that was generated is implementing a referral strategy among customer who have made use of the D2D luggage service, which is offered by larger T.O.'s through their traditional booking flow. By doing so, PAX who have made use of the service can invite friends and family members through their desired channel. Thereby, more awareness of the existence of the D2D luggage ancillary is created

The idea is based on the trend of 'validation through user generated content' and makes use of operant resources of the PAX. Namely, their private facing service system. Furthermore, based on the simplicity of the idea it is easy to implement and scale to a wider audience. Thereby, It is applicable to all customer segments and European markets.

12.2: Back home service



The second idea consists of letting the PAX experience the service on their return journey by offering it them for free or for a reduced fee. This way the PAX can experience the service and see the added value of the D2D luggage concept. They are offered this option on the outgoing journey once they have checked into their hotel. Thus, the focus is shifted on selling the ancillary for the next trip the PAX will book.

The idea focuses on the acceptance criteria trialability, relative advantage, and the risk criteria financial, and functional risk. Furthermore, it directly fulfills the needs of the PAX of unburdening them of their C.I. luggage on their return journey, preventing the family from being separated from each other during their travels, and enabling the spouses supporting each other with the kids. Lastly, the ancillary strategy elements approach during C.I. related touchpoint and include a form of trialability is included within this idea.

12.3: Kaas: Koffer as a service

Kaas is a product service system (PSS) which enables the PAX to rent a suitcase through the T.O. This way the PAX knows exactly how much they can bring and don't need to be in the possession of their own suitcase. Furthermore, during the booking of the service the T.O. could upsell additional items that the PAX might need during their holiday thus creating additional ancillary revenue.

The idea focusses on the aspect of changing preparation and packing behavior of PAX's and on the user need 'knowing what to expect'.



11.3 Final idea choice

A choice has to be made on which idea to focus on to further develop into a full-fledged concept. The selection of the idea is based on the following selection criteria:

- The idea needs to improve motivation to make use of the service and the ability for the PAX to book the service (based on the persuasive design theory of Fogg, chapter 8).
- The idea needs to have a positive effect on the the adoption process, thus including the acceptance and risk criteria. (based on the adoption process theory of Evans et al. 2013)
- The idea needs to create awareness of the service outside of the traditional booking flow. (based on the fact that PAX have a rational and systematical process when it comes to booking holidays, ancillaries, and other services, chapter 8).

Idea scoring based on selection criteria

Awareness creation through referral strategies:

- Scores low on the motivation for booking criteria as the referral can be received during a moment when the motivation to book the service is low.
- Scores low on the improvement of adoption process. As it has no direct effect on the financial or functional risk factors or the relative advantage, compatibility, or trialability acceptance criteria. However, it does improve

social risk factor as it the service is recommend to them by one in their personal network.

- Scores very high on the create awareness selection criteria as it directly promotes the D2D luggage service concept outside of the T.O.'s traditional booking flow. Thereby, also informing people who have not experienced the booking flow touchpoint of the T.O..

Back- home service:

- The idea scores high on the motivation and ability of the PAX to book the service as it is offered by the T.O. shortly after the stressful moment within their journey.
- Scores very high on the positive effect of the adoption process as it introduces a form trialability of the service. Furthermore, as it concerns the return journey and is offered for a reduced fee or for free, the functional and financial risk factors are minimized.
- Scores high on creating awareness of the service as the PAX is confronted with the service outside of the traditional booking flow during their journey.

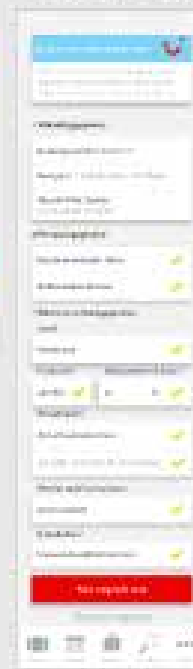
Kaas:

- The idea scores low on the motivation and ability of the PAX to book the D2D luggage service as it is presented during the traditional booking flow of the T.O. thereby being presented far from the use state.
- The idea scores very low on the adoption process criteria as it does not directly influence the acceptance or risk criteria.
- The idea scores very low on the awareness creation of the service outside of the traditional booking flow as it is not represented elsewhere besides the traditional booking channel.

Idea	Impr. ability & motivation	Impr. adoption	Create awareness
Referral	-	-	+++
Back-home	++	+++	++
Kaas	-	---	---

Table 12.1: Idea scoring

Based on the idea scoring, the author of this graduation assignment has decided to combine the first to ideas together to form one concept. Thereby, scoring high-to-very-high on all three scoring criteria.



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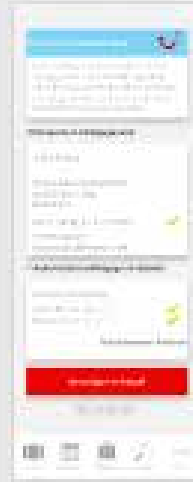
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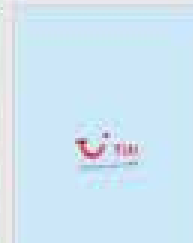
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12. Final concept

12.1 Focus of design

12.2 Eligibility back-home D2D luggage service offer

12.3 How to approach the PAX

12.4 Back-home concept description

12.5 Referral strategy description

12.6 Adjusted booking flow

12.7 Validation test

12.8 Evaluation of design

12.9 Service blueprint

Appendix K: Application flowchart

Appendix L: Offline touchpoints

Appendix M: Validation research form

The initial ideas 'Referral strategies' and 'Back-home service', have been used by the author of this graduation report as a starting point for the creation of the final concept. In this chapter an overview of the service is given by illustrating the new use scenario.

FINAL CONCEPT

12.1 Focus of design

The back home service focusses on the return journey of the PAX by letting them experience a trial of the D2D luggage service. By doing so, the return journey is used as a priming tool for the next holiday where the D2D luggage sale will be acquired.

Since D2D luggage services concept already exist, by means of dedicated D2D luggage services such as Travel Light, the author has chosen to focus on designing the touchpoints related to sending the service back-home and referral aspect of the concept. Thereby, how the outgoing service itself is realized still needs to be designed (e.g. the preparation of the luggage for pick-up, the pick-up process, and further communication).

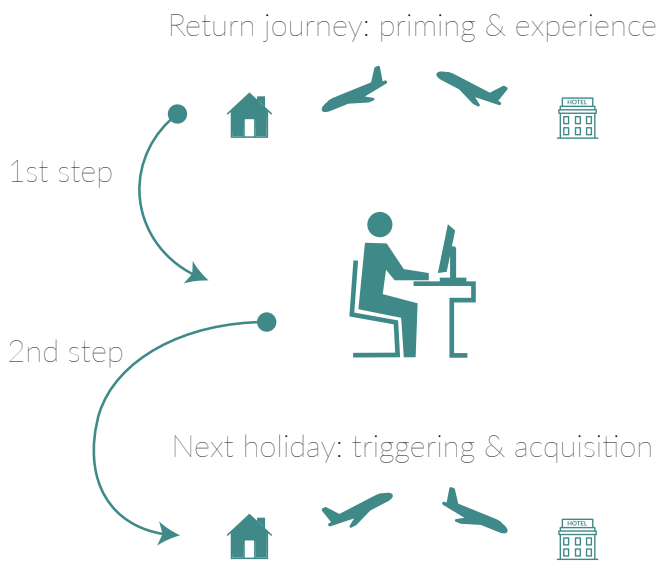


Figure 12.1: Shift in focus, return journey as a priming tool

Choice of T.O. for mock-up

The author has chosen to select the T.O. TUI as the service provider for this design mock-up. TUI is the largest T.O. within Europe and is a well know and established brand. The context mapping sessions showed that larger and well-established brands, are seen as more trustworthy. Furthermore, TUI is chosen based on the fact that this T.O. currently has a Dutch mobile application (in comparison to other larger T.O., Thomas Cook). This helped the author with the creation of an omnichannel experience and further aided in the evaluation process with users.

12.2 Eligibility back-home D2D luggage service offer

To ensure that the correct PAX is targeted, a selection flow is designed. This selection flow consists out of the following steps:

- Does the PAX travel party fall within the customer segment 'Families traveling with young children'?
- Is their holiday destination within the EU 28 member states?
- Have they purchased C.I. luggage ancillaries for both outgoing and returning journey?

If the PAX does fit within all these categories, they are eligible to be approached for the back-home D2D luggage service proposal. It is key that they have paid ancillary fees for both the outgoing as return journey as this revenue can be used to supply the free shipment back. If this is a viable option or if the PAX needs to pay a discounted fee is discussed in chapter 10. business case.

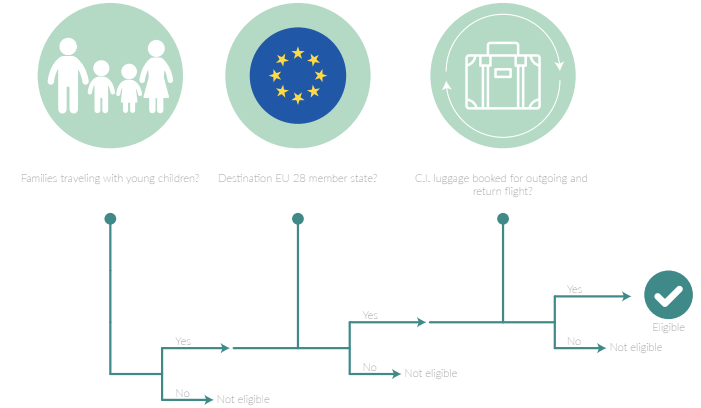


Figure 12.2: Eligibility flow back-home D2D luggage service offer

12.3 How to approach which PAX through which channel?

Even though online and mobile channels have become more dominant within the manner in which people travel and find information (e.g. use airline applications for online check-in, digital boarding cards, or push-notifications on updates on trips) people still make use of offline touchpoints.

To be able to approach all eligible PAX within the selected customer segment, different touchpoints need to be designed. This has led the author to design three touchpoints:

- Online through the native website of TUI (booking flow and referral channel)
- Online through the mobile application of TUI (extension of application)
- Offline through a voucher triggering the PAX to download the TUI mobile application (paper voucher and luggage receipt)

Figure 12.3 gives an overview which PAX is approached via which channel and figure 12.4 illustrates all the designed touchpoint within the customer journey.

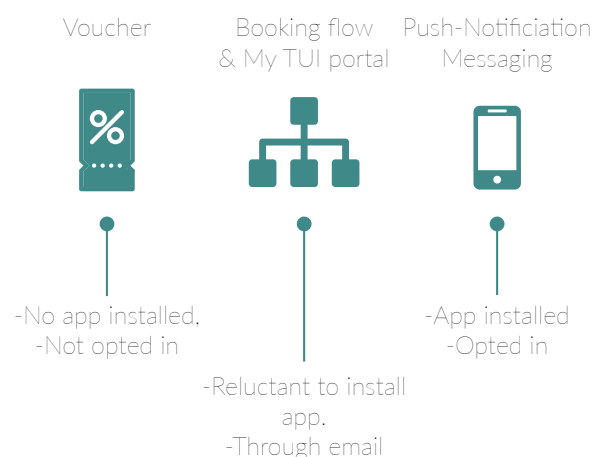
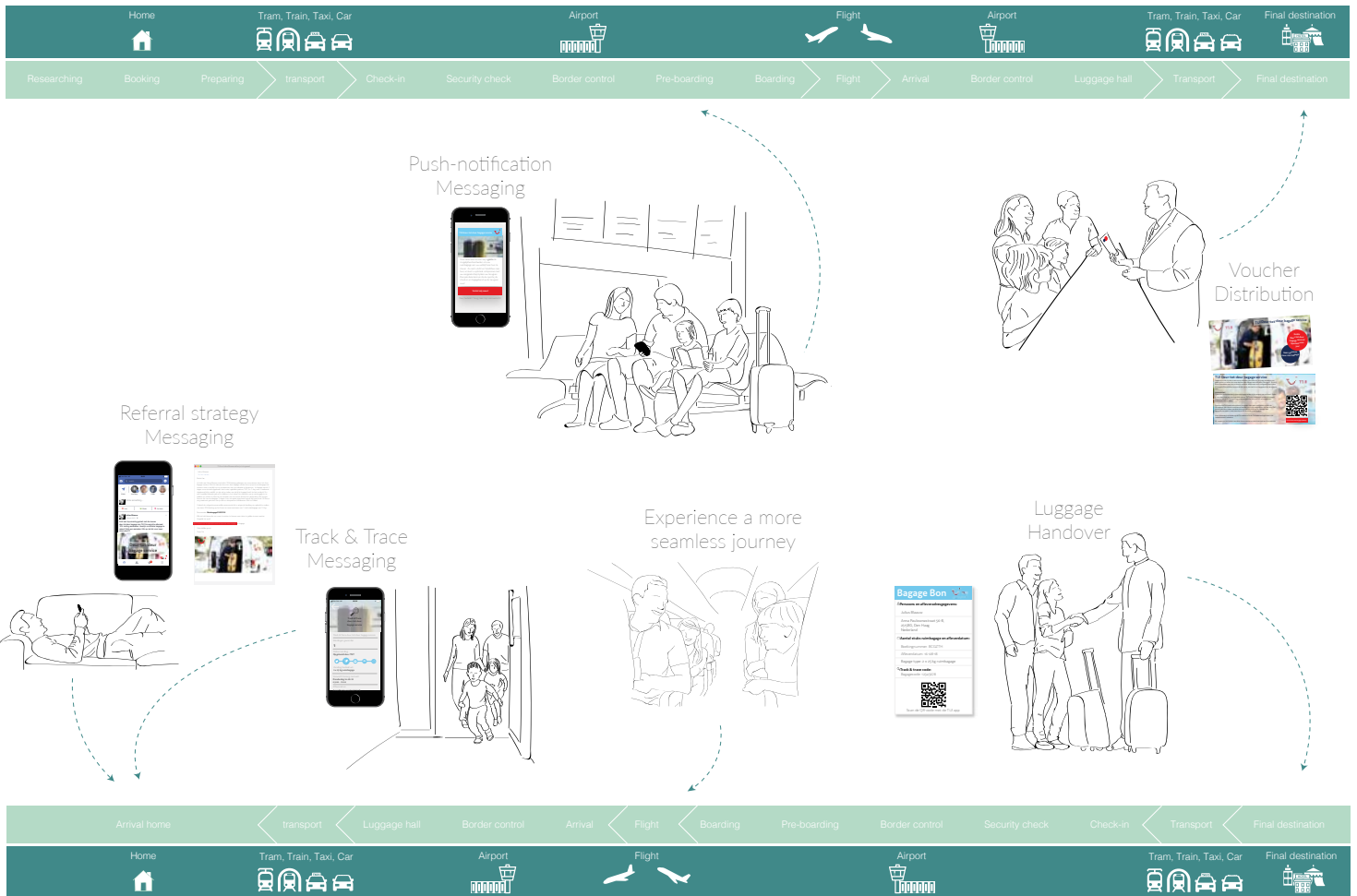


