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Master Program in Information Management

**Flightright Now: Development of a Predictive
Legal Service for the Compensation of Flight
Delays in Realtime**

Project Management in Software Development

Dan Andreas Kreibich

University Supervisor: Vitor Duarte dos Santos

Company Supervisor: Marc Brüssel

Internship report as a partial requirement for obtaining the
Master's degree in Information Management, Specialization
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**FLIGHTRIGHT NOW: DEVELOPMENT OF A PREDICTIVE LEGAL
SERVICE FOR THE COMPENSATION OF FLIGHT DELAYS IN REALTIME**

Internship at Flightright GmbH

by

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ABSTRACT

Legal technology is a relatively recent discipline, which refers to providing legal services with the help of technology and software. One of the biggest players in this field is Flightright GmbH, a German company which focusses on helping air passengers to receive compensation from airlines in case of flight disruptions.

Companies in the market of air passenger rights offer different services with compensation options ranging from 24 hours up to several months. Striving for a pioneer product in the legal technology market, the Flightright Now project has created the globally first service offering real-time customer compensation. This project, the development of Flightright Now, was the center of my internship at Flightright GmbH. Comprising several business- and IT-related topics the focus was placed on project management in software development and predictive analytics. The report results in key lessons learned during project conduction.

KEYWORDS

Legal Technology; Software Development; Project Management; Predictive Analytics

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1. INTRODUCTION

The internship report, which is equivalent to a Master dissertation, is the final assignment to complete my Masters Degree in Information Management at the Nova Information Management School. The internship at the business development department of Flightright GmbH and the report refer to the period between Aug 22, 2016 and Mar 31, 2017.

Flightright is the market leading online portal for air passenger rights and digitized the legal process of claiming compensation from an airline in case of flight disruptions. Simplified, the process can be described as follows: Initially the customer enters the case into Flightright's website. Flightright evaluates the prospects of the case and offers help to the customer. Flightright then tries to enforce the claim amount from the airline. If successful, Flightright transfers the claim amount minus a 25% commission fee and VAT (value added taxes) to the customer. To customers, the Flightright business model is attractive: it is low effort and success based, i.e. risk free for the passenger.

The competition in this market is tough and recently some competitors released products baiting customers by offering 24h or 48h payout options. While this promise cannot be kept in most of the cases, these companies snatch away a significant share of Flightright's customer segment.

In reaction and to strengthen the market leader position, Flightright had decided to build an express-version with a superior value proposition. Priced competitively, its unique feature would be to receive compensation within only 15 minutes via a totally automated process. With this value proposition, the express-version would be a pioneer product in the legal technology area.

My role in the project was to support the product development from planning over developing to monitoring. Assisting the project management enabled me to get hands-on experience in the diverse working areas of IT development. Combined with its roots in e-commerce and the technical IT background, Flightright's business perfectly met my educational background. The tasks made it possible to apply and broaden the obtained knowledge of my Masters' subjects and to get a better understanding of the functioning and scaling of a start-up. Except for pure programming activities, I was actively participating in all the tasks which are mentioned in the following report.

1.1. ACADEMIC CONTEXT

This internship report is written in the context of the final assignment of my Masters Degree in Information Management, with specialization in Information Systems and Technologies Management. The program aims to train IT architects, representing an interface between the business needs of a company and its IT. This involves the development of systems and implementing new information technologies. Company information need to be quickly understood to promote innovation and increase process efficiency. The program is taught in a practical approach with hands-on computer classes and many practical projects, promoting teamwork and helping to make industry relevant learnings. I completed the mandatory subjects (M) with elective subjects (E) in the field of e-commerce, which comprised:

1st semester	2nd semester
Information Project Management (M)	Architectures for Information Technology (M)
Knowledge Management (M)	Business Process Management (M)
Information Systems Management (M)	Research Methodologies (M)
Business Intelligence (E)	Search Engine Marketing (E)
Web Analytics (E)	

In this way, my internship project combines nearly all study subjects: on a high level the focus was building an IT solution, which is a modification of the existing standard product and significantly faster than any other product on the market. Working as a supporter of the project management the sub-disciplines were diverse, including:

- Information project management: Creation of project plan, monitoring, controlling, etc.
- Knowledge management: Translating customer requirements into product features
- Information systems management: Understanding the IT infrastructure
- Business intelligence: Creation of a predictive algorithm to evaluate individual cases
- Web analytics: Tracking of the conversion funnel
- Architectures for information technology: Running lean and incremental software development
- Business process management: Analysis of the current process and design of the new business process

1.2. ORGANIZATIONAL CONTEXT

Flightright GmbH, located in Potsdam (Germany), is a service provider in the field of air passenger rights. It offers an online consumer portal where it helps air passengers to claim financial compensation for delayed or cancelled flights. The business is based on EC-Regulation No 261/2004, which provides financial protection of flight disruptions for flights taking-off or landing in the European Union. Revenue gets generated by a 25% commission fee from cases where the claim could be successfully enforced from the airline.

Flightright GmbH was founded by Dr. Sven Bode and Dr. Philipp Kadelbach in 2010. The idea for Flightright came up after Kadelbach had experienced a delay on his own and seen how difficult it was even for a lawyer to receive a compensation. Flightright is a pioneer in the legal technology market and impresses with rapid growth since its foundation. Within 7 years, the company grew from 2 to 92 employees (January 2017), which makes for a compound annual growth rate (CAGR) of 72.8%. Consequently, Flightright was ranked 24th on the list of fastest growing companies of the digital economy by Gruenderszene, one of Germany's leading start-up magazines (Gruenderszene, 2015). The main markets of Flightright are Germany and France, but the website and service are offered in 7 languages already. Flightright has helped customers from over 140 countries and was successful more than 2 Mio. times. Altogether Flightright has enforced more than 110 Mio. Euro since its foundation.

Flightright is structured in low-hierarchical, functional divisions which are flexible and able to adapt to external as well as internal changes. The existing divisions are Legal, IT, Finance, Marketing and Operations. To improve efficiency and enabled by Flightright's high agility, cross-functional squads were later formed to work on high-priority projects.

Flightright has got a young and dynamic work environment and is led by clear values, which are 'customer first', 'live teamwork', 'improve permanently', 'show respect', 'think big & out of the box' and 'take initiative & opportunities'. The company lives a start-up culture and emphasizes it by offering flexible working models including home-office, abroad summer workshops and budget for further individual qualification. For the current operations, Flightright's mission is to profitably grow the number of collected cases, offer a 'wow' customer experience and live a fast, innovative culture. For the future, Flightright's vision is to become the number one consumer enforcement platform in Europe.

1.3. GOAL OF THE INTERNSHIP

Having completed the classes of the Information Management Masters at Nova IMS, my personal ambition of the internship at Flightright has been to apply the newly obtained knowledge. Theory and practice are often a different kettle of fish and therefore I was interested to see if, how and to which extent theoretical constructs can be applied or even get executed in a real business environment. In this regard, the position as an entrepreneur in residence offers the perfect opportunity to observe working practices in different areas and covers my interest in start-ups. Cross-functional tasks allow to apply, extend and connect the knowledge areas from the Information Management program as well as my previous Bachelor in Business Administration. Being interested in making entrepreneurial experiences and to found a company myself in the future, working for a start-up and closely cooperating with the management board allows me to get valuable insights. Start-ups typically provide opportunities for broad hands-on experience and a high degree of responsibility, independently of your role. This is a good complement to my previous professional stops at global players like Allianz, Lufthansa and Siemens. Focusing on the interface between business and IT, working for a start-up has the benefit that the IT environment is rather easy to understand and is usually in an ongoing development process. Although mistakes and failures are documented in dozens of books, real-life mistakes make for an even deeper learning experience. Basically start up environments are a playground for IT architects, where a wide range of business areas can be observed: from implementing new technologies over improving the current business to searching for best practices.