Figure 12.3: Approach through which channel

1st Holiday: priming & experience



2nd Holiday: triggering & acquisition

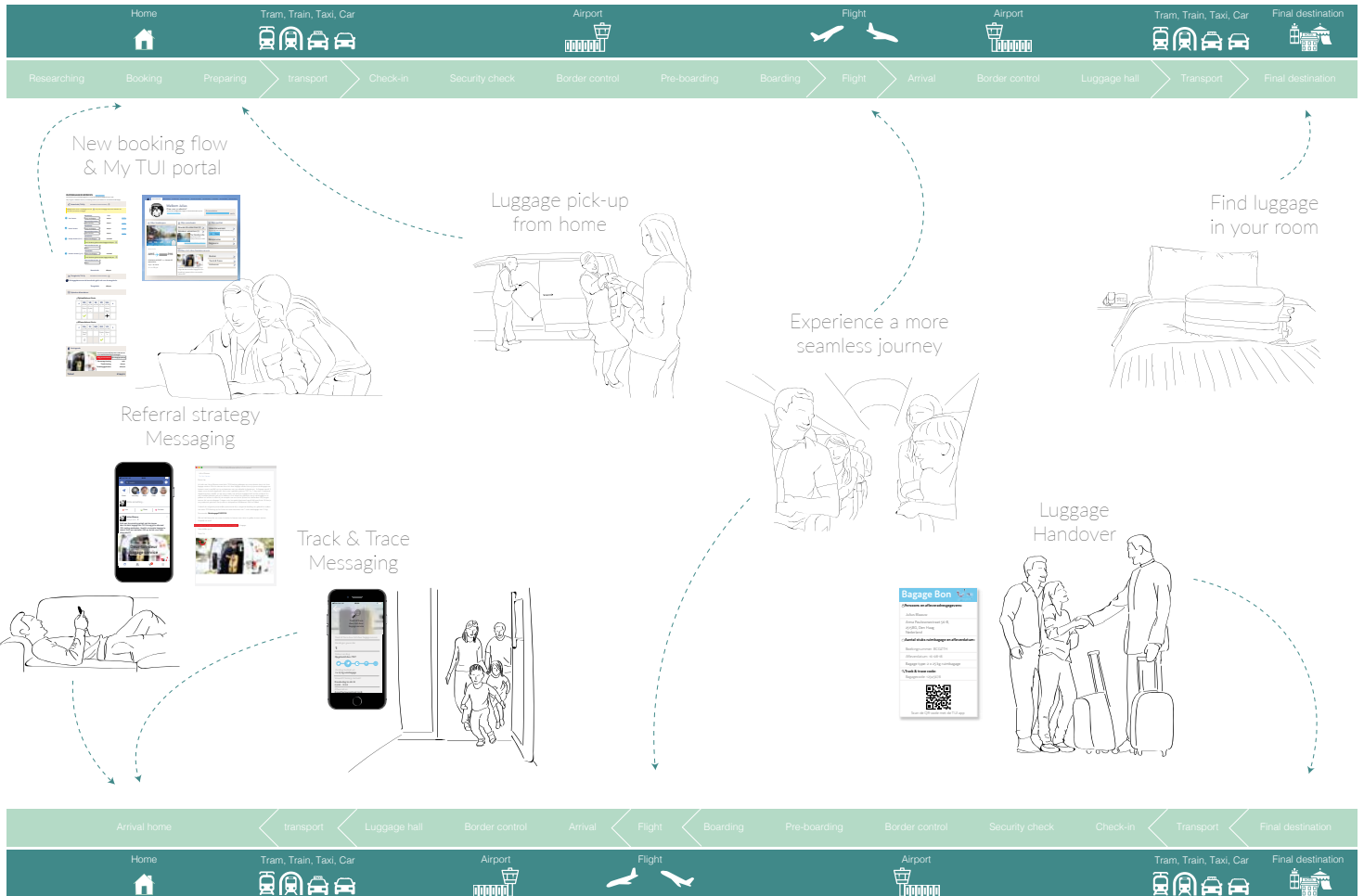


Figure 12.4: Designed touchpoints within the customer journey

FINAL CONCEPT

12.4 Back- home concept description: Mobile touchpoint through application

To be eligible for this approach the PAX needs to meet the following requirements.

- Downloaded the TUI app on his mobile smart device
- Opted in for push notifications
- Checked-in and dropped off luggage on the day of the outgoing journey

If the PAX has not downloaded the TUI app on their smart device, this PAX is not approachable through this channel. Furthermore, due to the fact that the offering of the back-home D2D luggage service is messaged through push-notifications, the PAX needs to have opted in for such messaging. Lastly, to prevent mixed messaging from occurring it is crucial that it is certain that the PAX will make their flight. In case of a disruption occurring within the journey of the PAX, thereby missing their flight, the PAX is not confronted with a service offer which cannot be utilized. Which in turn can lead to increased negative emotions.

The moment in which the PAX is messaged by push-notification should be an hour before departure. It was found that parents traveling with young children tend to depart early towards the gate before boarding. Thereby, having taken place at or near the gate to relax and entertain the children. This moment is also closely after several stressful C.I. luggage related touchpoint, resulting in the PAX being primed (i.e. motivated to not experience those stressful touchpoints again) on the negative aspect of C.I. luggage.

Figure 12.5 shows the mockup of the new added back-home luggage service feature push-notification strategy through the TUI app.

Screen 1:

PAX's attention is grabbed through the push-notification. By offering a surprise and keeping the message still vague it is expected to create more interest. Thus leading to the message being opened.

Screen 2:

When opened the push-notification opens the TUI app in which the offer of a free back-home D2D luggage service is presented. The PAX can make either decide to continue with the message or discard the offer and return to their travel itinerary.

Screen 3:

A brief description is given on what the back-home D2D luggage service entails. Furthermore, the logistics partner is mentioned as it is a well-known establishment. Thereby, creating more transparency and trust within the service. From here the PAX can make the decision to continue with the booking process of the return journey or discard the offer and return to their travel itinerary.

Screen 4:

Because all the necessary information is already available through the initial booking, all information can be filled in automatically. This way the PAX only needs to check whether the data is correct. Thus, simplifying the process increasing the chances of intentional behavior (Fogg, 2009). By using green check marks next to the necessary information, a form of positive feedback is given to the PAX, creating more trust.

Screen 5:

The amount C.I. luggage to be sent back home can be filled in automatically based on the initial booking. However, the choice is given to reduce this amount if the PAX wants to try it out with a single piece of luggage. Furthermore, the discount which is received is shown to clearly communicate that there is no financial risk (risk criteria in adoption process) related to this offer. At the bottom the PAX needs to choose on which date he or she want to receive their luggage back home.

Screen 6 & 7:

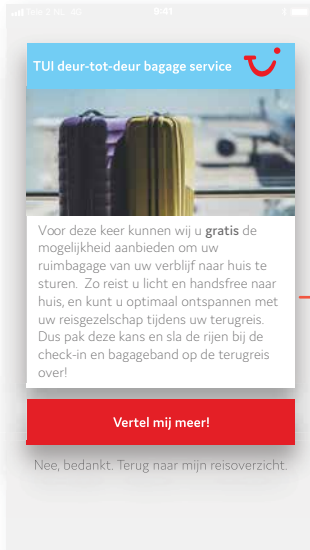
One final check is presented to the PAX to make sure that all the given information is correct, after which the booking can be confirmed. From the final screen the PAX is guided back to the travel itinerary page.



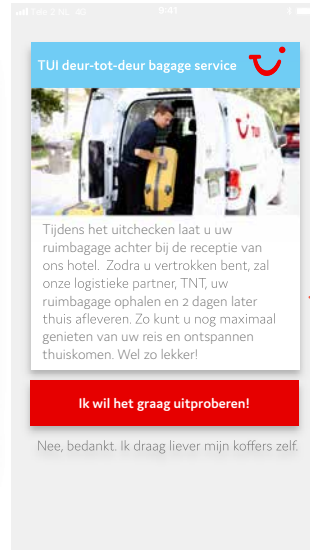
Piquing curiosity



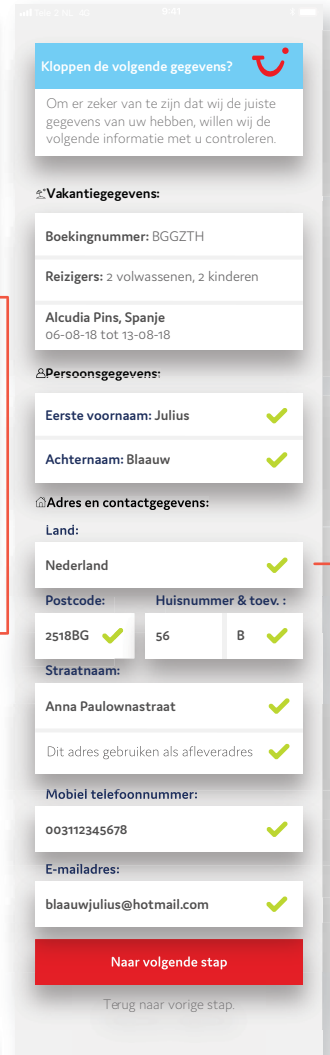
Screen 1



Presentation offer



Explanation service

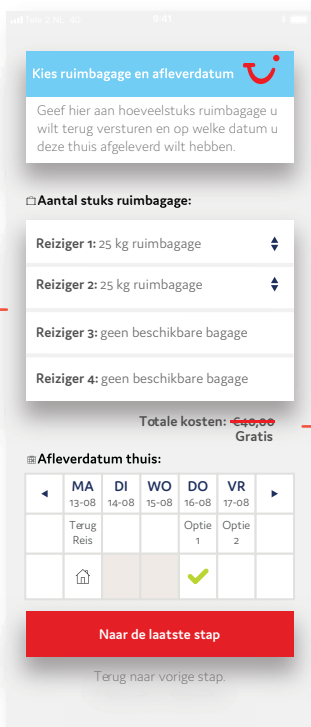


Screen 4

Autofill information
Positive feedback

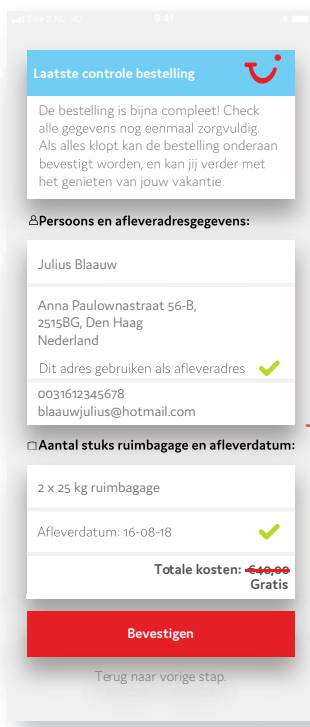
Autofill information

No financial risk

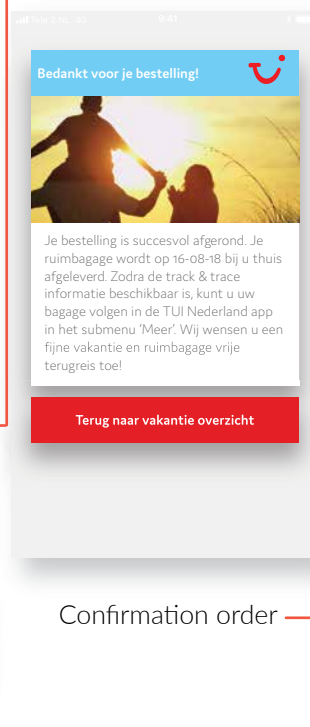


Screen 5

Final check



Screen 6



Screen 7

Confirmation order

Figure 12.5: Back-home D2D luggage service

FINAL CONCEPT

What if the PAX doesn't want to book the service at that moment?

In the situation that the PAX does not want to book the service at that moment specific moment during their journey, the PAX is able to book the service through the extra's submenu within the TUI application.

If the PAX hasn't discarded the initial invite by answering 'Nee, bedankt. Terug naar mijn reisoverzicht', the PAX is approached one final time. This has to be done 2 days before their departure. This time frame is necessary for T.O. to inform the logistics partner who can then adjust plan the shipment. This reminder is done through a push-notification as shown in figure 12.6. By including a sense of urge within the messaging, the PAX is pressured into making a decision.

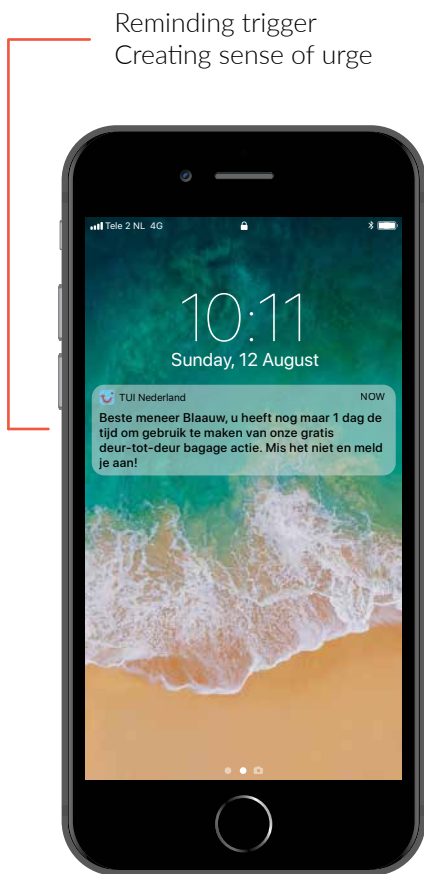


Figure 12.6: Reminder push notification

What if the PAX does have the app but has not opted in for push-notifications?

If the PAX has not opted in to receive push-notifications, they should be approached through email. The email will link them through to their personal TUI page through which they can claim their free back-home D2D luggage service offer. A mockup of such a mail can be seen in figure 12.7.