From a company perspective my first goal had been to ensure that Flightright receives the DEKRA recertification, which confirms that the company meets the quality management requirements in ISO 9001. The actual main goal of the internship was to assist the project manager with the development of a new and innovative express service, called Flightright Now. For this project, quantifiable goals were set up at quarterly intervals, which will also be explained more precisely in the following chapter. The primary goal of quarter (Q) four 2016 had been to develop a running product and to collect 100 cases with the new service. After evaluating the previous results, the goal of the following quarter, Q1 2017, had been to pay out 300 Flightright Now cases, while completely automating the process and making use of the new service for marketing purposes.

2. THEORETICAL FRAMEWORK

The theoretical knowledge and frameworks relevant to this internship come from various areas like European law, online marketing, finance, IT architectures, business process management, IT project management and predictive analytics. This chapter focusses on the latter two areas, as those represent the core aspects of the project’s tasks. Both fields have been broadly scientifically covered and therefore the following parts reflect the essence of these topics relevant to the internship.

2.1. IT PROJECT MANAGEMENT

Modern economy and ongoing digitalization made IT project management become an essential discipline for modern organizations. Tremendous amounts are invested in IT projects and the complexity grows. The delivery of successful IT projects, which means to meet the project constraints of scope, time, cost (triple constraint) and quality, has been more than unsatisfactory in the past. 66% of large-scale software projects overrun costs, 33% overrun the schedule and 17% don’t meet the expected benefits (Bloch & Blumberg, 2012). A trend towards improvement exists, but still a big share fails due to a lack of project management skills. Consequently, IT project management has become a broad, well-research field.

To standardize project management information and practices the Project Management Institute (PMI), founded in 1969 as a non-profit organization, has developed the Project Management Body of Knowledge (PMBOK). Today, this guide is the best-known framework and context for managing IT projects worldwide. PMI defines a project as “a temporary endeavor undertaken to create a unique product, service or result”. Further, “project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements” (Project Management Institute, 2013). Successful project management needs to observe several organizational aspects and integrate them with skill and experience - else inefficiencies and chaos will ensue. When proven project management practices are used, the Project Management Institute states that projects are 2.5 times more successful (2016). Several guidelines have been established, which help project managers to become aware of potential pitfalls and supply them with techniques to solve common issues.

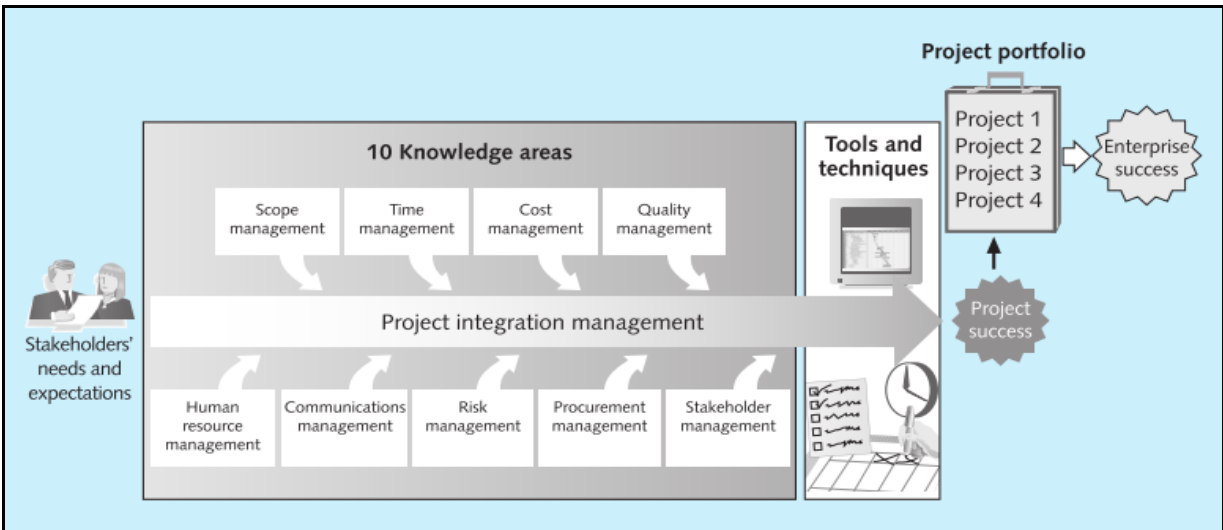


Figure 1: Key competencies a project manager must develop (Schwalbe, 2012)

On an abstract level figure 1 gives an overview over the project management framework. Main goal of project managers is the project to meet scope, time and cost goals (Lavagnon, 2009). They need to lead the entire process and please the involved parties. Therefore, successful project managers need a broad knowledge base. PMI groups the necessary knowledge into ten essential knowledge areas (figure 1). Besides the ten knowledge areas, familiarity with certain tools and techniques is key. The evaluation of a survey of 753 project/program managers supplies project managers with a list of tools and techniques which are used in project management and contribute to project success (Besner & Hobbs, 2006). A list of these tools and techniques assigned to each knowledge area can be found in appendix 1.

Apart from good management skills further factors like user involvement, executive support, clear business objects etc. (complete list in appendix 2) clearly contribute to the success of IT project (The Standish Group, 2009). Highlighting that project management cannot be executed in isolation, the environment of a project has a big impact on project management. As a consequence, project managers need to adapt a holistic view and understand how a project contributes to the organization. The systems approach, which emerged in the 1950s, serves exactly this purpose. It covers the organizational, technological and business issues of a project and stresses its impact on the business of the organization. Addressing these three fields adequately assures that the project makes sense to the overall organization.

The diversity and complexity of IT projects in particular make IT project management challenging. Depending on the project scale, teams can consist of just a few or hundreds of programmers. Projects can include several different technologies from hardware to diverse programming languages and be exposed to a set of unstable requirements. Different industries bring different challenges with them and can also be affected by external influences like governmental restrictions or market developments. Not to forget about the impact of globalization and outsourcing, where boundaries of time gaps, different cultures etc. have to be overcome. Thus, adhering to structured and standardized approaches in rather chaotic environments can help project managers to deliver projects successfully.

One of the useful frameworks to reduce the complexity of projects is the so-called project life cycle, which provides a high-level structure over the life time of a project, where the whole project is divided into any number of phases. Each phase includes logically related project activities which aim to complete one or more phase-specific deliverables. Phases could potentially be: concept, development, feasibility study, design, prototype, build, test etc.. A phase should only be started once the previous phase has been completed, but can also overlap in some project situations (Project Management Institute, 2013). Figure 2 depicts some paradigms which are typically connected to the timeline of a project. Whereas costs and resource needs are very low in the beginning of a project, risks and uncertainty are highest at this moment. More towards the end of the project life cycle, these circumstances invert to the opposite.

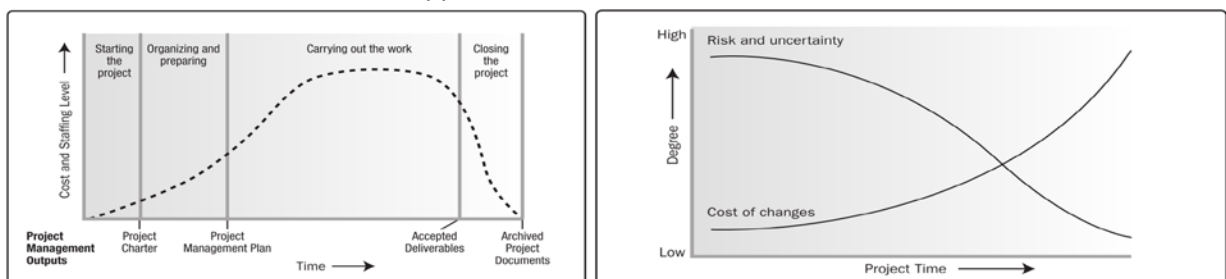


Figure 2: Costs and staffing needs during typical project life cycle (left). Risk and uncertainty development during project (right). (Project Management Institute, 2013)

Depending on their characteristics, projects can be constituted of different phases and thus no one-fits-it-all project life cycle exists. To give an overview over the essential processes within the project life cycle, project management process groups are more suitable. These processes are required for any project, encompass the earlier mentioned knowledge areas and are not linked to a specific industry. It is important to note that project management process groups are not project life cycle phases as they are re-used to a certain extent throughout the project life cycle. PMBOK defines five process groups describing processes which are related to their activities.