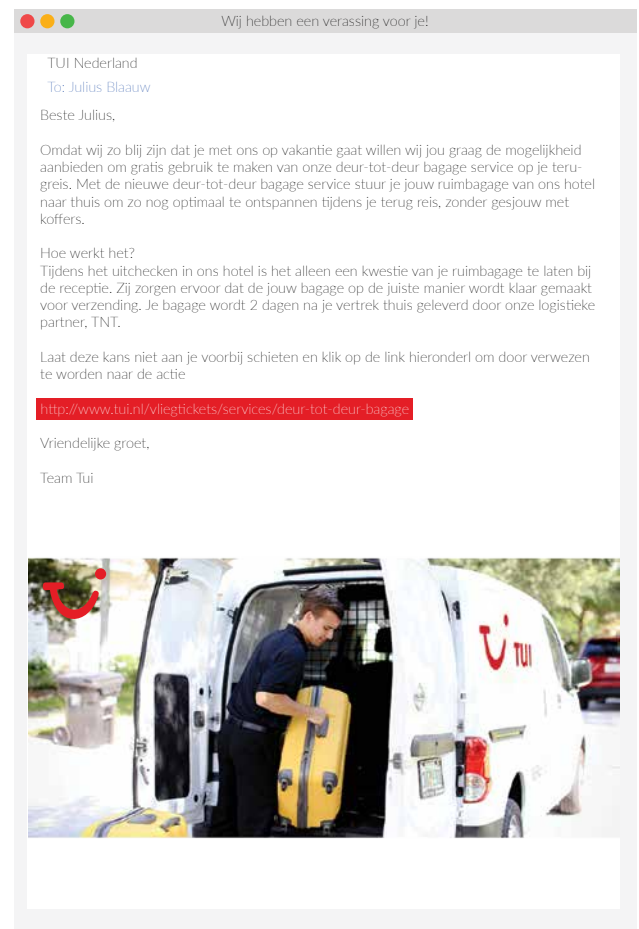
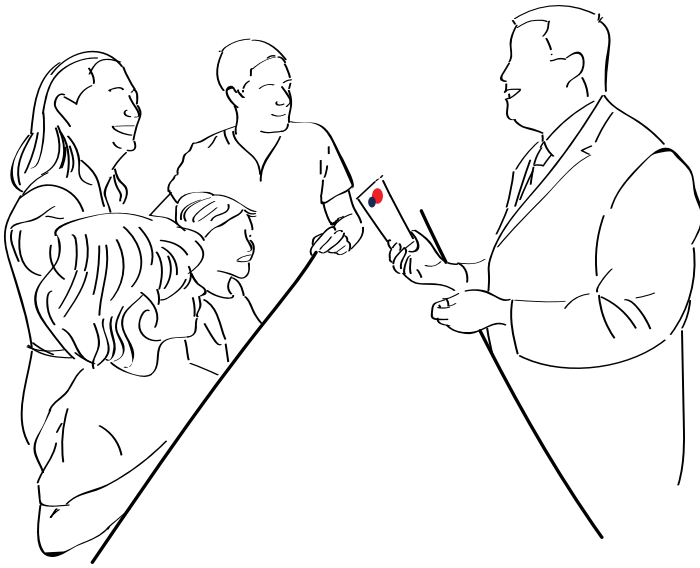


Figure 12.7: Mock-up email

Voucher as touchpoint to promote back-home D2D service



The D2D luggage service voucher was designed to trigger PAX into downloading the TUI app and opt in for push-notifications. Once the app has been installed on their smart device, the PAX can scan the QR code after which they will be guided to the offer of free back-home D2D luggage service. If the PAX is still reluctant to download the app, they can still make use of the offer by filling in their personal promo code in the D2D luggage service portal of their personal TUI account.

It is advised to offer this voucher the moment they check-in at their final destination as it is less likely that the PAX will lose the voucher during their journey. Furthermore, this is a more relaxed moment within their customer journey for the PAX to download the app and activate the promotional code. During the check-in process of the PAX, the hotel receptionist hands over the voucher with the room key and other necessary check-in documentation.

Piquing curiosity



TUI Deur-tot-deur baggage service

Omdat wij zo blij zijn dat je met ons op vakantie gaat willen wij jou graag uitnodigen om gratis gebruik te maken van onze deur-tot-deur baggage service tijdens je terugreis. Zo reis jij licht en handsfree naar huis, en kunt je optimaal ontspannen met je reisgezelschap tijdens de terugreis. Dus pak deze kans en sla de rijen bij de check-in en bagageband op de terugreis over!

Hoe werkt het?
Tijdens het uitchecken laat je jouw ruimbagage achter bij de receptie van ons hotel. Zodra je vertrokken bent zal onze logistieke partner, TNT, jouw ruimbagage ophalen en 2 dagen later thuis afleveren. Zo kan je nog maximaal genieten van jouw reis en ontspannen thuiskomen. Wel zo lekker!

Download de TUI Nederland applicatie, accepteer onze push-notificaties, en scan de QR-code om naar de actie verwezen te worden. Het is ook mogelijk om via jouw 'Mijn TUI' portaal gebruik te maken van deze actie op www.tui.nl. Klik op de deur-tot-deur bagageservice actie in jouw overzicht en vul de unieke promocode in.

Meer informatie is te vinden op de TUI-website of in de TUI Nederland applicatie in de 'Vakantie extra's' submenu.

Wij wensen jou veel plezier met deze nieuwe service en vooral een hele een fijne vakantie!



Promocode: Ruimbagage25JB1234

Explanation offer & service concept

Personal promo code

QR code to accept offer

Figure 12.8: Offline touchpoint: voucher

FINAL CONCEPT

Baggage receipt as proof of purchase

If the PAX has decided to make use of the back-home service, they simply have to drop off their luggage at the front desk during check-out. After having checked all the prior given information with the desk-concierge the order will be fully confirmed.

Once this step has been completed the PAX is given a baggage receipt which shows the delivery address, the delivery date, contents of the shipment, and the track and trace code. The receipt acts as a proof of purchase but also as a tool to improve trust. Lastly, to simplify the track and trace process, a QR code is included on the receipt that will directly lead to the personal track and trace page of the PAX once scanned with their phone. Additionally, the track and trace code is shown in case the PAX is hesitant to scan the QR code.

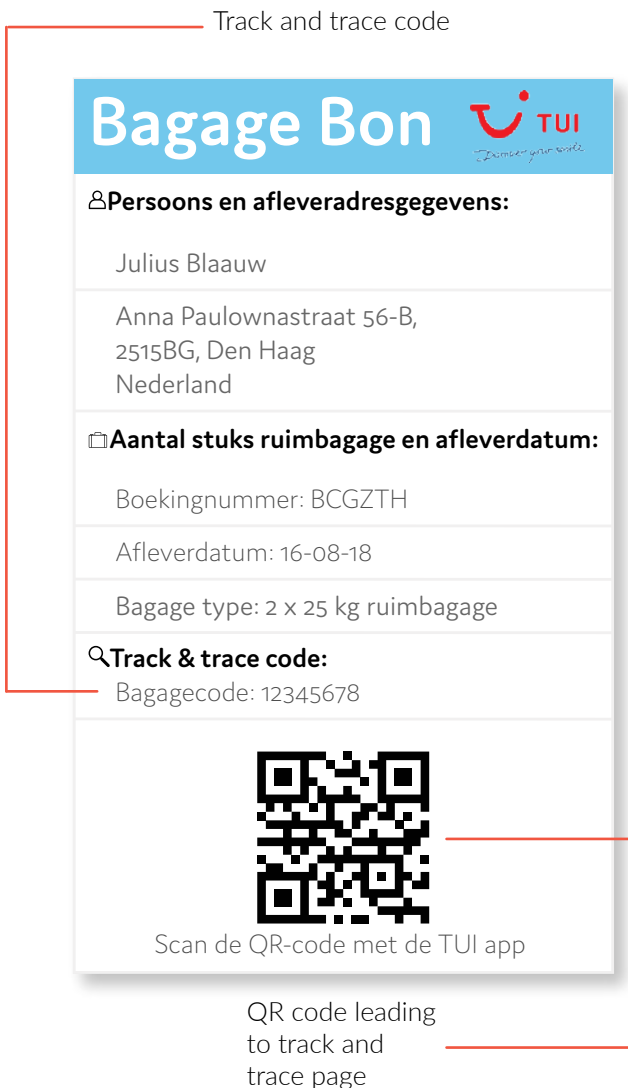


Figure 12.9: Luggage receipt

Maintain the relation when the PAX has arrived home

It is important to maintain clear and open communication with the PAX when they have arrived home. Because they are not in control over their own luggage, and due to the new experience of the D2D luggage service concept, PAX tend to experience anxiety related to functional risk of the service (de Laaf, 2017).

Therefore, it is advised that push-notifications, or emails if the PAX has not opted in, are send concerning the status updates of their luggage.

Furthermore, to maintain the omnichannel experience, it is advised that the track and trace functionality is integrated within the TUI application and My TUI online portal.

Figure 12.10. illustrates the track and trace functionality of the TUI mobile application. The total track and trace application flow can be found in appendix L.

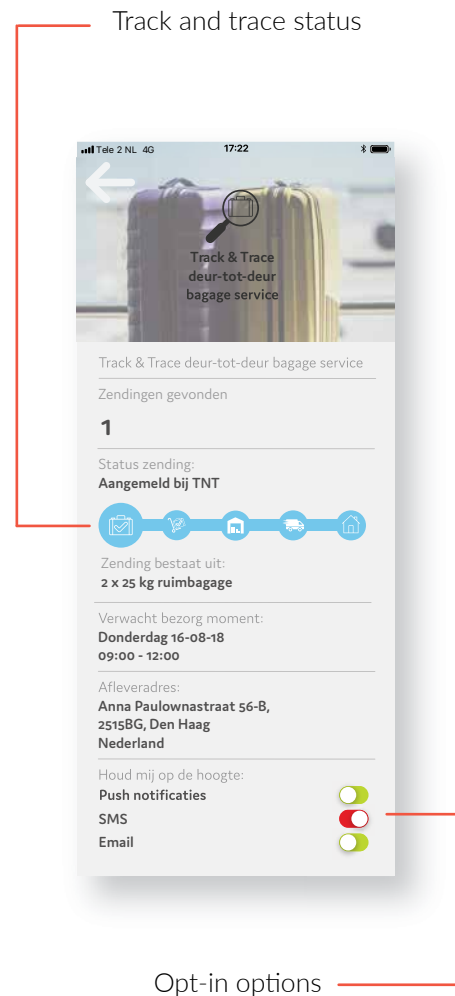


Figure 12.10: Mock-up track and trace

12.5 The referral strategy concept:

What makes a good referral strategy?

The goal of the referral strategy is to create as much as possible awareness of the D2D luggage concept, thereby leading to more potential new customers. A good referral strategy consists out of multiple facets:

Similar to the booking of ancillaries, a certain intentional behavior is required when referring a service. Thus, a sufficient combination between motivation, ability, and trigger needs to be present for an intentional behavior to occur (Fogg, 2009).

Make it easy



Make it easy to refer and claim reward: To increase the referral rate the PAX's ability to refer needs to be made as easy as possible. Also, the process of accepting the referral should not be cumbersome. Thus, it is advised to have a dedicated webpage or other digital touchpoint related to the referral program and trigger the PAX to refer by supplying signal triggers (Fogg, 2009).

Give incentive



Give incentive to drive motivation: The PAX needs to have a sufficient amount of Motivation for a referral to occur. Thus, a form of incentive needs to be provided to create motivation. It is found that offering product based discounts and upgrades gets customers more invested into the brand. Thereby, driving loyalty. Thus, it is advised to give product related rewards (e.g. discount on next D2D luggage service ancillary booking).

Large audience



Reach larger audiences: To create as much awareness as possible, a large audience needs to be reached. This can be achieved by enabling referrals to be send through social media platforms. Facebook compatibility is a must as it is the largest social network platform with 2 billions active users on a monthly basis, consisting out of a wide variety of demographics (Smile, 2017). Furthermore, direct messaging apps are a great way to grow the referral, rate especially when targeting a customer segment below 40 years old (Smile, 2017). With mobile playing a more predominant role in the e-commerce and travel industry in general, it is key that the referral strategy is compatible with mobile devices.

Reward both parties



Reward both parties: Companies such as Airbnb and Uber have grown rapidly by rewarding both parties within the referral process (Startupnation, 2017). This gives both parties incentive to make use of the service. Furthermore, by not limiting the amount of referrals rewards a PAX can earn, the more referrals will be made. Ultimately leading to more growth.

FINAL CONCEPT

12.5 Referral strategy description: the referral strategy mobile touchpoints

To ensure rapid growth the PAX should be triggered to send referrals. Therefore, it is advised to approach the PAX shortly after they have returned home from their holiday when the experience of the service is still fresh. Furthermore, the referral trigger should be send at a time when the PAX is not at work due to the likeliness of more pressing issues being present in that context.

PAX who have opted in can be approached through push-notifications. Other PAX should be approached via email.

In this scenario the push-notification is send a week after the holiday of the PAX. In study performed by Andrew Chen (2017) in which 671 million push-notifications were analyzed, it was found that the best time to send a push-notification is between 17:00 and 21:00. During this time frame people are done with work and transition to leisure activities. Therefore, the decision has been made to send the push notification at 18:00. However, further research should indicate if this is the optimum time.

Figure 12.11. shows the referral strategy aspect of the service concept.

Screen 1:

PAX's attention is grabbed through the push-notification. By offering a surprise and keeping the message still vague it is expected to create more interest. Thus leading to the message being opened.

Screen 2:

PAX is made aware of the referral strategy clearly stating the added benefit. A 10% discount for every successful referral will be given on their next D2D luggage services purchase. As it is a product based discount, it is expected to drive brand loyalty. Additionally, the PAX can refer as much as they like to increase their reward. Combining this with the fact that both parties benefit, it is expected drive the referral strategy more ultimately leading to more awareness.

Screen 3:

A pre scripted text is automatically created to reduce the effort the PAX needs to put it to refer the service. Furthermore, the referral process is further simplified by having embedded links to the channel through which the PAX wants to send their referral.

Screen 4 & 5:

Once the PAX has chosen the channel through which he or she wants to refer the service, they have the ability to write a personal message. Thereby, responding to the trend of validation through user created content.