Initiating process group: summarizes the processes connected to the definition of a project or a new phase. Main processes are defining the initial scope, committing initial financial resources, identifying stakeholders and to assign the project manager. The purpose of the initiating process group is to help the project team and stakeholders to get a mutual understanding of the project. Scope, objectives and the stakeholders' expected participation are made visible to the stakeholders. It needs to be ensured that expectations can be met.

Planning process group: describes the strategy and tactics as well as the plan on how to achieve the project objectives. The project management plan and project documents e.g. scope statement, work breakdown structure, Gantt chart etc. are developed. In this process group all aspects of scope, cost, time, quality, human resources, communications, risks, procurement and stakeholders are examined. Planning follows the approach of progressive elaboration, i.e. it is iterative and contains ongoing activities. Hence in the event of significant change, planning processes can be revisited.

Executing process group: focusses on the processes needed to execute the project management plan. This includes coordinating involved parties, managing stakeholder expectations and integrating the previously defined activities. New insights appearing during project execution are likely to entail planning updates and re-baselining.

Monitoring and controlling process group: are processes which measure and analyze project performance at regular intervals, events or exceptional conditions to check the alignment with the project management plan. This also includes identifying necessary changes and their initiation.

Closing process group: consists of processes needed to formally complete a project, phase or contractual obligations which includes e.g. obtaining acceptance by the customer, the documentation of lessons learned and terminating relevant contracts. This process group also includes the premature closure e.g. in case of cancellation or a critical situation of the project.

Traditional vs. Agile Software Development Life Cycles

Projects can be defined in project life cycles. Another option are software (or systems) development life cycles (SDLC) during which slightly different activities occur: "the project life cycle encompasses all the activities of the project, while the systems development life cycle focuses on realizing the product requirements" (Taylor, 2003).

Especially in IT, when developing new software or systems, well working development life cycles are needed to align business requirements and IT, manage complexity and meet customer needs. SDLCs

determine the structure of the development process and describe the necessary phases of building or maintaining software systems. They emerged from the need to follow a structured approach of building new systems, as software development became increasingly complex in the late 1960s. Over time different SDLCs evolved which can be categorized according to different criteria, such as linear, iterative and a combination of linear and iterative models (Ruparelia, 2010). Also a differentiation of SDLCs into two main categories became plausible: traditional and agile approaches. Both approaches have their benefits and drawbacks, which will be briefly summarized in the following.

First there were traditional SDLCs which follow a systematic approach towards software development. A basic prerequisite in the traditional approach is that the requirements were well-defined right at the beginning. The focus lies on contracts, plans, processes, documents and tools (Saxena & Kaushik, 2013). Some of the prevalent traditional SDLCs are briefly described in the following:

- *Waterfall model:* is one of the oldest models. The project is divided into successive phases, which can only be started when the previous phase has been completed (appendix 3). The specifications cannot be changed during the process, which limits options to make corrections of mistakes (Petersen et al., 2009).
- *Iterative model:* picks up the limitation of the waterfall model in order to incorporate corrections. It is a cyclic process where first a simple initial implementation gets developed through the requirements, design and implementation phase. After that it gets evaluated and if necessary it iterates again through these phases to gradually enhance it with successive implementations until the project is completed (Basil & Turner, 1975).
- *Spiral model:* is similar to the iterative model, but further puts emphasis on risk analysis (appendix 4). It is used for complex projects where changes can be incorporated. The spiral model iterates through the phases of analysis, design, implementation and testing and refines the product with each iteration (Boehm, 1988).

In general, traditional SDLCs suit better for large-scale projects, but agile approaches are more suitable for small- to medium-scale projects. Agile software development (ASD) is the comparably more modern approach and describes a development technique where business and programming teams work closely together. The trend towards agile methods evolved as technology and business requirements became more complex. Models like the waterfall model became too difficult to manage because of initially unknown or changing requirements which had to be adapted continuously. Distinctive feature and major advantage of agile SDLCs is that the customer gets heavily integrated into the development process. Opposed to traditional SDLCs where products get developed in a 'one-shot' manner, without integrating customer feedback until the final testing phase, agile approaches better focus on return on investment (ROI) and meeting customer needs. Frequent customer feedback combined with high flexibility towards change make agile projects not just more likely to satisfy customers, but also prevent major risks like missing out important bits or developing irrelevant software. Also, as figure 2 depicts, costs of change increase the more the project proceeds. Another beneficial feature is that ASD enables quick delivery of results, even with requirements that are not perfectly defined right from the beginning. In addition, this also allows project teams to start earlier with developing and specify requirements when they can be defined more precisely as well as to react to requirement changes. Compared to traditional SDLCs, ASD quickly seemed like the superior approach, but there are some further aspects which have to be

considered when selecting a certain approach. Additional abilities necessary for ASD are for instance good communication skills of affected parties or business knowledge of the developer team (Leau et al., 2012).

In 2016, VersionOne pointed out in its annual report on software development that 95% of the surveyed organizations use agile software development. As agile approaches have become increasingly popular, practitioners of ASD have built the so-called 'Agile Alliance'. Trying to uncover better ways to develop software and to help others, they have set up the so-called 'agile manifesto' to emphasize its underlying structure:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

Following this structure some of the most known agile SDLC's are:

- *Extreme Programming*: Also known as XP, is an approach to deliver high-quality software quickly. In order to deliver working software in frequent intervals (1-3 weeks) XP promotes customer involvement, rapid feedback loops, continuous testing, continuous planning and close teamwork. The foundation of XP are four values, namely simplicity, feedback, communication and courage as well as 12 supporting practices. Hence XP is about rules and values with the aim to respond to changing customer requirements (Beck, 2004).
- *Scrum*: Following the agile values, Scrum is one of the most applied agile frameworks for software development. In Scrum, the product owner creates a prioritized product backlog. Chunks of this list will be selected by the team and implemented in a so-called sprint, which is a timebox of usually two to four weeks. Daily Scrums (meetings) and the Scrum master help the team to stay organized as well as to focus on its goals. The goal of each sprint is to deliver a potentially shippable product. Every sprint ends with a sprint review and retrospective (appendix 5). This process is repeated until the product is complete (Schwaber & Beedle, 2001).

Scrum in particular is a broadly used SDLC. Scrum takes full advantage of the agile characteristics such as customer orientation, short development cycles, low bug rates and accommodating change. Its major difficulty is that the team must fully commit to the Scrum framework and it is not suitable for long-term estimates.

The presented approaches are just a brief extract of the popular SDLCs and again, it has to be noted that there is no single best approach. Selecting the right approach depends on several different project characteristics like the requirements analysis, development team, user participation, project type and associated risks (Mahapatra & Goswami, 2015).

2.2. PREDICTIVE ANALYTICS

Predictive analytics use statistics to predict future outcomes, opposed to descriptive analytics which solely depicts what happened in the past. Predictive analytics is a recent discipline and is applied in various areas such as marketing, operations, risk, fraud detection and security. The sudden boom and interest predictive analytics experiences across all industries has clear reasons: growing volumes of

data are expected to produce valuable information, computers and their software are becoming faster, cheaper as well as easier to use and further tough economic situations require more competitive differentiation (SAS, 2017). The top five prevailing reasons for companies to use predictive analytics are in descending order: to predict trends, understand customers, improve business performance, drive strategic decision making and predict behavior (Halper, 2014).