By clicking on the referral link potential PAX will be guided to D2D luggage service portal of TUI's website, where they can find more information on the service and receive their individual promo code.

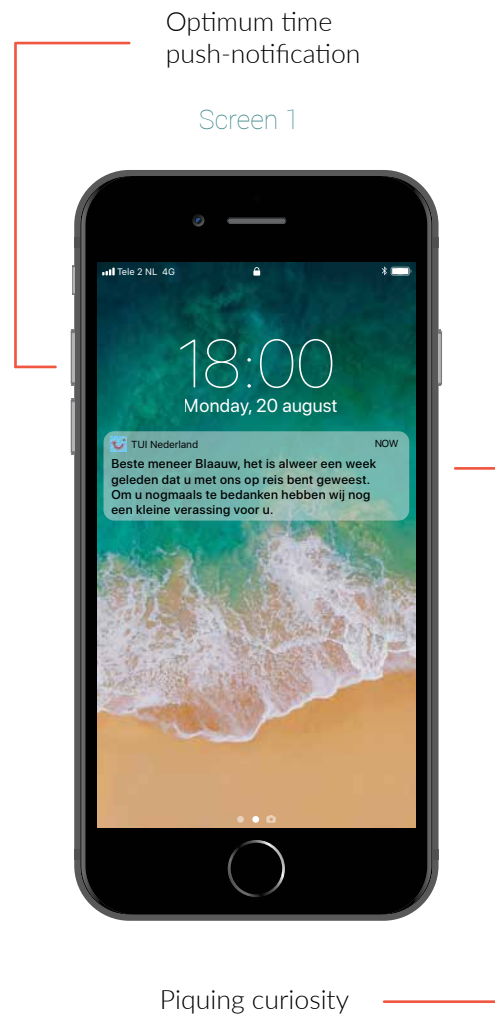
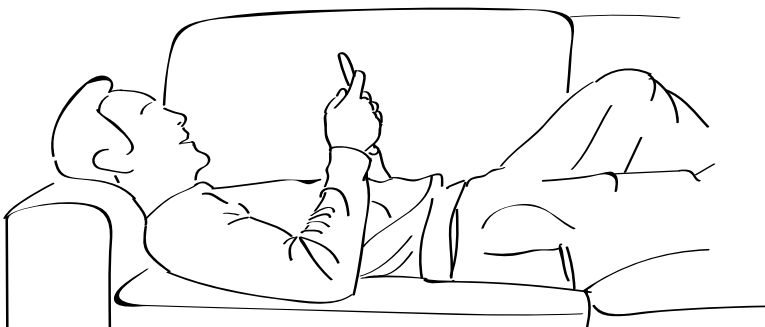


Figure 12.11: Referral strategy visual

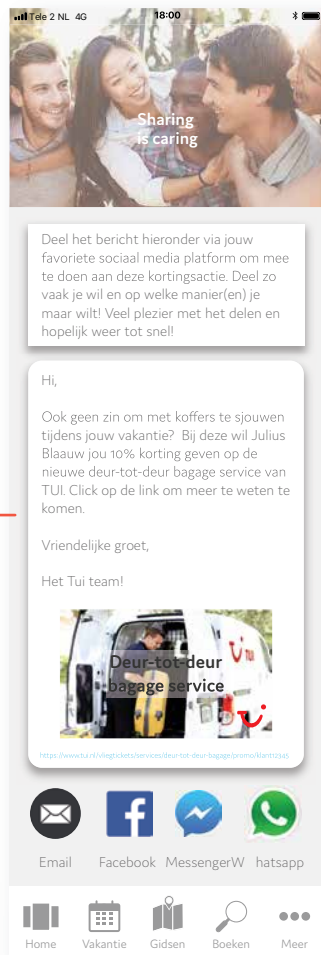


Screen 2



Presentation offer, reward both parties

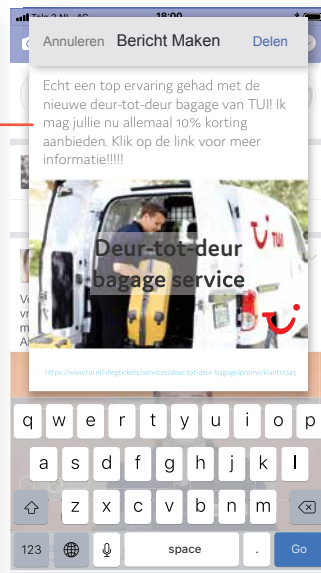
Screen 3



Pre scripted text

Direct links to preferred channel

Screen 4



Ability to personalize message

Screen 5



Direct postable on social-media wall

12.6 The adjusted booking flow

For a service to be booked by a PAX, it is necessary that they have the ability to do so. As found in the Luggage service market analysis and the Hospitality and Tourism analysis, D2D luggage services are not presented at all at the moment a PAX is booking their trip. To increase initial service conversion, it is advised to include the D2D luggage service option within the traditional booking flow of the T.O.

As can be seen within the figure 12.12 the traditional booking flow of TUI has been adjusted so that within the luggage ancillary option, the D2D luggage service can be selected. For, PAX who are not sure what the service entails, a quick pop-up appears by pressing on the question mark.

If the decision has been made to make use of the D2D luggage service, the pick-up and drop-off date calendar appears within the booking flow. Within this step, the PAX can select possible pick-up and drop-off dates. Dates that are not possible due to the necessary lead time have been greyed out to help guide the PAX to the possible dates.

Because the address of the PAX is part of the standard booking flow, this step is not necessary to design. It should however be made clear that during the process of filling in the address information, this address will also be used as pick-up and drop-off location for the luggage.

Once, this step has been completed and the PAX does not have a TUI account, the following step enables them to fill in their personal referral code if they have received one. If not, this step can be skipped and the traditional booking can continue. If the PAX does have a TUI account, the referral discount they received through a friend or family member can automatically be linked to their account.

Thereby, during the luggage ancillary booking process, the PAX is reminded on how much discount they have saved. This, reminder acts as a signal trigger which helps to improve intentional behavior (Fogg, 2009) (i.e. the booking of the D2D luggage ancillary).

This eliminates the need to fill in the promotion code and thus decreasing the time needed to fill in the booking flow. This approach can also be used for PAX with a TUI account who have made successful referrals.

Furthermore, on the homepage of their TUI account the D2D luggage service referral program is presented in a clear way. Within this submenu of their account, PAX can either fill in their personal referral code to claim discount on their next D2D luggage service purchase, send referrals, and see how many successful referrals they have acquired. Additionally, this is also the online portal to tracking their luggage if they are making use of the D2D luggage service.

RUIMBAGAGE BIJBOEKEN [Meer informatie](#)

Vul hierboven jouw persoonlijke gegevens in en kies de hoeveelheid bagage die bij jou past

Wil je nog even nadenken? Dan kun je na boeking terecht op de website van de luchtvaartmaatschappij.

Heenvlucht, TUI fly Zitcomfort en service: Economy

Let op: Op deze vlucht is handbagage inclusief. Wil je ook ruimbagage meenemen? Selecteer dan hieronder jouw (extra) ruimbagage

	Aantal kilo's	Prijs	
1 Jan Jansen	25 kg ruimbagage	€20,00	Herstel
	Deur-tot-deur service		
	Deur-tot-deur	€20,00	Herstel
2 Janet Jansen	25 kg ruimbagage	€20,00	Herstel
	Deur-tot-deur service		
	Deur-tot-deur	€20,00	Herstel
3 Jantje Jansen (6 Jr.)	Alleen handbagage	Inclusief	
	Voor kinderen gelden andere bagagerichtlijnen		
	Deur-tot-deur service		
	Geen		
4 Jantien Jansen (3 Jr.)	Alleen handbagage	Inclusief	
	Voor kinderen gelden andere bagagerichtlijnen		
	Deur-tot-deur service		
	Geen		

Heenvlucht €80,00

Terugvlucht, TUI fly Zitcomfort en service: Economy

De bagagekeuze voor de heenvlucht geldt ook voor de terugvlucht

Terugvlucht €80,00

Ophaal en afleverdatum

Ophaaldatum thuis:

◀	DO 02-08	VR 03-08	ZA 04-08	ZO 05-08	MA 06-08	▶
	Optie 1	Optie 2			Heen Reis	
	✓				✈	

Afleverdatum thuis:

◀	MA 13-08	DI 14-08	WO 15-08	DO 16-08	VR 17-08	▶
	Terug Reis			Optie 1	Optie 2	
	🏠			✓		

Kortingscode

Voer hier je persoonlijke promo code toe om jouw referentiekorting te ontvangen.

Voeg promo code toe

Percentage korting	10%
Totale korting	€16,00
Oude bagagekosten	€160,00

Totaal

€144,00

Personal promo code window

Figure 12.12: New designed booking flow



ZONVAKANTIES

VERRE REIZEN

STEDENTRIP

AUTOVAKANTIE

VAKANTIEHUIZEN

WINTERSPORT

RONDREIS

SPORTREIZEN

VLIEGTICKETS



Welkom Julius

Klaar voor je vakantie?

Je vindt de meestgestelde vragen en contactinformatie op onze [Service & Contact-pagina](#)

Accountstatus

100%

Mijn boekingen

Alcudia Pins, Spanje

00 02 48 02

Dagen Uren Minuten Seconden

Heenvlucht

AMS PMI

SCHIPHOL AIRPORT naar PALMA DE MALLORCA

12:30 - 06-08-18

Vlucht: OR 301

Mijn reisideeën

Bewaarde vakanties (0) >

Bekeken vakanties (1) >



Tui Family Life

Appartementen
Spanje>Balearen>Mall..

[Al mijn laatst bekeken vakanties](#)

Mijn profiel

Vakantie wensen >

Ik ga terug naar dezelfde bestemming.

Reisgenoten >

Gegevens >

Deur-tot-deur bagage service



Je hebt momenteel 50% korting op je volgende deur-tot-deur bagage service bestelling* gespaard door succesvolle referenties.

Boeken >

Track & Trace >

Refereren >

Figure 12.13: New Mijn TUI portal

Dedicated D2D luggage service submenu, My TUI portal

FINAL CONCEPT

12.7 Validation test

The back-home and referral strategy concept have been subjected to a validation test to see how the initial proposed service is received among the target customer segment. In total 3 couples, all of who have 2 younger children (1 – 6), participated in the validation session. Participants were asked to navigate through the mock-up mobile phone application.

After the initial application test, PAX were interviewed based on both the back-home and referral strategy concept. The goal of this research was to identify the overall perception of the proposed concepts, how the concept scored on the prior discovered risk and acceptance criteria, which values they identified with the service, and how the service concept could be improved. An overview of the research form used can be found in Appendix M.

Design of the application and relevance within the customer journey:

In general, the participants were pleased with the aesthetics of the designed application and other online touchpoints. It portrayed a professional and genuine look. Nonetheless, one participant stated that the application is text heavy and that through the use of simple visuals the idea of back-home service could be communicated in a more efficient manner. Thereby, immediately grabbing the attention of the users and further piquing their curiosity,

'I am not patient enough to read so much text. I need to see what it is about immediately. Also, I would like to see some additional information on what the service entails and if I have to do some additional things to be able to make use of the service'. - MP, 2018

Initially the free back-home service push notification was designed to be send shortly after the PAX experienced high levels of stress related to C.I. luggage related processes (e.g. after the PAX has cleared the check-in process and security check). However, most participants stated that this was not the ideal moment to be approached with the free back-home service.

'I would prefer to receive the push-notification a week before departure. This way I can do a bit of research and read reviews of people who have already made us of the service. I always read reviews when I am planning my holiday.' (MS, 2018)

'I don't even have time to look at my phone when I am through security. I am always taking care of the kids and ensuring that I haven't left anything behind.' (SB, 2018)

This finding would be contradicting with the assumption that it is necessary to approach the PAX shortly before or after stressful experiences related to check-in luggage during their customer journey. Thus, having a high level of motivation to make use of the service concept.

1st Holiday: priming & experience

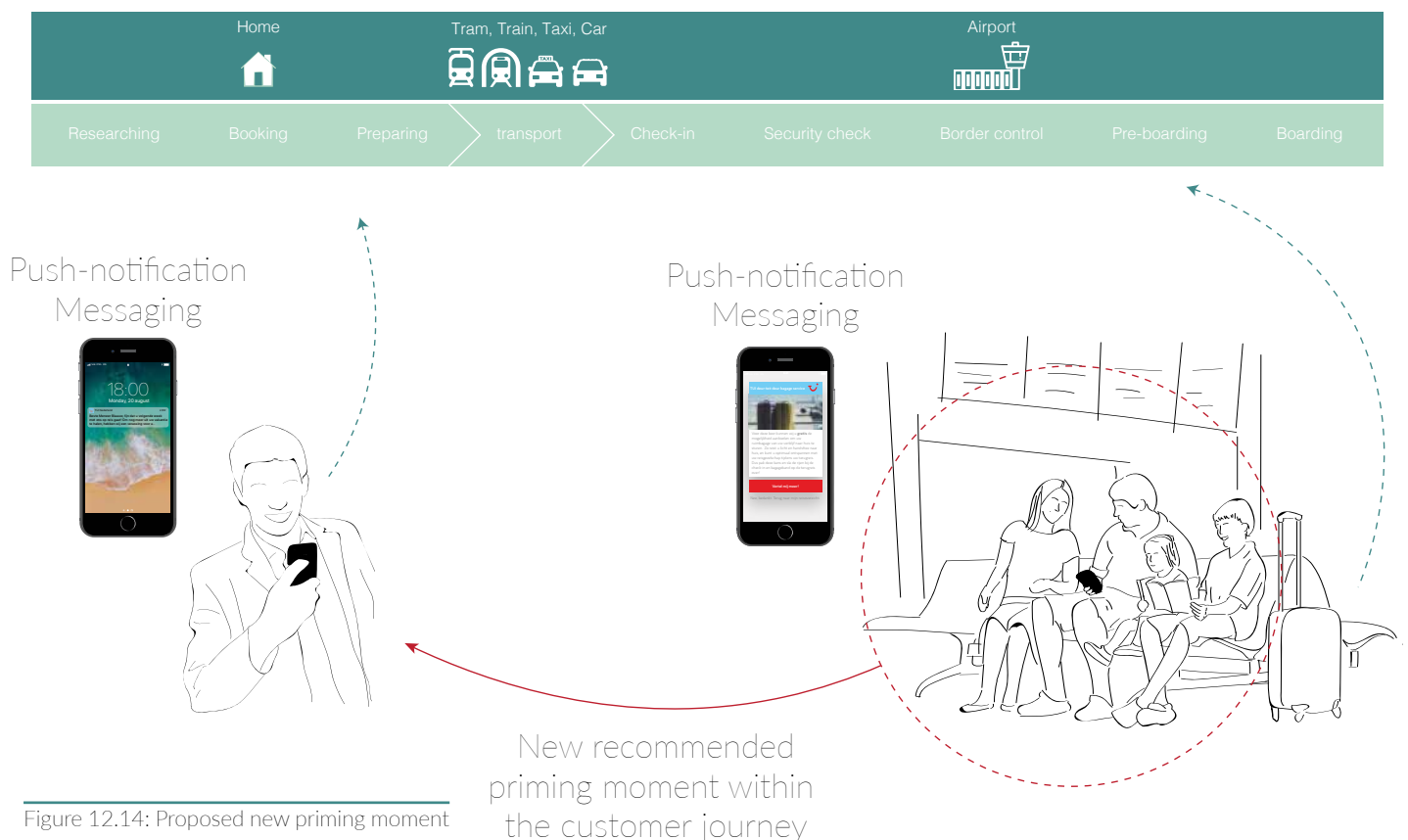


Figure 12.14: Proposed new priming moment

Even so, the validation test showed that the participants experience some levels of stress well before their journey commences. Thereby, implying that they have sufficient levels of motivation to make use of the service 1 week to a few days before departure.