Predictive Model Techniques:

A predictive model can be defined as a mathematical function which can learn the mapping between certain input data variables and response or target variables. A distinction can be made between models using supervised and unsupervised learning. Predictive models based on supervised learning receive during the training of the model a set of input data and the desired outcome. Training will be performed until the mapping function between input and desired output can be derived. Back-propagation neural networks (NN), support vector machines (SVM) and decision trees belong to best known predictive models using supervised learning (Guazzelli, 2012a). NN and SVM are very powerful but fall into the category of the so called black-box analytics, because they are not capable of explaining their reasoning. In contrast, the reasoning of decision trees is easy to understand as the process is based on human-readable conditions (Guazzelli, 2012b).

Predictive models using unsupervised learning are only presented with input data. The model then has to learn how different input data records relate to each other. The most common model of this type is clustering (Guazzelli, 2012a).

Building a Predictive Model:

Predictive solutions combine data, mathematics as well as business rules and chances of success with a predictive model are increased with an organized approach being followed towards building the solution. This starts with a precise definition of the problem to be solved. With a well-defined problem, the historical data can be checked if it backs the solution building. Independently of the predictive model technique chosen, it can only supply accurate results if enough data exist and its quality is sufficient. After the data analysis, there is usually a need for data pre-processing. The data can be structured or unstructured and although some data sets can be used without pre-processing most data sets need to be altered first. With the resulting data records the training of the predictive model can be conducted and enable it to learn the mapping function between input data and the target variables. A common practice is to use 70% of the available data for the training and the other 30% for the subsequent validation to receive non-biased results. The purpose of the model validation is to confirm that the model produces a high rate of correct predictions while having a low rate of mistakes. So in predictive analytics it is desired to generate a high proportion of true-positives (TP) and true-negatives (TN), which implies a low proportion of false positives (FP) and false-negatives (FN). The final step to complete the predictive model is data post-processing. The output of such a model is commonly classified as an ordinal scale with values between $[-1,1]$ or $[0,1]$. In the data post-processing this score needs to be translated into a business logic, so operational processes can make use of the results (Guazzelli, 2012c).

Embedding a Predictive Model into Operations:

To operationally deploy a predictive solution has been a heavy-going task in the past, requiring intense communication between the data scientist who developed the model and the IT engineer who had to rewrite and implement the code. This month-long process changed abruptly with the

foundation of the Predictive Model Markup Language (PMML) by the Data Mining Group. The developers of the prediction model can easily export it into a PMML file and deploy it within minutes on their own to a PMML-based scoring engine where it can be executed right away: no recoding, translation or custom code needed. PMML is nowadays the de facto standard for predictive analytics and supported across the industry by commercial and open-source data mining vendors. PMML is XML-based and pursues a well-defined schema. It's elements and attributes are defined in the following (Guazzelli, 2012d):

1. Element for the input data: *DataDictionary*
2. Element for handling strategies for invalid, missing and outlier values: *MiningSchema*
3. Element for data pre-processing: *TransformationsDictionary*
4. Elements for modeling techniques: *RegressionModel*, *Scorecard*, *NeuralNetwork*, *TreeModel*, *SupportVectorMachineModel*, etc.
5. Element for post-processing outputs: *Output*

3. APPLIED METHODOLOGIES

In software engineering the methodology represents the specific way of conducting a software project. More precisely it defines the “structured approaches to software development which include system models, notations, rules, design advice and process guidance” (Sommerville, 2006).

For the development of Flightright Now the incremental model got chosen as the SDLC approach, with emphasis on continuous release. While the iterative model mentioned in chapter 2.1. further develops the product in each iteration through a series of repeated cycles, the incremental model focuses on successively adding functionality to the product with each iteration (Project Management Institute, 2013). Also known as the iterative waterfall model (Ruparelia, 2010), the incremental model typically goes through each phase e.g. design, development, testing and implementation (appendix 6) for each released increment. In theory the product is finished once all previously defined requirements have been reached.

The incremental model is commonly used when developing web applications (Mathai et al., 2015). In general, this SDLC is preferred for projects where changes of objectives and scope need to be managed, complexity of projects should be reduced or partial delivery of the product is wanted (Project Management Institute, 2013). It can be either plan-driven or agile or a mixture of both approaches. In case the model is plan-driven, the increments will be defined in advance. In case of an agile approach early increments are defined up front, but later increments depend on progress and priorities (Sommerville, 2006). In case of Flightright Now the mixture of both approaches describes the project best, as the initial requirements were clear, but left some specifications open in order to adapt to issues arising, thus achieving higher flexibility. The project was divided into three iterations, which are described in detail in chapter 5.

When taking the decision of what to release after each iteration, three main considerations need to be taken into account. Firstly, the technical precedence. Secondly, aligning the conflicting priorities of the stakeholders. Thirdly, balancing the required and available effort (Greer & Ruhe, 2004).

Incremental software development is a central part of agile approaches and mirrors how problems are solved. Seldom a complete solution to a problem is elaborated in advance, but mistakes are realized during the process of implementing. In this sense the incremental model offers many strengths. Releasing incrementally makes it easier to make changes to the product and saves costs at the same time (Sommerville, 2006). Feedback from completed iterations can be included in the current iteration as opposed to a project which gets released all at once. Also, involving stakeholders throughout the iterations can help detecting architectural risks earlier. Further and as suggested by the notion 'incremental', it often facilitates an early delivery of the core product with the first increment (Pressman, 2010), which can also be used in case of early project termination. Lastly, a main benefit is that incremental implementation enables monitoring of changes as well as resolving issues and mitigating risks (Ruparelia, 2010).

On the downside, the possible disadvantages of the incremental approach must be examined, which are all in all two main risks in the project environment of Flightright Now. First off, one weakness is that the process is not visible. When the speed of development is high, the documentation is usually neglected. For managers, who need regular deliverables, it can get difficult to track process. Secondly, the system structure is prone to newly added increments and continuous changes, in case there is not enough time spent on refactoring the software (Sommerville, 2006).

Apart from choosing the right model, in this case the incremental model, further factors can affect the development, such as general process guidelines. In this case, the incremental deployment proved to be particularly advantageous, as the software was not just used in a testing environment but in real, operational processes. Despite the risk of disrupting the existing business processes, the chance of learning faster outweighed its downside and supported the process guidance of continuous release. Apart from the basic frame of the incremental requirements, the programmers could develop their products autonomously without having an additional line of action imposed on their work. Prerequisite and rule for deploying new features was the cross-check and approval of two team members.

Completing the applied methodologies of the Flightright Now context, organizational rules have to be mentioned. Similarly to structures of state-of-the-art companies like Spotify (2014), Flightright's employees are organized in squads of a maximum size of eight members. These squads organize themselves autonomously, the alignment of goals takes place on management level.

The Flightright Now squad has set some rules which are as simple as useful. As a daily routine a stand-up meeting takes place every morning to keep everyone updated about individual progress, tasks which are tackled next and blockers. A more in-depth meeting takes place on a weekly basis, which gives space to bring up new issues, remove ambiguity between business and IT employees and reprioritize issues. Especially beneficial for the efficiency of the squad has been the conducting of retrospective meetings with focus on improving the collaboration among the squad members. Weekly management reviews were meant for status reports, bear the chance of feedback and help to stay on track. A company-wide *jour fixe* served the purpose to get the big picture of the company right, become aware of changes inside the company and be informed about the projects of the other squads.

4. APPLICATIONS AND TECHNOLOGIES

This chapter serves the purpose to present all the applications and technologies which were used in the context of the Flightright Now project. A list of website links regarding each application or technology can be found in appendix 7.

Google Apps for Work:

Flightright chose to work with Google's applications in order to avoid converting issues, easily share files and reduce redundancies. On a company-wide level, mainly used were popular apps like Google Gmail (e-mail program), Calendar and Google Sites as an internal wiki for knowledge sharing with other departments. The project principally used the following apps: Google Docs (word processor) for documentation etc., Google Sheets (spreadsheet editor) for business cases, financial planning, reporting etc. and Google Slides (presentation editor) for communication purposes.

Project Team Communication:

As the prevailing real-time messaging interface of the IT team was Slack, it was also adopted for the Flightright Now team. GitLab was used for the execution of IT development tasks and in particular for ticketing. Thereby insights into code reviews and issue tracking were enabled.

Customer Management Application (CMA):

CMA is a multi-functional, self-built system which serves two purposes. On the one hand, it represents a portal for customers where they can manage their cases and upload documents. On the other hand, it is used for the internal processing of these cases. This includes various functionalities e.g. an interface for communicating with the customer, tracking the customers' case histories, automatization of processes like payments, and automated data transfer to partner law offices or airlines.

Back End Technologies:

A feature already available in the standard product and based on predetermined attributes, is the automatic evaluation of each case regarding its probability of success. Input parameters include catching and checking flight data as well as weather information from external providers. For Flightright Now the accuracy of this algorithm is vital as customers receive a prepayment and losing only a small percentage of these cases would imply a high financial risk to the company. In order to enhance the algorithm and based on business intelligence (BI) insights a prediction model has been written in R. Further this algorithm is equipped with a dynamic body of rules, which allows automatic adjustments in the future e.g. excluding certain airlines.

The code for Flightright Now is mainly written in Java, the general-purpose computer programming language.

The open-source Spring Framework has been used as an application framework. Flightright Now runs in a Docker environment which automates the deployment of applications inside software containers.

Front End Technologies:

For the website the typical programming languages were used: HTML for the content and CSS for styling. Interactivity is added by JavaScript e.g. to call external API's (application programming

interface), refreshing pages, firing events and communicating with the back end. Further it was made use of the Ember Framework which allows to develop single-page web applications, hence the page does not get reloaded when displaying a new screen.

Partner Technologies:

Though the core process of Flightright Now has been developed internally, some parts required the incorporation of external services due to lacking resources or specialization advantages. As handled in the standard product the customer needs to electronically sign a document which is done via the provider DocuSign. In case the customer does not want to sign electronically, a signed copy can be sent to iab – internet access GmbH which digitalizes the documents and uploads them to the CMA.

In addition, Flightright Now needs solutions to minimize fraud risks. For this two external providers have been contracted. Firstly IDnow, which provides an online identity verification in real-time. For this the customer leaves Flightright's website and is forwarded to IDnow which can happen either on desktop or via the IDnow mobile app. The necessary documents are obtained real-time via a webhook. Secondly PostIDENT, which is a solution for offline-affine customers where they can identify themselves in a post office.

To realize the 'fast payout' feature of Flightright Now, a provider for instant payments had to be integrated. Based on its popularity PayPal got chosen and its API integrated into the Flightright Now process.

Business Intelligence and Analytics:

In order to analyze, evaluate and further process data arising from customer cases, a software called Tableau was used. Tableau proved particularly helpful in the context of Flightright Now for financial reporting and detecting patterns of unpromising cases.

To measure the success of the Flightright Now offer rate and tracking customer behavior, again a Google app was chosen, Google Analytics. The service was mainly used to obtain conversions rates of the user flow and to compare the numbers to the standard process.

Additional Applications and Technologies:

- Postman: used for the development of the IDnow API
- Elastic Search / Kibana: used for visualizing and discovering user-flow data
- Balsamiq: used for creating user flow mockups
- Draw.io: used for the visualization and redesign of business processes
- Small Improvements: used for staff performance feedback
- MailJet: used to generate e-mail templates

5. DETAILED REPORT

5.1. FIRST DAYS AT FLIGHTRIGHT

Doing my internship at Flightright was appealing to me from the first moment Flightright had come to my attention. Flightright, as a successful and fast-growing company, combines electronic commerce, aviation and start-ups. This is a rare combination integrating all professional fields of my interest. Moreover the offered position in the business development department as an entrepreneur in residence had been promising to give me insights into many different areas. Having nearly completed my Master studies in information management and various job opportunities, I was seeking to find a field where I would like to specialize in.

After two interviews, a full-time internship contract had been agreed with a duration of three months from Aug 22, 2016 until Nov 21, 2016, followed by a working student position with a 20h/week contract if expectations were met during the internship. A working student position allows enrolled students to work besides their study duties, like in my case focusing on relevant research topics and writing the internship report.

Flightright gave me a warm welcoming. Special surprises were three 'get2know' lunches, which serve the purpose of meeting new colleagues from different departments, and a four-day summer workshop in Greece with the whole company, making it easy to quickly getting to know whom you are working with. Also, job relevant tasks started very quickly. Flightright runs an internal Wiki, powered by Google sites, which is a repository where every department documents their relevant work done and training files e.g. videos, lessons learned, etc. are kept. In addition, I got introductions from different colleagues which helped me to get a better overview and ask questions. Last but not least, a company-wide 'jour fixe' takes place every week to update all employees about relevant topics like new projects, achievements or new structures.

Especially for the business development department, which I joined, it is important to understand how the different departments and their work interrelate. The organizational chart is a simple three-level pyramid with the CEO at the top, the head of each department on the second level and below them their team employees. The business development team consisted at that time of five colleagues who mainly focused on business intelligence, B2B (business to business) and special projects. The aims of each department and employee per quarter are recorded in a company-wide OKR-sheet (objectives and key results) with the purpose of coordinating goals and moving together in the right direction. At the beginning of each week the business development department has its own team meeting, where every team member gives a status report about completed activities, next steps and issues which might block the next steps. Further, a weekly meeting with the superior was meant to discuss personal tasks and arising issues. Especially valuable on a personal level are detailed feedback meetings after one, three and six months which were executed with a guideline from a provider called Small Improvements. In these feedback rounds, employees and their respective superiors evaluate one another's personal and professional performance and recommend opportunities to improve.

Prior to the main project of the internship, I got thrown into the cold water and became responsible for a small project, which enabled me to learn a lot about the company. The project took about two weeks and was about the DEKRA ISO 9001 recertification. DEKRA is a German organization which is qualified to perform company audits. ISO 9001 is an international standard for quality management systems which helps businesses to become more efficient and improve customer satisfaction

(International Organization for Standardization, 2015). Apart from these main advantages the obtained DEKRA quality seal is used for marketing purpose on Flightright's website to inspire trust. The task had been to create a document for the annual audit which proves the compliance with ISO 9001. In a big picture this document includes information regarding business reviews, facts and figures, quality goals, improvement projects and development measures. So, the core of the task had been to collect the data from different sources. Though doing the research and collecting information is a relatively trivial task, it has been in many ways a good preparation for the upcoming project. Firstly, I became familiar with the databases and the structure of how files were stored. Secondly, I came in touch with all the other departments and got to know which person knows the most about certain topics. Thirdly, I started getting an in-depth understanding of Flightright's underlying business processes. Besides my own research, an external consultant helped in several meetings to consider all relevant aspects for a successful re-certification. In summary, this project has prepared me for the upcoming project by intensively getting to know Flightright and further gave me real-life insights into the auditing process of ISO 9001.

5.2. FLIGHTRIGHT'S BUSINESS ENVIRONMENT

The main project of my internship was to build Flightright Now, a service that pays out a compensation to the customer within 15 minutes. The idea for offering this service arose among other factors due to market circumstances and the competitive situation. Understanding Flightright's business environment is therefore important to the project.

Legal technology landscape:

Flightright's field of operations can be classified as a legal technology service. Legal technology means to provide legal services based on technology and software. The field of legal technology can be divided into three categories: 1. enabler technologies which facilitate the digitization of legal data, 2. support-process solutions offering new efficiencies in back-office work and case-management and 3. essential law solutions which support or fully replace lawyers in executing core legal tasks in litigation cases and transactions (Boston Consulting Group et al., 2016). Flightright, based in the field of consumer law and highly standardized legal cases, belongs to the third category. Conditioned by the technological evolution, the legal technology market is a relatively new field highly connected to the occurrence of big data analysis, real-time data availability and internet usage.