***'M... is already busy with stressing out about our luggage a week before we depart, so this would also be a nice moment to know that there is another option than to bring it ourselves.'* (AS, 2018)**

It was found that the moment at which the participants wanted to be approached varied from: 1 week before departure, to during their holiday at their final destination. Thus, it is advised to perform further research to determine which moment within the customer journey leads to a higher back-home luggage service conversion rate. Nonetheless, multiple participants stated that because they have booked their holidays way in advance the likeliness of them purchasing the D2D luggage service when offered at a later time would be greater than when offered within the booking flow. This can be explained by the fact that the initial holiday purchase is so long ago, that the influence of the ancillary costs on the total holiday costs are not taken into account.

***'We book our holiday way in advance. The smart thing car rental companies do, is that they send you an email a few days before departure with an offer for an upgrade. Because I have already paid for my holiday a few months ago, I don't necessarily see this as an additional purchase to the total holiday but as a separate one. This makes the purchase seem less expensive'* (SH, 2018)**

Moreover, the validation test showed a mixed reaction to the referral strategy as currently described. Initially it was found that certain PAX wished the timing they were confronted with the concept should be closer to the moment of booking their next holiday.

***'I am not sure if I would send referrals if I knew that I will not be booking another holiday for at least a few months. Maybe, it is better to receive a notification shortly before I book my next holiday? But how would you know when that is?'* (MS, 2018)**

On the contrary, other participants stated that they would still send referrals way in advance of their next holiday, as long as the rewards are seemed worthwhile. Therefore, it is advised to further research at what distance of the next booking it is best to trigger PAX to send referrals in order to have the highest referral conversion rate.

The reward of 10% discount on an ancillary purchases was seen as reasonable. Although, the requirement of a successful referral (i.e. the referral leading to another purchase of the D2D luggage service ancillary) was seen as not motivating. One participant stated that she would be

more willing to refer people if she received a € 5,- discount if she send the referral to 20 people. However, another participant stated that he finds personally inviting people through messaging applications as spamming his friends. Despite, seeing personal referrals as spam, this participant was willing to post a referral message on his personal social media (i.e. Facebook wall). Thereby, allowing his friends and families to make their own decision whether or not to pursue the referral discount.

Seeing, as all participants reacted differently to the referral strategy concept it is recommended that more research is conducted on how the referral strategy can be made to reduce the threshold for PAX to perform.

Lastly, it was found that the participants were interested in making use of the service and that if the initial experience met or surpassed expectations they would most definitely consider of making use of this on a regular basis.

***'If the service delivers what it promises, I would be really interested in using it on a regular basis during my holidays with the family.'* (SP, 2018)**

FINAL CONCEPT

Associated values with the back-home service and referral strategy concept

The figure 12.15. shows the values the participants assume to experience by making use of the back-home luggage service and referral strategy. As can be seen in figure 12.15 a variety of functional and emotional values were selected. Multiple participants stated that values directly influence each other resulting in a cause and effect loop.

The general consensus is that the back-home luggage service saves time, reduces effort, avoids hassles and simplifies the journey. Ultimately, resulting in a more organized trip. By doing so the participants stated that eliminating the C.I. luggage from their journey reduces anxiety, as this is one less thing to worry about. This in turn leads to an improved wellness due to a reduction in stress experienced. Lastly, the improved wellbeing the participants expected to experience made the back-home service more attractive to purchase.

The other cause and effect relationship the participants identified was that due to simplified journey, the participants expect to experience more freedom during their time at the airport thus providing them access to shop, and walk around the airport more. Thereby, entertaining both their children as themselves. Lastly, certain participants indicated that making use of such a service is experiencing a form of luxury and thus improving the overall quality of their journey.

When looking at the referral strategy, participants stated that the concept integrates within their life's as it offered through channels and touchpoints that they make use of before, during, and after their journey. Furthermore, it was found that the concept connects people and rewards them for their efforts.

The last identified value is directly related to the design of the application. The validation test showed that participants found the overall application and online touchpoints aesthetically pleasing and that it added a sense of quality regarding the back-home service and the referral strategy.

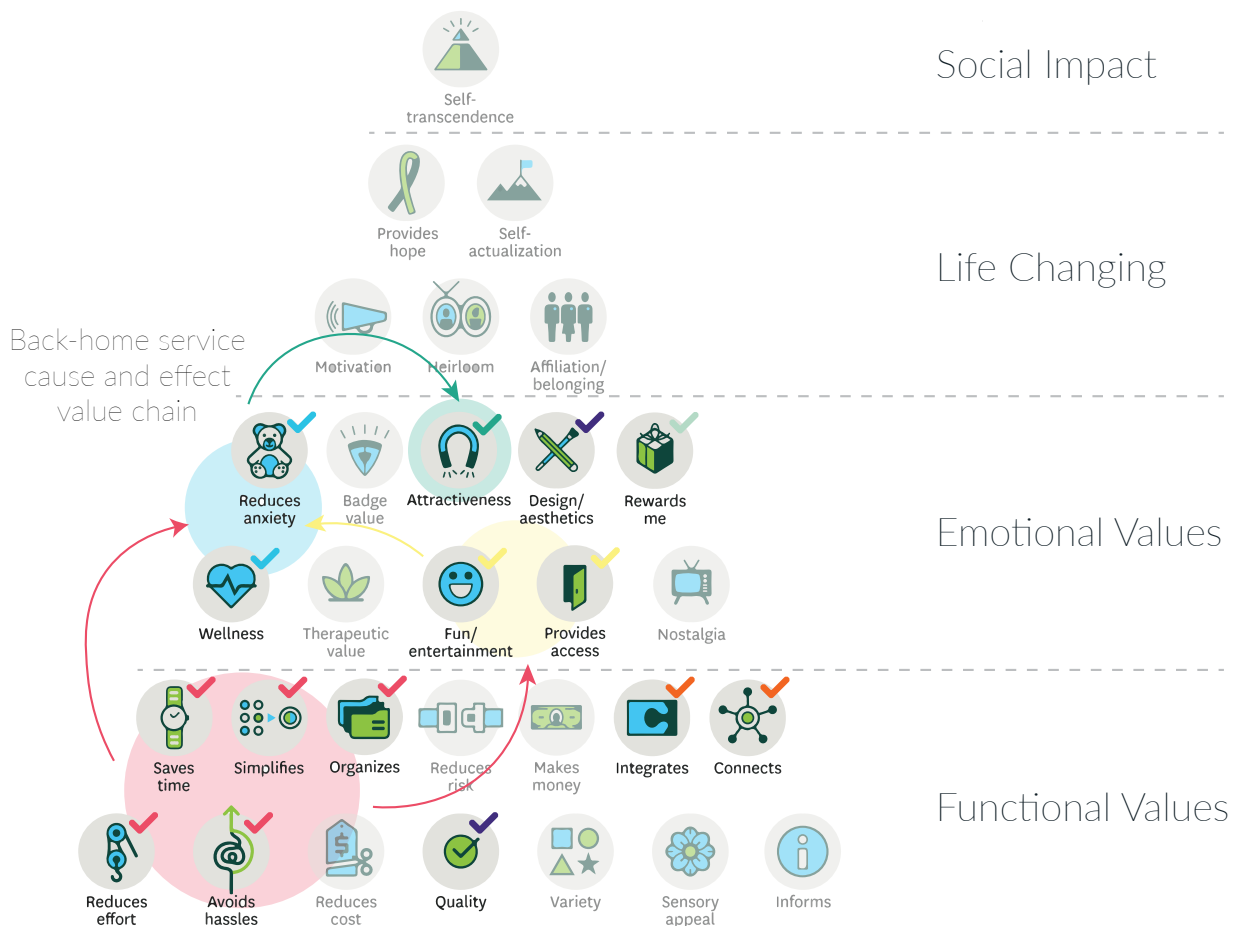


Figure 12.15: Associated values with the back-home service

Acceptance and risk criteria associated with the back-home and referral strategy

During the validation test the majority of the participants stated that the level of compatibility, in comparison to their normal preparation and travel behavior, is lower on the return journey than on the outbound journey. All participants agreed that sending the luggage prior to departure is less of an issue than receiving it a couple days later. The main reason for this being that their normal lives and routines have started thus not being home to accept the luggage. One participant advised that the luggage should be delivered during the evening as this would enable him to accept the shipment.

Overall all participants ranked the relative advantage and the trialability of the back-home service as high to very to very high. A mixed result was found in the functional risk criteria. Certain participants stated that receiving your dirty laundry a few days later is less troublesome than not having your clean clothes upon arrival. However, the general consensus was that the risk of using such a service and experiencing a kind of disruption seemed to be higher in comparison to the traditional C.I. luggage journey. Not surprisingly, the financial risk of making use of the service was seen as high in comparison to regular luggage ancillaries. However, certain participants stated that it is all relative to the total price of the holiday. A few participants mentioned that it would be best to include the costs of the luggage within the total package price as offered by the T.O operator.

Nonetheless, even though the back-home concept (and the general idea of making use of a D2D luggage service for both the outgoing as well as the return journey) scored worse on the compatibility, functional and financial risk criteria, participants were still willing to trial the service. Thus, these initial findings indicate that the relative advantage and the high level of trialability outweigh the risk criteria and lack of compatibility.

Conclusions and recommendations

Even though only 6 participants were part of the validation test, interesting results were found. Based on these initial findings, recommendations concerning the adjustment of the back-home service and referral strategy as well as further research topics have been made:

Adjustments concepts:

- It is recommended to adjust the presentation of the application and online related touchpoints to include more visuals, thereby making the concept quicker to comprehend.
- It is highly recommended to move the back-home service trigger to either before the departure of the PAX (e.g. 1 week to a few days) or during their holiday. Further, research should point out which time within the customer journey leads to a higher conversion rate.

Further research should be conducted on:

- What is the ideal moment to trigger PAX to send referrals?
- What combination of necessary actions and rewards will lead to a higher percentage of successful referrals?
- Does the high level of relative advantage, in comparison to the traditional C.I. luggage journey, outweigh the risk criteria and low level of compatibility associated with the back-home service?
- Do the identified values within the value hierarchy pyramid lead to a higher conversion rate and repurchase intention?

Rating acceptance and risk criteria back-home service					
	Very low	Low	Not high, nor low	High	Very high
Level of compatibility current behavior		✗			
Relative advantage to std. lug. anc.					✓
Level of trialability back-home ser.					✓
Functional risk compared to. std. lug. anc.				✗	
Financial risk compared to std. lug. anc.			✓ ✗		

Table 12.1: Rating acceptance and risk criteria

FINAL CONCEPT

12.8 Evaluation design

During the entire project, specific design requirements have been identified that the service should fulfil. This chapter aims to review the back-home service concept and the referral strategy to see whether all requirements have been met.

Figure 12.16. illustrates all the requirements that have been identified within the different chapters of the report. As can be seen by the green check marks, the majority of the requirements have been met. Below, each set of requirements will be discussed briefly.

Literature study requirements:

The back-home service is offered through multiple online and offline touchpoints which fits well with a variety of use case scenarios. Furthermore, the validation test showed that the participants expected to experience a variety of functional and emotional touchpoints.

Lastly, it was stated within the literature study that further research should be done on how the operant resources of the PAX can be used to co create value. This is ultimately achieved through the referral strategy as it utilizes the private facing service system of the PAX to create value for both the hospitality firm (i.e. more awareness creation concerning the existence of the D2D luggage ancillary) and the PAX (i.e. discount on future purchase, social recognition by friends and family for introducing them to the service and supplying them with a discount).

Luggage service analysis requirements:

Due to the set focus on using the initial return journey as a priming tool to increase the chances of service adoption and drive recurring sales on the next booking, the outbound service aspect of the D2D luggage service has not been designed. Therefore, the requirement to change packing behavior has not been met.

Furthermore, the operational aspect of the D2D luggage ancillary was not designed as this did not fall within the scope. Thus, which stakeholders hold responsibility in which part of the service process still remains to be determined. Additionally, it was found that the disruptions rate within the parcel delivery sector is significantly lower in comparison to that of the aviation industry. However, the design failed to communicate this in a clear manner. Therefore, it is recommended that this is adjusted in the redesign of the application, online, and offline touchpoints.

Lastly, as the focus has shifted on the next holiday booking, it is found that both the back-home service and referral strategy create sufficient service awareness is created before the next booking. Moreover, larger T.O.'s are selected as service providers, leading this requirement to become redundant as these types of establishments possess their own booking flow and fulfil their own flights.

Trends & developments requirements:

Larger T.O.'s are popular holiday suppliers within Western-Europe. Seeing as the back-home service and the referral strategy are an extension of their online resources (i.e. website and mobile application, which are also available within other European countries) it is assumed that both concepts are scalable throughout Europe.

This assumption is further based on the fact that the integrator who will fulfil the luggage shipment, can execute all European shipments by making use of their own resources as long as the final destination is not located too remotely. The integration of both concepts within the online resources of the T.O.s and the additionally designed offline touchpoints linking back to those online resources, result in the concepts delivering an omnichannel experience.