Air passenger consumer rights and standardization:

Flightright's entire business builds on EC regulation 261/2004. This regulation defines rules for compensating passengers in the event of denied boarding and delayed or cancelled flights. These rules are unequivocal and define the exact compensation amount independently of the actual ticket price. Roughly summarized, whenever one of the above events are an airline's fault, e.g. technical problems or organizational mistakes, the airline has to pay. In case of vis major, e.g. bad weather or strike, the airline does not have to pay to the passenger. The fact that most flights and their related data like weather information can be easily recorded make standardization easy and allow large-scale case handling. Legal processes can be automated and enriched with required data, thus making lawyers in clear cases redundant.

Market and Competition:

The European market size of EC regulation 261 is estimated to be a 11,7 billion Euro market, which takes an annual 26 million eligible passengers into account, multiplied by an average compensation of 450 Euro. Based on the prevailing provision of 25% per case, the European market is worth approximately 2,9 billion Euro (internal estimation derived from three-year historical data retrieved from www.flightstats.com). Internal surveys show that the market is by far not exploited as only around 1% of all passengers know about their rights. Further it is well known that air passenger traffic volume will increase in the future, world-wide in fact even double until 2035 (IATA, 2016).

Though the market is highly depended on the persistence of the EC regulation 261, it is attractive and competition is fierce. Flightright is focusing on Germany and France and is the market leader in these countries, but offers its service in altogether seven languages, making its services broadly available. The competing companies, of which Airhelp is Flightright's strongest competitor, are offering very similar or even the same conditions, commonly a 25% provision + VAT only in the event of successfully enforcing the claim. From a customer point of view, differences between these companies like enforcement speed or legal know-how are difficult to detect, resulting in strong rivalry for the customers in online marketing.

Lately some companies had started offering the service of an express payout to the customer. They usually promote payout within 24h or 48h. In other words, these companies try to preempt legal outcomes or economic rationale prior to airline payout or acceptance of a claim. On the downside such companies carry the risk of losing paid out money, on the upside they are rewarded with higher provision fees / margins in case of success.

5.3. MAIN PROJECT – FLIGHTRIGHT NOW

The initial project briefing of the management to the business development department contained the vision of re-enforcing the number one position as consumer enforcement platform via an express service with a payout within 15 minutes, all interaction and processing being fully digital and automated. The management assumed that such a service would bring economic value in many ways. Firstly, such a pioneer product including a 100% automated online process without any need for an offline task would not just bring Flightright further attention in the legal technology industry, but also stand out in the start-up scene and emphasize its market leader aspiration. Secondly, this kind of service could be used as a marketing tool by attracting media attention and subsequently new customers. Thirdly, in case of achieving a high success rate combined with a higher provision fee than in the standard service, it could increase Flightright's profitability. Last but not least the fully automated service would eradicate manual tasks and by that help reducing the backlog of the operations department.

Apart from economic rationale and benefits, this service concept also represents a veritable milestone for consumer rights, giving the customer access to instant justice. Enforcing the law would neither require the consumer to have legal know-how, nor patience for a long legal process, nor an investment into a lawyer with uncertainty about the return on investment.

From a scientific perspective such a project represents a challenging issue as newest IT subject matters come together: from processing external and internal data over running a real-time scoring model, which predicts the success rate of each case, to implementing machine learning functionality in order to adjust the algorithm's prediction accuracy. Further, as the project constitutes a self-learning legal expert system and hence contributes to scientific progress, the project received

financial subsidies from ILB (investment bank of the state Brandenburg, Germany) at later stage of the project progression.

Flightright Now, as it has come to be known now, initially started as 'FlightFlash'. As such it had been handed over to the head of business development and my superior Patrick Fahrún. From that point on the project management was executed by the two of us. My role was to support the complete project from concept until close-out on a project management basis and work closely together with Patrick Fahrún as the project manager. My position included being the interface between business and IT, and as such gave me the opportunity of applying various subjects from my Master studies.

Project owners of the Flightright Now project were Flightright's founder Dr. Philipp Kadelbach and CEO Marek Janetzke, but still the task of precisely defining the 'what and why?' was assigned to the project manager. For reporting and communication purposes weekly status reports and review meetings with the project owners were agreed. However flat hierarchies and good availability allowed to meet spontaneously, whenever it was needed.

As already mentioned in chapter 2.1, there is no one-fits-all project management life cycle due to the diversity of organizations and projects. In the case of Flightright Now, the project could be well divided into three different phases. Phase A includes the initiation and planning, Phase B comprises the execution, monitoring, controlling and Phase C encompasses the close-out processes. The following constitutes of a detailed report for each phase followed by a general summary of the difficulties and a résumé of my personal lessons learned.

5.3.1. Phase A – Initiation and Planning

In order to comprehend the extent of the project management activities it is important to understand the context of the project. Project management at Flightright or the start-up environment in general is likely to differ much from project management at a corporate. At Flightright specific project management tools or software and standardized project management approaches are nearly not existent. On the one side this enables more flexibility, but on the other side increases the risk of making avoidable mistakes. Further Flightright can be characterized as open towards new tools, trends and techniques which is also reflected in the approach towards project management. A fundamental attitude was to launch the new service fast and then iterate or - in other words - being agile and get going with a minimum viable product.

During the kick-off meeting expectations to the Flightright Now service were identified, which subsequently were used as guiding principles for initiating, planning and conducting the project. The basic guideline had been to build a service with a quick and simple user flow, which requires the user to interact only one single time with Flightright. Another fundamental expectation had been to launch the new service fast and then iterate.

Regarding new tools and techniques, the start of Phase A was filled with canvases. The first step had been to create the project charter canvas (appendix 8) which is among others used by Zalando, one of Germany's biggest online fashion retailers, for their project initiation. The purpose of this document is that everyone involved shares a common understanding of what the project is about. The content of the project charter canvas overlaps to some degree with the traditional scope statement: scope, non-scope, stakeholders, initial situation, known risks, deliverables, requirements, acceptance criteria and trade-offs. Especially the process of creating the canvas is valuable as it creates clarity, minimizes misunderstandings, gains stakeholder commitment and handles

expectations actively. Summarized on one single page the project charter canvas is further useful for communication purposes and was a good start into project planning.

At almost the same time, the business model canvas (BMC) had been created which was invented by Alexander Osterwald in 2008. The BMC is often used by start-ups when creating or revising innovative business models. It visualizes the different parts, including value proposition, customers, marketing and finance. Its template (appendix 9) is basically self-explaining and provides - when adequately developed - a framework for operating. Its advantage again is that it is quickly developed and only takes one page to give a good overview of the business model.

To create sustainable success, it is essential to follow a customer-centric approach. Therefore, the last canvas created was the value proposition canvas (appendix 10) which is a zoom-in on the BMC. The value proposition canvas comprises of two parts: the customer segment and the value map. Firstly, the customer side gets elaborated: customer jobs, customer pains and customer gains are collected and sub-classified as functional, social or emotional issues. Secondly the value map is compiled, i.e. the values generated by the offered product. The value map consists of the offered service, gain creators and pain relievers. Two things can be derived from the value proposition canvas. On the one hand, it allows to assess whether there is a fit between customer needs and the offered product. This prevents putting effort into a product that nobody needs. For Flightright Now we concluded that a fit exists. On the other hand, hypotheses can be derived which have to be tested and validated systematically. Some hypotheses were for instance: 'single interaction is more important than a quick pay-out', 'customers prefer Flightright Now over Flightright standard even if it's 15% more expensive' or 'offering different products increases the overall conversion'.

In order to check up on the hypotheses and also answer new questions, three measures were taken into account. Firstly, Flightright had already conducted a similar project before, called 'Flightcash', and operated on a separate website. The documentation of this project was carefully analyzed to derive answers to our questions and benefit from its lessons learned.