PAX Analysis requirements:

As stated before, PAX are made aware of the D2D luggage service concept before they enter the traditional booking flow by shifting the focus from the initial holiday to the potential second holiday. Because the service will be provided by large T.O.'s, the service will be marketed through a well-established brand.

Parcel delivery market requirements:

The parcel delivery analysis showed that it is possible to make use of a single integrator to fulfil all European shipments. Furthermore, the author has advised to implement the service in countries that are part of the European Union.

Lastly, seeing as the most popular holiday destinations offered by larger T.O.'s are situated within the Mediterranean, it is assumed that all requirements will be met. Nonetheless, this is dependent on the strategic choices of the hospitality establishment that will ultimately implement both service concepts.

Ancillary strategy analysis:

The proposed design of the back-home service, approaches the PAX shortly after they have experienced a C.I. related touchpoint. However, the validation test showed that this was not seen as the optimum moment to be approached. Therefore, it is advised to approach the PAX shortly before their holiday (e.g. 1 week to a few days before departure) during their holiday.

Furthermore, the validation test showed that the back-home concept scores high on the acceptance criteria trialability. To conclude, the mobile touchpoints help reduce the threshold of booking the service by using all available data from the initial booking to automatically fill in all necessary information fields within the back-home service booking process.

Requirements checklist

Literature study

- The new D2D luggage service should fit seamlessly within service system of customer. ✓
- The final design should include multiple value dimension attributes and preferably attributes corresponding with the emotional, life changing, and social values. ✓

Luggage service analysis

- Service awareness should be created at the right moment within the booking flow to increase bookings. ✓
- Design should bypass the airport luggage system to offer true D2D luggage service. ✓
- The service should help change the packing behavior of customers to enable the logistics company enough time for shipping their luggage. ✗
- Service should focus on offering its services to countries that are part of the European Union. ✓
- Clear agreements should be included in the service who is responsible for the luggage during which step of the journey. ✗
- Design should communicate the reliability of the service in such a manner that the customer perceives low levels of functional risk. ✗
- Service awareness should be created at the right moment, within the right context, and before the customer has entered the traditional booking flow of booking ancillaries through the airline. ✓

Trends & developments

- Including a mobile touchpoint within the service offering is a must to stay relevant in the near future. ✓
- The design must deliver same experience through every channel (e.g. online: mobile, desktop, and offline) thereby creating an omnichannel experience. ✓
- The solution must be scalable throughout Europe to prevent drastic decrease in revenue in case of a negative political event occurs in one of the final destinations. ✓

PAX analysis

- Customer segments need to be made aware of luggage services before they enter their traditional booking flow. ✓
- Service should be marketed through or in connection with established brand to increase trust and reduce anxiety. ✓

Parcel delivery market analysis

- A single integrator should be used to fulfil the shipment of luggage to reduce the risk of disruption occurring. ✓
- The D2D luggage service should not be offered by hospitality establishments that are situated within EFTA countries. ✓
- The D2D luggage service should be offered to hospitality establishment that are situated within Western-Europe or the Mediterranean. ✓

Ancillary strategy analysis

- PAX should be approached during or shortly after the touchpoint related to C.I. luggage. ✓
- Design should include a form of trialability to let the PAX experience 'value in use' and ultimately drive adoption. ✓
- Design should focus on improving the ability of the PAX to perform the desired behavior and facilitator role of the trigger. ✓
- Mobile should be part of the design to be able to approach the PAX at the correct moment through the right channel. ✓

Figure 12.16: Requirements checklist

Conclusions and recommendations:

Throughout the project a list of requirements was gathered which the final concept should fulfill. Through the shift in focus, it was not possible to fulfil all identified requirements. However, both the back-home service as the referral strategy failed to meet 1 requirement. This being the communication of the reliability of the D2D luggage concept, ultimately leading to a lower perceived level of functional risk. Therefore, it is advised to redesign the messaging within the back-home service and referral strategy to communicate the reliability in a more prominent manner.

Furthermore, as the operational aspect of the entire D2D luggage service and the outbound shipment touchpoints still need to be developed, it is also advised to further look into which stakeholder carries responsibilities for the luggage of the PAX, and how the service can lead to a change in preparation and packing behavior.

Adjustments concepts:

- Redesign the messaging within the back-home and referral strategy so that the reliability of the service is clearly communicated.

Further research should be conducted on:

- How the outbound journey can be realized and integrate within the resources of the T.O.?
- Which stakeholder within the D2D luggage service ancillary holds responsibility over the luggage of the PAX?
- How the packing behavior of the PAX can be changed to increase compatibility with the D2D luggage concept?

12.9 Service Blueprint:

Service blueprints are a visual schematic that aim to clearly specify and detail each aspect of a service (Stickdom & Bisset, 2016). To help larger T.O.'s realise the development of the back-home and referral strategy concept, a service blueprint has been created which illustrates the necessary processes and resources for both concepts. Based on the validation test findings, it is decided to have the initial priming moment a week before departure instead of during the holiday of the PAX. However, which final priming moment will be chosen should not significantly influence the service blueprint.

The created service blueprint is illustrated in figure 12.17.

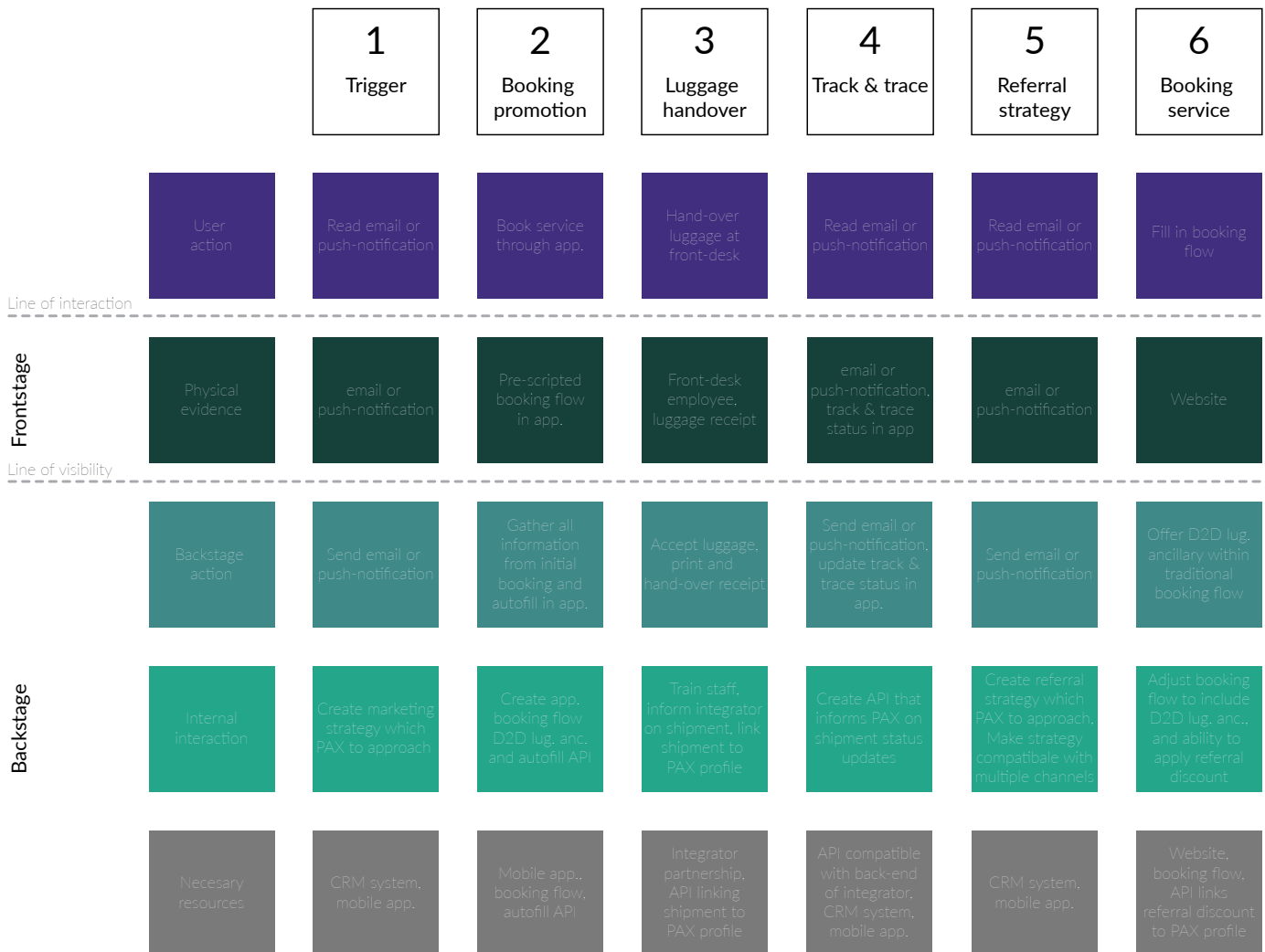


Figure 12.17: Service blueprint



13. Business case

13.1 Discovery driven planning

13.2 Reverse income statement

13.3 Pro forma operations specs

13.4 Key assumptions tracklist

13.5 Revised reverse income statement

13.6 Sensitivity analysis

13.7 Milestone testing: Implementation plan

Appendix N: Sensitivity analysis

To assess the overall viability of the back home luggage service concept, a business case has been developed based on the discovery-driven planning method as described by McGrath & MacMillan (1995). This method systematically uncovers, tests, and revises assumptions to show the lowest possible cost to chase a new venture plan. Thereby, assisting in the viability assessment of the new back-home luggage service.

BUSINESS CASE

13.1 Discovery driven planning

New ventures, such as the introduction of a D2D luggage service, requires companies to envision what is unknown, uncertain, and not yet obvious to the competition (McGrath & MacMillan, 1995). Therefore, instead of projecting potential revenues and assuming that profits will follow, a reverse income statement is created. By doing so, an establishment can determine the profit required to make the venture attractive enough to pursue it. Within the discovery driven planning method, certain assumptions need to be made, which through research and systematic testing are transformed into knowledge.

The discovery-planning process follows a strict regime that is represented by four related documents (McGrath & MacMillan, 1995).

1. **Reverse income statement:** A statement that models the basic economics of business.
2. **Pro forma operations specs:** Set of operations needed to run the business
3. **Key assumptions check-list:** List which should act as a reminder for the verification of assumptions made.
4. **Milestone planning chart:** Agenda which illustrates which assumptions should be tested at which project milestone and thus will act as a form of implementation plan.

13.2 Reverse income statement:

In this scenario, the back-home promotion, the referral strategy and the booking of the D2D luggage are all included. Furthermore, this business case will be conducted from the perspective of the large tour operator TUI, based on the figures generated from the Dutch market. In 2016 TUI generated a total revenue of €1.874.000.000, -.

However, further data on how much of this revenue is created by TUI Fly, and to be more specific through the sales of luggage is unknown. Therefore, the author has used multiple sources to develop the reverse income statement. Which sources will be reported on accordingly. In the 2017 annual report published by Thomas Cook, the main rival of TUI, it stated that 30,9% of their revenue is generated by their airline and that 9,7% of that revenue was through the sales of ancillaries (Thomas Cook, 2017). No specific data was provided by Thomas Cook on how large the share of luggage ancillary revenue is of the total ancillary revenue.

As TUI Fly falls in the LCC category, the percentage of ancillary revenue generated by a similar LCC (i.e. EasyJet) is used. The Moodie Davitt report (2017) stated that EasyJet's ancillary revenue consists for 47% out of luggage sales. Marie's (2016) Master Thesis showed that KLM's return on sales (ROS) for luggage ancillaries is 17,2%. As no other reliable data could be found this percentage is used and highlighted as one of the critical assumptions.

Combining these figures result in a total profit of € 358.718,- after taxes. New ventures should at least add 10% profit to the total profit figure and generate a higher ROS. Therefore, the author has decided that the back-home service should at least have a ROS of 20%.

In the fiscal year of 2016, TUI had a total customer base of 1.641.810 (Travmagazine, 2017). An interview with TUI's general manager of purchasing, Paul van Thienen, it was found that 20% of Kras' (sister firm of TUI) customer base consists of families traveling with young children. It is assumed that this percentage is also true for the TUI customer base. Furthermore, the assumption is made that the entire families traveling with young children customer segment comprises of families consisting of 4 members who travel with 2x25 kg pieces of C.I. luggage. Lastly, Dutch holiday core figures presented by NBTC-NIPO (2017), show that 85,5% of all foreign holidays undertaken by the Dutch population are to destination within Europe. Thus, this percentage is also taken into consideration.

Finally, the consumer selling price used within this reverse income statement is set at € 67. This was the average price participants of the context mapping sessions were willing to pay. After taxes, this consumer selling price translate into € 55,37 return shipment selling price.

Taking all the described findings and assumptions into consideration and applying them to the revenue and PAX served figures of TUI will lead to the reverse income statement illustrated in figure 13.1.

Reverse income statement

Total figures

Required profits to add 10% to total profits =	€	358.718,02
Necessary revenue to deliver 20% sales margin=	€	1.793.590,11
Allowable costs to deliver 20% sales margin=	€	1.434.872,09

Per unit figures

Required unit sales at € 55,37 per return shipment:	x	32.392
Necessary percentage of Families customer segment:	%	23,08
Allowable costs per unit to deliver 20% sales margin:	€	44,30

Figure 13.1: Reverse income statement

BUSINESS CASE

14.3 Pro forma operations specs:

All necessary activities needed to run the venture were identified and divided over the 4 following categories:

- Development costs
- Marketing & Promotion costs
- Shipment costs
- Training costs

Development costs

The development costs consist of the development and maintenance of the digital touchpoints. In a blog post by Djangostar (2017), stated that the creation of a web application or other digital assets for large enterprises can range from \$200.000, - to \$500.000, -. This led the author to assume that the creation of the digital touchpoints of the back-home and referral strategy will cost € 350.000. Furthermore, it was found that the average maintenance cost of an online platform is 25% of the initial development costs.

Marketing & promotion costs

A blog post of Vital design (Vtldesign, 2018), stated that on average large firms have a marketing budget that is equal to 12% of their revenue income. It is assumed that 12% of the necessary revenue as stated within the reverse income statements is used to fund the marketing campaign.

The initial free return shipments are part of the promotion costs. It is assumed that 25% of the targeted PAX will make use of the free back-home shipment offer. An interview with van der Noll (TNT, 2017), indicated that their shipping costs within Europe are € 0,25 per kg with an additional front-and-back-end cost of € 6,50. It is assumed that these costs are the industry standard for road transportation. A study based on the U.S. parcel delivery market conducted by Cohen and Waller (2016), found that the ground parcels have a ROS of 21.4%. Combining these figures result in a total shipping costs of € 15,48 for a single 25 kg suitcase shipment.

It is assumed that TUI does not have any costs related to the luggage handling processes for the back-home shipment. Therefore, the € 16,53 received revenue after taxes per suitcase is assumed to be used for the shipment of luggage shipments back-home. Which results in € 1,04 reduction in costs per 25 kg suitcase.

Finally, the assumption is made that 10% of the families necessary for this venture to become worthwhile will receive a 10% discount on their luggage ancillary.

Shipment costs

The shipment costs include the costs of shipping the luggage door-to-door and the necessary packaging. As stated prior, the shipping costs for a single 25 kg piece of luggage within Europe costs € 15,48 for a single shipment. Thus, the cost for a return shipment is assumed to be € 30,96.

Additionally, a € 0,25 packaging cost per shipment will be included. This figure is based on an interview conducted with packaging expert Mike Zuurbier at PostNL Pakketten (2016).

Training costs

The back-home service is a new concept which current TUI staff members have no experience with dealing with. Thus, it is assumed that the front-desk members of all the 13 'Family Life' accommodations (specialized family holiday destination) need to be trained. On average, a front-desk employee earns € 9,81 per hour. It is assumed that the training will consume one 8 hour work day and that the front-desk staff consists of 10 employees.

Combining all the assumptions and findings for the 4 necessary activity categories, the pro forma operations spec sheet illustrated in figure 13.2 was created.

Pro forma operations spec

Developments costs

Development costs of platform:	€	-350.000,00
Maintenance cost 25% of initial development: € 350.000,00 x 0,25	€	-87.500,00

Marketing & promotion costs

Marketing costs 12% of necessary revenue = € 1.793.59,11 x 0,12	€	-250.230,81
Promotion costs = € 20,00 / 1,21 x 32.392 - € 15,48 x 32.392	€	9.214,75
Referral strategy costs = 32.392 x 0,1 x € 67 x 0,1	€	-21.702,44

Shipment costs

Shipping costs = € 30,96 x 32.392	€	-1.002.847,09
Packaging costs = € 0,25 x 32.392	€	-8098,00

Training costs

Front-desk staff training: 13 x 10 x €9,81 x 8	€	-10.202,40
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Figure 13.2: Pro forma operations spec

BUSINESS CASE

13.4 Key assumptions tracklist

Below all the key assumptions are gathered in the form of a check-list. This document should aid the hospitality establishment in testing and discussing taken assumptions with colleagues and experts in the corresponding industries. If incorrect, initial assumptions can be tweaked to better represent the real life scenario. This iterative process is ultimately looped back into to the revised reverse income statement and pro forma specs to be adjusted accordingly. Thereby, representing a more accurate business scenario.

Key assumptions tracklist

Assumptions		Measurement
1. Percentage added to luggage ancillary profit	%	10
2. Required return on sales	%	20
3. Required revenue to meet profit target	€	1.793.590,11
4. Unit selling price of luggage	€	55,37
5. Necessary % of the Family customer segment	%	23,08
6. Development costs online touchpoints	€	350.00,00
7. Maintenance costs	€	87.500,00
8. Marketing costs % of necessary D2D lug. revenue	€	16,53
9. All generate trad. lug. revenue can be used for the shipment of luggage back-home	%	12 % of D2D revenue
10. Percentage of PAXs making use of back-home promotion	%	25% of all nec. PAX
11. Percentage of PAXs making us referral strategy	%	10% nec. PAX, 10% disc.
12. Shipment costs	€	30,96
13. Packaging costs	€	0,25
14. Amount of staff that needs to be trained	x	130
15. Salary of staff	€	9,81
16. Necessary training time	h	8
17. Allowable overhead costs	€	-251.493,83

Figure 13.3: Key assumptions tracklist

13.5 Revised reverse income statement

The initial reverse income statement already showed some disconcerting figures. If the consumer selling price of €67,00 is maintained, and it is required that the new venture delivers an additional 10% profit of the regular luggage sales with a 20% profit margin per sale, a sales penetration of 23,08% needs to be achieved among the families traveling with young children.

Additionally, the initial revised reverse income statement illustrated in figure 13.4. shows that this venture has a negative allowable overhead cost of € 251.493,83. Thus, it is strongly advised not to pursue the back-home luggage service and referral strategy if the assumptions and figures used, are accurate.

Revised reverse income statement

Total figures

Required ROS	%	20
Required profits to add 10% to total profits =	€	358.718,02
Necessary revenue to deliver 20% sales margin=	€	1.793.590,11
Allowable costs to deliver 20% sales margin=	€	1.434.872,09

Developments costs

Development costs:	€	-350.000,00
Maintenance cost:	€	-87.500,00

Marketing & promotion costs

Marketing costs:	€	-250.230,81
Promotion costs:	€	9.214,75
Referral strategy costs:	€	-21.702,44

Shipment costs

Shipping costs:	€	-1.002.847,09
Packaging costs:	€	-8098,00

Training costs

Front-desk staff training:	€	-10.202,40
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Allowable overhead costs

€ -251.493,83

Per unit figures

Selling price:	€	55,37
Required unit sales:	x	32.392
Necessary percentage of Families customer segment:	%	23,08
Allowable costs per unit:	€	44,30

Figure 13.4: Revised reverse income statement

BUSINESS CASE

13.6 Sensitivity analysis

A sensitivity analysis showed that the size of the customer segment, the selling price, and required ROS have a significant influence the allowable overhead costs and necessary percentage of the TUI customers that need to purchase the ancillary.

Therefore, the following assumptions have been taken into account for the sensitivity analysis.

- The service will be offered to all TUI customer segments that are traveling within Europe. The entire TUI customer base consists of couples who share a single 25 kg suitcase. This results in a total customer base of 701.792.
- The consumer selling prices that are taken into account are: €79 which is similar to that of Travel Light, €89, and €99 which was found to be the most a single participant within the context mapping session was willing to pay for the D2D luggage service.
- Lastly, the following ROS of the D2D luggage sales have been taken into account: 15 % which is 5 % less than in the initial scenario, 17,2 % which is the current ROS of regular luggage sales (Marie, 2016), and 25% which is 5% more than in the initial scenario.

An overview of all the revised reverse revenue income statements and sensitivity analysis graph can be found in Appendix N. Tables 13.1 to 13.4 and figures 13. 5 to 13.8 `show the results of the sensitivity analysis.

As can be seen in the graphs and tables, the level of required ROS has a direct negative effect on the allowable overhead costs and necessary percentage of total customer segment to purchase the D2D luggage ancillary. To create a relative viable business case, it is advised to increase the selling price of the D2D luggage ancillary to €79, -. Thereby, offer competing pricing with the Dutch luggage service Travel Light.

Furthermore, it is advised to set the required ROS equal to that of the regular luggage ancillary or even slightly below (e.g. 17,2 % or 15 %). With this combination of variables, an adoption rate of either 4,55 % or 5,22 % is needed among the entire TUI customer base to reach set financial targets.

This still seems as a steep adoption percentage to accomplish with the launch of such a radical new luggage ancillary. Thus, before significant resources are committed to the implementation of the new venture it is advised to follow the implementation plan described in the following subchapter.

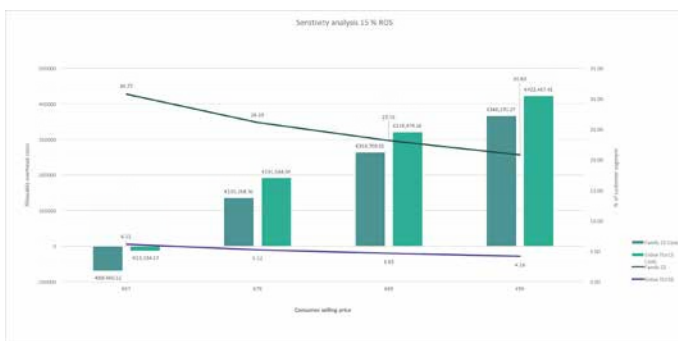


Figure 13.5: ROS 15%: Percentage PAX vs allowable cost

	Consumer selling price			
Required 15% ROS	€67,-	€79,-	€89,-	€99,-
Family CS %	30,77	26,10	23,16	20,82
Entire TUI CS %	6,15	5,22	4,63	4,16
Family CS Costs €	-69.460,32	135.268,36	263.703,01	366.191,27
Entire TUI CS Costs €	-13.184,17	191.544,50	319.979,16	422.467,42

Table 13.1: ROS 15%: Percentage PAX vs allowable cost



Figure 13.6: ROS 17,2%: Percentage PAX vs allowable cost

	Consumer selling price			
Required 17,2% ROS	€67,-	€79,-	€89,-	€99,-
Family CS %	26,83	22,76	20,20	18,16
Entire TUI CS %	5,37	4,55	4,04	3,63
Family CS Costs €	-162.544,03	15.998,42	128.005,39	217.384,69
Entire TUI CS Costs €	-106.267,88	72.274,57	184.281,54	273.660,84

Table 13.2: ROS 17,2%: Percentage PAX vs allowable cost

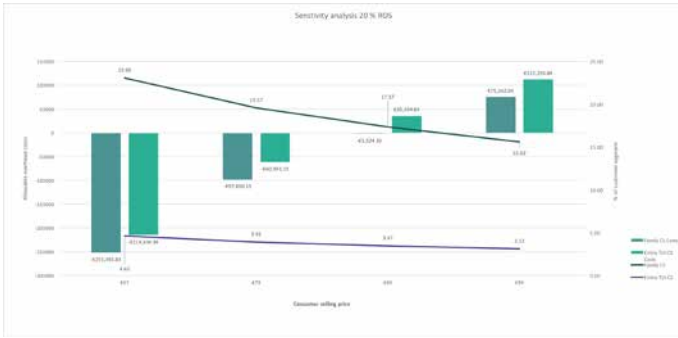


Figure 13.5: ROS 20%: Percentage PAX vs allowable cost

Required 20% ROS	Consumer selling price			
	€67.-	€79.-	€89.-	€99.-
Family CS %	23,08	19,57	17,37	15,62
Entire TUI CS %	4,62	3,91	3,47	3,12
Family CS Costs €	-251.493,83	-97.850,15	-160.660,46	75.342,04
Entire TUI CS Costs €	-214.634,84	-60.991,15	-123.801,46	112.255,84

Table 13.3: ROS 15%: Percentage PAX vs allowable cost

13.7 Milestone testing: Implementation Plan

A Milestone check-list has been created that will act as an implementation plan. In total 6 major milestone moments have been created which can be seen as small design or analysis sprints. The goal of completing the Milestone check-list is to transform assumptions into knowledge. Once proper knowledge has been gained on the costs and consequences of pursuing this venture, a well-considered decision can be made whether or not to continue with the development and implementation of the back-home and referral strategy venture.

1. Initial data search & preliminary viability analysis:

This initial Milestone event is to test the most critical assumptions within the initial revised reverse income statement. The hospitality establishment should gather all necessary data within their own company and through meetings with industry experts.

The key assumptions that need to be uncovered through analysing own data sources are what overall profit margin the new venture should add to existing profit luggage ancillary profits (A1), what ROS regular luggage ancillaries have (A2), the overall generated revenue through the sales of luggage ancillaries (A3), the overall composition of the TUI customer base (A5), the percentage of the PAX falling within the Families traveling with young children customer segment (A5), the overall revenues that can be used for the promotion shipments (i.e. the free back-home shipments for PAX who have bought a regular return luggage shipment) (A9), and the amount of staff that needs to be trained (A14, A15, A16).

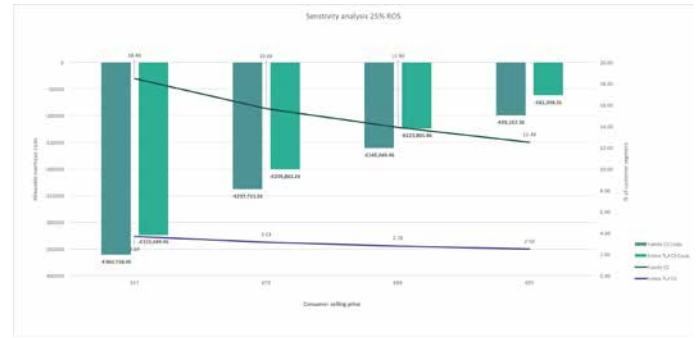


Figure 13.8: ROS 25%: Percentage PAX vs allowable cost

Required 25% ROS	Consumer selling price			
	€67.-	€79.-	€89.-	€99.-
Family CS %	18,46	15,66	13,90	12,49
Entire TUI CS %	3,69	3,13	2,78	2,50
Family CS Costs €	-360.588,46	-237.721,26	-160.660,46	-99.167,51
Entire TUI CS Costs €	-322.699,46	-200.862,26	-123.801,46	-62.308,56

Table 13.4: ROS 25%: Percentage PAX vs allowable cost

Through expert consulting, the development costs of the digital touchpoints (A6, A7), the necessary marketing costs (A8), and the overall shipping and packaging costs of the service (A12, A13).

When these steps have been concluded a preliminary revised income statement can be created. Key assumptions that need to be discussed are the allowable overhead costs (A17), and necessary customer segment penetration percentage (A5). If the venture still seems attractive to pursue the second milestone phase can be entered.

2. Desirability study:

The goal of the second milestone is to confirm or debunk assumptions made on the desirability of the back-home concept and referral strategy within the target customer segment.

The goal of this milestone is to see how many PAX would be willing to make use of the back-home concept and referral strategy concept (A10, A11), if this would lead to returning sales, and how much they would be willing to pay for the service (A4). If the initial figures are disconcerting, the hospitality could extend this study to include multiple customer segments thereby expanding their potential sales.

With the acquired new knowledge, the revised reverse income statement can be updated to represent the most accurate financial scenario. Key assumptions that need to be discussed at this moment are the overall allowable overhead costs (A17) and the penetration percentage of the chosen customer segment needed to achieve the financial goals of the new venture (A5).