Secondly, detailed benchmarking was conducted. In this respect competing companies were taken into account which offer a payout option within one or two days, meaning that they are making advance payments before any money is received from the airline. The focus of this competitor analysis was set on the pricing, duration and user flow details. Some of the competitors were wirkaufendeinenflug.de, fairplane.de or euflight.de and provided interesting insights:

- The common provision deducted for an express payment is higher than in the success-based model and ranges from 35% to 50% of the original claim.
- The stated pay out periods ranged between 24 or 48 hours. Investigations had revealed that these promises were rarely or never kept. Also the impression was gained, that the express payout model solely served as a bait and customers never got paid out in an express manner. Rather the customer got transferred to the success-based model and by this kept in the company.
- Besides gaining insights and understanding their processes and questions asked to the customer, it became clear that their processes are based on manual work. Especially security checks are not handled automatically and the check of a real employee is needed.

Thirdly, a survey was conducted at the Tegel Airport of Berlin. Basically any innovation project or entrepreneurial venture is based on hypotheses that must be validated through direct contact with real customers. The aim had been to find out how to best present the two products Flightright

standard and Flightright Now, such that the customer chooses the later one. The survey scope included to find out what statements are perceived as attractive or deterrent. Also, it helped to answer our open questions, e.g. whether PayPal would be preferred over bank transfers, and to ask open questions for a better understanding of the customers. Altogether, 21 persons were interviewed and the survey results provided the following major insights:

- Despite an extra charge (25% standard fee, 45% express fee) 82% chose Flightright Now.
- Out of the Flightright Now choosers, the crucial characteristic of the Now product is that they only have to interact once with Flightright.
- Guaranteed payment is valued more than the speed of the payout.
- Bank transfer is prevailing, only a minority chose PayPal.
- Mentioning IDnow as a video identification service was met with skepticism.

With these insights gained, transparent requirements and aligned expectations, the project plan could be meaningfully designed. The main benefit we had expected from the planning, was to assess whether the approach would logically deliver the expected benefits as accessible via scope, time, quality, costs and risks. For the scope it has to be verified that the plan covers all of, and only, the project scope. Time in the shape of a schedule allows advance warning of requirements being ignored and early visibility of delays. In regards to quality it has to be verified whether there is sufficient time allowed to achieve and control quality. Regarding the costs, it needs to be verified if they reflect the time and quality expectations. And lastly, the plan can enable other people to review and identify risks.

The purpose of writing the project roadmap had been to get a first high level, graphical overview of the project's goals and deliverables presented on a timeline. It is important to note that the roadmap should be seen as a guideline, but also be considered as living document which allows changes. In the style of a Gantt chart, our roadmap included work packages, tasks, responsibilities and resource availability. Not just for the project team itself a roadmap can be useful tool but especially for communication purposes and managing stakeholder expectations by indicating the schedule, assign resources, presenting milestones and deliverables as well as revealing dependencies. Over the course of creating the roadmap, the CEO and CIO were consulted in order to secure three necessary developers from the IT department. Further the responsibilities for the whole project were defined with the help of a RACI matrix, assuring that everyone knows who is responsible, is accountable, can be consulted and must be informed (Project Management Institute, 2013).

After elaborating these rather high-level chores, the next steps involved more detailed work as two prototypes had to be built to verify practicability of Flightright Now. Essential for the whole project was to develop a BI prediction model which selects only cases with a high probability of success. More precisely the aim of the prediction model was to have a 95% success rate, i.e. receiving in at least 95% of all cases a payment from the airline, while offering Flightright Now to 10% of all customers. The data set that was used to train the prediction model included all of Flightright's collected cases in the first two quarters of 2015, guaranteeing the cases had had enough time to indicate whether they were successful or unsuccessful. Evaluated with the help of the programming language Python, it needed six training iterations, where certain hypotheses were adapted each time to reach the aim. Knowing from this model that we could build an algorithm selecting promising cases we had the basis for the project. It also became transparent that the algorithm would need continuous future maintenance. One of the indications in this direction had been that the business

case does not only depend on the success rate but also the time needed until the airline pays out. In this regard a dynamic body of rules was built in at a later stage of the project, which constantly evaluates the payment behavior of airlines and blacklists certain airlines if needed.

Secondly, basic mock-ups of the new process were created. In terms of the process, when a user enters a case, this is part of the so-called Claimcheck. The Claimcheck consists of several screens, either prompting the user to enter information or supplying the user with further information. As the Flightright Now process should be integrated in the standard user flow, the existing screens were extended or adjusted with Flightright Now specific information. Examples are the extended pick-a-product screen or the adjusted check-out screen. The mock-up was created in a tool called Balsamiq, where the front end user flow could be easily visualized in order to communicate the expectations to the front end developer. In order to not interfere with the existing standard process and to assure correct handling of Flightright Now cases, the back end process got modelled in a business process management (BPM) tool called draw.io. This did not just help to align front and back end but also drew attention to areas needing an improvement from the business side e.g. finding solutions for fraud protection without manual checks.

Eventually fraud protection arose to a high-priority issue as the possibility of intentional fraud for an instant payout service like Flightright Now bears a significant financial risk. Adding to the difficulty of finding an appropriate solution was the requirement to perform a valid security check which aligned with the 15 min payout time. Researching various options, it turned out that conducting a video identification presents the most viable solution. During video identification, the identity card is checked in an online process. Through the process of identifying existing video identification providers, extensively testing their design and processes, comparing prices, and analyzing their integration documentation, IDnow emerged as our preferred partner. However, we knew already from our airport survey that a security service like IDnow is met with skepticism. Therefore, apart from explaining the process transparently, it was important to also provide an offline solution, for which we contracted the service of Deutsche Post called PostIDENT, where customers can identify themselves in any post office in Germany. Choosing this option, offline-affine customers can still get their compensation guaranteed, though not within 15 minutes.

Knowing all cost positions, a business case could be written to check Flightright Now's profitability, amortization rate regarding the standard process and cash demand. Including various variables like the number of accepted cases per week, expected success rate, percentage of provision taken from Flightright etc. we could simulate worst, average and best case scenarios. An important component of the calculation was the question, whether we do or do not have to pay VAT of 19%, as Flightright Now includes an advance payment and revenue is not guaranteed. For clarification this issue was forwarded to Flightright's legal department, which was asked to find a solution with the state of Brandenburg. Later, at the end of Q4 2016, it turned out that Flightright is obliged to pay VAT on the Flightright Now cases. In consequence, both the business case and Q1 2017 goals for the Flightright Now were significantly impacted.

The goals for the fourth quarter of 2016, where Flightright Now was initiated, were clearly defined in alignment with the SMART principle: specific, measurable, assignable, realistic and time-related (Doran, 1981).

- 100 Flightright Now case openings
- Flightright Now is offered to 10% of all customers
- 95% success rate of Flightright Now cases
- 80% choose Flightright Now over standard
- Flightright Now is covered in 50 articles

Final step before moving to the next project phase consisted of planning the IT development phases of Flightright Now. As already mentioned in chapter 3, the idea was to live through a routine of small and frequent releases instead of the drama of seldom and big releases. In this respect the project got divided into three iterations following clear initial requirements. The focus of the first iteration was to implement a real-time scoring functionality. Obviously, the algorithm needed to be integrated into the Claimcheck to evaluate a customer case during a live session and decide whether or not a case would be Flightright Now eligible. Accordingly, the user flow had to be adapted, making the first iteration a massive work effort. The second iteration was designed to focus on the integration of the external video identification provider IDnow into the user flow. The third and last planned iteration included automatic pay out. As determined prior we planned for facilitation via the PayPal API, building on the premise that all previous process steps are fully automated. More detailed information on each iteration can be found in the following part.