BUSINESS CASE

3: Redesign of initial concept

The third milestone is aimed at further calculating the development and implementation costs of the back-home and referral strategy concept. The desirability study should have indicated if the concept fulfils the needs of the approached customers and which necessary steps, touchpoints or processes need to be redesigned. With this in mind, the concept and the corresponding costs can be adjusted accordingly.

Therefore, this milestone is used to revise the assumptions that are related to the development of the concept and which effects this has on the allowable overhead costs (i.e. A6, A7, A17)

4. Major repricing analysis

The fourth milestone phase can be seen as the final stage-gate moment before the implementation of the back-home service and referral strategy. It is at this milestone that the final revised reverse income statement is analysed. Final decisions need to be made on which ROS is required from the new venture (A2), the percentage of added profit the ancillary needs to generate (A1), which revenue is required to meet profit target (A3), the final selling price of the ancillary (A4), if the needed customer segment penetration percentage is realistic (A5), and if there is enough allowable overhead costs to run the operation (A17).

5. Implementation & Launch

The fifth milestone marks the implementation and launch of revised the back-home and referral strategy concept. It is at this moment that the firm can commit major resources to pursuit the new venture.

6. Revise business case on actual data

The final milestone acts as a moment of reflection in which the success of the new venture is revised. If the new venture has met its financial goals, the hospitality establishment can continue with offering its customer base the back-home and referral strategy. If not, which factors negatively influence the financial performance of the service should be identified. If the identified factors can be influenced by the hospitality firm, the decision can be made to further pursuit the venture after having created an adjusted revised income statement. If not, the hospitality firm can discard it pursuit of the back-home and referral strategy concept and invest its resources and assets in other promising ventures.

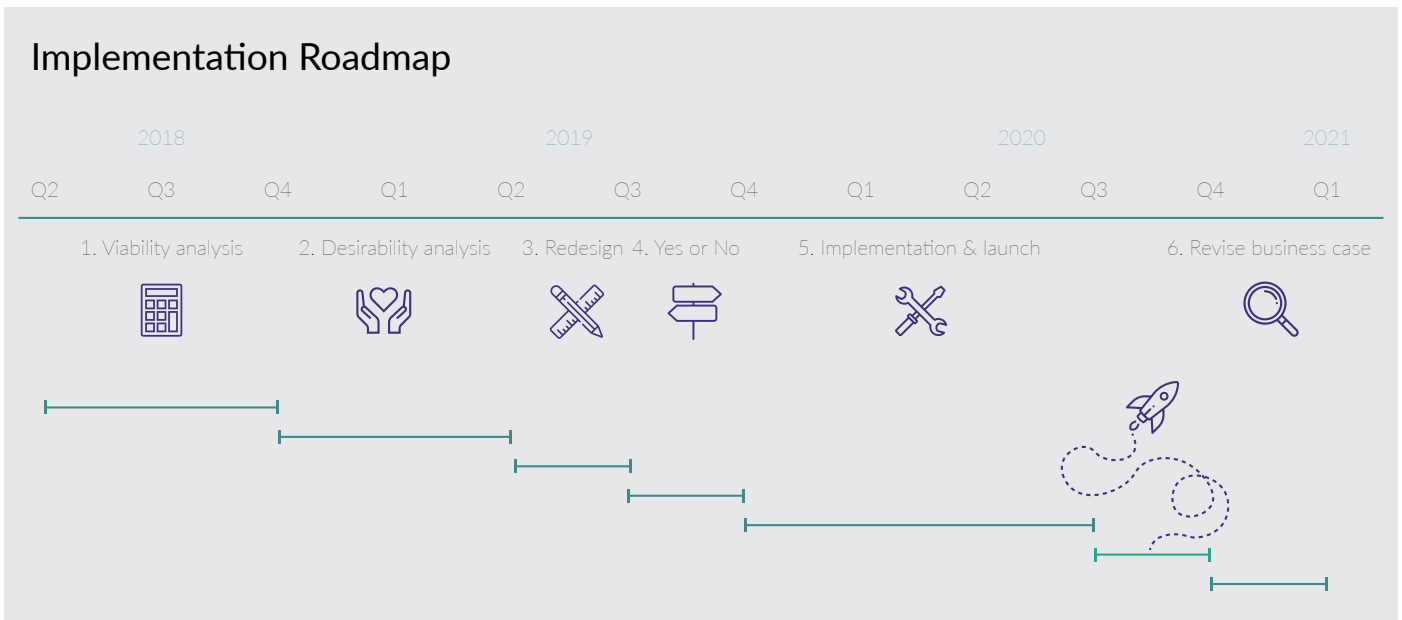


Figure 13.9: Milestone testing: Implementation roadmap

Implementation plan

Milestone 1: Viability analysis	Assumptions to be tested
1. Percentage added to luggage ancillary profit	% 10
2. Required return on sales	% 20
3. Required revenue to meet profit target	€ 1.793.590,11
5. Necessary % of the Family customer segment	% 23,08
6. Development costs online touchpoints	€ 350.00,00
7. Maintenance costs	€ 87.500,00
8. Marketing costs % of necessary D2D lug. revenue	€ 16,53
9. All generate trad. lug. revenue can be used for the shipment of luggage back-home	% 12 % of D2D revenue
12. Shipment costs	€ 30,96
13. Packaging costs	€ 0,25
14. Amount of staff that needs to be trained	x 130
15. Salary of staff	€ 9,81
16. Necessary training time	h 8
17. Allowable overhead costs	€ -251.493,83
Milestone 2: Desireability analysis	Assumptions to be tested
4. Unit selling price of luggage	€ 55,37
5. Necessary % of the Family customer segment	% 23,08
10. Percentage of PAXs making use of back-home promotion	% 25% of all nec. PAX
11. Percentage of PAXs making us referral strategy	% 10% nec. PAX, 10% disc.
Milestone 3: Redesign	Assumptions to be tested
6. Development costs online touchpoints	€ 350.00,00
7. Maintenance costs	€ 87.500,00
17. Allowable overhead costs	€ -251.493,83
Milestone 4: Redesign	Assumptions to be tested
1. Percentage added to luggage ancillary profit	% 10
2. Required return on sales	% 20
3. Required revenue to meet profit target	€ 1.793.590,11
4. Unit selling price of luggage	€ 55,37
5. Necessary % of the Family customer segment	% 23,08
17. Allowable overhead costs	€ -251.493,83
Milestone 5: Implementation & launch	Assumptions to be tested
Record overall costs	-----
Milestone 6: Revise business case	Assumptions to be tested
Compare business case results versus revised reverse income statement	-----

Figure 13.10: Milestone testing: Implementation plan

Conclusion and recommendations:

By using the discovery driven planning technique to assess the initial viability of the back-home and referral strategy concept, larger T.O.'s can prevent pursuing a new venture that is not profitable or attractive enough. The developed implementation roadmap based on the milestone planning chart can help such establishments with the viability study of this concept.

The sensitivity analysis showed that the required ROS, consumer selling price, and selected customer segments have significant influence on the viability of this business case.

Therefore, it is strongly advised to thoroughly discuss and check the key assumptions made within the reverse income statement, before further decisions on the implementation of the back-home concept and referral strategy are made.

Adjustments concepts:

Further research should be conducted on:

- If all assumptions presentend within the business case should be checked and dis



14. Final conclusion

14.1 Graduation assignment and goals

14.2 Sub-research questions

14.3 Final design recommendations and opportunities

Within the conclusion and recommendations, a final look is taken at the results of the project and if the set graduation research and sub-research questions have been answered. Furthermore, recommendations concerning further research on the topic of D2D luggage services, the back-home service, and the referral strategy have been formed.

FINAL CONCLUSION

14.1 Graduation assignment and goals

The goal of the **PASSME** research project is to find solutions and optimize aviation processes to reduce the door-to-door travel time within Europe by 1 hour. Furthermore, the overall travel experience should be enhanced for at least 70% of all PAX.

By implementing a D2D luggage service the traditional C.I. luggage processes are eliminated from the customer journey translating into an average time saving of 32 minutes time per PAX.

Other research projects have indicated that offerings a D2D luggage service is not yet in the best interest of the involved luggage process stakeholders

Therefore, at the start of this graduation assignment the following main research questions was formulated.

'Design a 'Door-to-door luggage ancillary' for hospitality businesses operating in the destination part of the customer journey, that enhances the customer experience of aviation passengers traveling with check-in luggage. The ancillary should provide a more seamless experience and reduce total door-to-door travel time.

&

Write an implementation and marketing plan for this ancillary'

14.2 Sub-research questions

To help answer this main research question a set of sub-research questions were developed, which acted as the basis for the different type of conducted analysis.

What is the target customer segment?

Through a set of extensive context mapping sessions, it was found that families traveling with young children, PAX traveling with odd-size luggage, and elderly travelers would benefit most by making use of a D2D luggage ancillary. Furthermore, the likeliness that these customer segments travel with C.I. luggage within Europe luggage is larger in comparison to the other identified customer segments (i.e. Business PAX, Luxury travelers) However, based on potential market size and the personal preference of the author, the decision was made to set families traveling with young children as customer target segment.



Which company operating within the hospitality sector is going to offer the service?

The results of all the performed analysis showed that the creation of the D2D luggage ancillary is not the main problem. The lack of awareness concerning this new manner of traveling and persuading PAX to make use of the service without having prior knowledge or experience on the D2D luggage concept was identified as the problem for which a solution needed to be designed.

Moreover, it was found that the PAX's booking behavior and order they arrange their holiday leads them to first arrange their tickets and traditional ancillaries (e.g. regular luggage ancillaries, travel insurance, car rental, etc.) first after which the accommodation is booked. Thus, the likeliness of a successful D2D luggage ancillary booking occurring through the hospitality is unlikely, as luggage ancillary purchases predominantly will occur within the first booking flow of the airline.

The only hospitality business that is in control of its own booking flow are larger tour operators. Combining this with the fact that families traveling with young children is an important customer segment for them, has led to the decision to set these types of establishments as D2D luggage service providers.



Who is going to be the logistics partner transporting the luggage from origin to destination and back?

The parcel delivery market analysis showed that there is a well-established parcel delivery market within Europe. Multiple types of shipping and logistics firms are active within the European parcel landscape. Nonetheless, it was found that global integrators such as DHL, UPS, FedEx/TNT, possess the best resources to fulfil the shipments of the D2D luggage service. Furthermore, the luggage service market analysis showed that the services of these integrators are currently being used by competing D2D luggage services. With which integrator a partnership should be formed is dependent on how well their services fit with the requirements of the tour operators as well as with whom the best shipping deal can be struck.

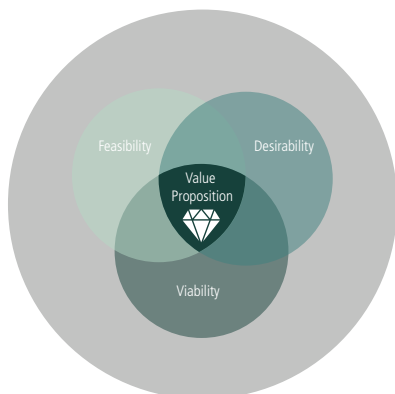


Is it feasible, desirable and viable to design a D2D luggage service?

The luggage service market analysis showed that it is technically feasible to create a D2D luggage concept. The proposed back-home service and referral strategy are an extension of the current resources of the tour operator. Furthermore, the concepts are loosely based on existing concepts and strategies that have been implemented within other services and industries. Thus, it is assumed that the created concepts are feasible to realize.

The extensive PAX analysis and validation test of the created concepts showed that the chosen customer segment does desire to make use of such a C.I. luggage ancillary. However, it was found that PAX would like to have more control over when the luggage is delivered back home. Therefore, it is recommended to look at the possibility of delivering the luggage during back home the evening.

To see whether the proposed concepts are financially viable, a discovery driven planning method was approached to create an initial revised reverse income statement. It was found that the total approached PAX, the consumer selling price, and the required ROS have a significant influence on the viability of the business case. Therefore, it is strongly advised to test, revise, and discuss the assumptions that the author has made before committing significant resources to the creation and implementation of the concepts.



14.3 Final design, recommendations, and opportunities

The focus of the assignment has shifted into creating more awareness on the existence of the D2D luggage ancillary and how recurring sales can be generated. The concept of the back-home service utilizes its high level of trialability to prime PAX to purchase the D2D luggage service during their next booking. The ancillary strategy is aimed at creating a social ripple effect thereby creating more awareness on the D2D luggage concept through user created content.

The testing of the initial concepts showed that the combination of both concepts holds great potential in acquiring new PAX and driving D2D luggage ancillary revenues. However, certain aspects of the service still need to be determined. Therefore, the following recommendations have been created.

Recommendations

- It is recommended to first fully revise the reverse income statement created within the business case. This is due to the fact that the foundation of the case is built upon assumptions that have been based on a variety data sets and resources.
- The operational aspect of the D2D luggage service still needs to be designed. Furthermore, how the PAX interacts with the D2D luggage service and what type of interaction is desired still remains to be determined. Therefore, it is advised to conduct further research on these aspects.
- It is advised to look at the possibility of establishing a direct route from the integrators central sorting hub to the final destination. Thereby, decreasing the necessary lead time of the luggage shipments
- If the concept remains financially viable, it is recommended to perform further research at which moment within the customer journey it is best to approach the PAX with the back-home service offer.
- Additionally, it is recommended that further research is conducted on how the referral strategy can be made less intrusive and how the threshold of sending and using referrals can further be reduced.
- Finally, it is recommended to apply all of the recommendations to other European markets such as Germany, France, and the United Kingdom to increase the scalability of the D2D luggage concept.

Opportunities

Within this graduation assignment the focus was on realizing the core concept of creating awareness on the D2D luggage service concept and driving recurring sales. However, multiple opportunities to further capitalize on the D2D luggage service concept have been identified. Therefore, the following opportunities have been highlighted which can be pursued once the basis of the D2D luggage service concept has been established.

- Implement different service levels within the D2D luggage service, thereby allowing PAX to choose which type of shipment method they would like to use (i.e. economy vs express shipping, day time vs evening deliveries). Furthermore, a premium price could be charged for performing additional tasks such as the labeling and preparing of the luggage for the D2D luggage shipment.
- Upsell additional products such as toiletries and recreational items as books and magazine through the service. By doing so, these items can directly be shipped with the luggage of the PAX to the final destination. This way the PAX does not initially need to go out shopping to collect these items, and therefore doesn't need to pack them.

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