5.3.2. Phase B – Execution, Monitoring and Controlling

The first step into this phase consisted of all members of the Flightright Now squad moving into the same office on Oct 18, 2016. From then on, the core team consisted of two back end developers, one front end developer, the project manager and me to support the project management. Naturally in many ways Phase B can be considered the core phase of the entire project and it also took up the longest period of time.

Iteration 1:

With the goal of implementing the real-time scoring functionality and the adjusted user flow for Flightright Now, the tasks of this iteration could be divided into purely business-oriented tasks, purely IT-oriented tasks and tasks which require input of both sides.

Starting with the business side the first iteration compromised mainly of legal and contractual matters. As Flightright Now differs from the standard service, a different template for concluding a contract with the customer was needed. Among others, Flightright needed to have the right to reclaim paid out money in case of false or fraudulent customer statements. As a result, a new version of the terms and conditions got created for Flightright Now. Another business issue concerned the lengthy contract negotiations with two video identification providers, namely IDnow and WebID. Implementing the video identification service proved to be the only effective tool for fraud protection which could stand up to the 'DNA' of the product, a payout within 15 minutes. IDnow got selected as the partner of choice, but still liabilities, service level agreement (SLA) and of course the price had to be negotiated. Because of several open questions the negotiations took place over several weeks. Eventually the contract with IDnow was successfully concluded and the foundation for the second iteration was achieved. The last entirely business-oriented task was to adjust the customer communication for the Flightright Now service. Clear and consistent communication is essential for a successful online service. Accordingly, the e-mail templates had to be created for automated communication with the customer on status and next steps. These templates got

generated in Mailjet, a provider for e-mail marketing, transactional e-mails and e-mail automation. Later these templates got transferred to CMA, where attachments could be added and variables implemented for a higher degree of personalization.

Another set of tasks consisted of business-IT interrelated tasks. Firstly it needed to be determined, which status information would be required, e.g. after actions like opening a case or receiving required documents. In the standard process there are already some statuses and related actions set. For Flightright Now it was the task to identify statuses that can be reused without interfering with the standard process. This would help to reduce complexity. Therefore the existing statuses were noted in a BPMN (business process model and notation) diagram and new statuses for Flightright Now could be identified and added. Next - in the business-IT interrelated tasks - also the marketing department got heavily involved, as the user flow had to be adjusted. First of all, our initially planned user flow got cross-checked as well as textual parts improved. Whereas the initial plan focused on the steps, the limitations of mobile screens were missed out. Hence a big part of the cooperation between front end and marketing concerned the mobile design of Flightright Now. The first new screen to be implemented was the pick-a-product screen, where the user can choose between standard and Flightright Now. Further an adjusted screen for the check out and a new screen with information about forwarding the customer to IDnow were agreed upon. A big issue arose due to the fact that in the Flightright Now process two different kinds of signatures were needed: one via IDnow which is a valid legal signature and could be used in front of court and a manual signature via the provider DocuSign which is also used in standard process. The reason of sticking to DocuSign was that most of the airlines know and accept this tool for signatures and the signature via IDnow, which looks like a stamp and not like a handwritten signature, could cause confusion and hinder a quick enforcement. After all, it was decided to position IDnow after DocuSign because the IDnow signature is more expensive and in this sequence the risk of losing money is reduced. Concerning the front end, the last business requirement was to implement a tracking functionality. For this Google Analytics was selected and its events were consequentially implemented in the Flightright Now user flow. Having clarified and communicated these requirements the front end development was able to begin.

The remaining set of tasks were pure IT development tasks. Besides synchronizing front- and back end, the focus was to integrate the previously developed Flightright Now algorithm via a REST service. Having it successfully integrated, the machine learning functionality should be developed in the upcoming quarter. Though the algorithm was designed to display Flightright Now to 10% of all users with an estimated success rate of 95%, external factors blocked the plan. Main limitation was an ongoing A/B-test of the Claimcheck, the service in which Flightright Now is embedded. An A/B-test is used to compare two different solutions, in this case the performance of the old and new Claimcheck in order to figure out which one performs better. At that time only 50% of users were forwarded to the new Claimcheck for which Flightright Now was built and as such Flightright Now was going to receive less visitors as expected. Another unexpected event was the change of the product name: Flightright Now initially started under the name FlightFlash. The idea of changing the name came up when the development process had already started. Consequently, time had to be spent on correcting front- and back end code as well as to adjust contract content, statuses, tracking methods and e-mail templates.

All in all, during the first iteration more time than estimated had to be spent on planning tasks and aligning the business and IT side. Hence the project was behind schedule and the following iteration started with an approximate delay of two weeks.

Iteration 2:

The goal of this iteration was to implement IDnow into the user flow, which was a heavily IT related task. Due to complexity reasons, it was decided that IDnow was not going to be embedded into Flightright's website. Instead the customer should be forwarded to IDnow's website, where the customer should do the video identification. Still the integration of IDnow caused many problems, e.g. transferring customer data, supplying IDnow with the correctly personalized contract on time, fetching the newly created documents, ensuring secure data transmission, placing the signature correctly and uploading the documents to CMA. Eventually, IDnow got integrated as follows:

After the user has created a Flightright Now case by clicking on the sign up button, the user reaches a screen where he gets informed about the identification via IDnow. When clicking on 'next', the customer gets forwarded to IDnow with an encrypted link to provide IDnow with the customer's case ID. In parallel the corresponding contract is deposited in IDnow's repository and can be retrieved during the signing process. After being identified and having electronically signed the contract, these documents are fetched with a webhook and are automatically uploaded to the case in CMA. The customer is then forwarded to DocuSign, where he has to sign the same document by hand, which is then also automatically uploaded to CMA and sent to the airline as the RoP (request of payment).

As a consequence of the airport survey, we decided to implement PostIDENT as an offline alternative to IDnow. Setting up PostIDENT was comparably easy. After signing of the standardized contract, the PostIDENT information is added to the e-mail templates and with that it was ready to go. When a customer chooses to get identified via post, a postal employee checks their ID card and sends the information together with the Flightright Now contract back to us. These documents are then scanned by iab – internet access GmbH and processed in CMA as the RoP

Already during the first implementation of the user flow several changes occurred in the front end which had to be corrected. Besides design adjustments of certain screens also legal issues affected the front end e.g. updating the deposited terms & conditions or adjustments of the wording of some buttons.

Reaching the point of testing the new implementations, the biggest issue of this iteration came up. As a consequence of a fast-growing IT environment, the existing infrastructure was very fragile and prone to mistakes. Apart from general infrastructure problems, the staging environment for testing was obsolete and not working. Consequently, effort and time was spent on developing an entirely new staging system. This caused a further delay of the project, but solving this issue promised to be advantageous for the development of future projects.

Having implemented a new staging environment, systematic tests of the entire new process could be conducted, including front end, back end, algorithm and business logic. A checklist which tried to encompass all possible scenarios was set up and tested on different devices. All detected bugs got reported in GitLab and assigned to the corresponding developer for corrective action. After successfully completing this stage, the Flightright Now product got deployed to the live environment. Here Flightright Now could only be accessed with a backdoor link and the testing procedure got repeated one more time.

As the product was now able to go live, briefing files for the staff of IDnow were created and an internal presentation of the project planned. Recapitulating, the second iteration took again two weeks longer than estimated, causing an overall delay of four weeks until this stage.

Iteration 3:

The third iteration began with Flightright Now going live for the German domain on December 11, 2016. Though implementing automated payout technically is not complicated, it became clear that the current process was blocking the implementation. Too many steps had to be completed manually and required human checks. Consequently, the focus shifted from implementing automated payout functionality towards automating process steps and eliminating human work. This iteration was further impacted by the project manager leaving the company by the end of the year.

Collecting the first real cases, areas in need of improvement unfolded. Among others: IDnow documents did not get uploaded into CMA, a PayPal field had to be added to CMA, the Bank Identification Code (BIC) did not get generated automatically, the forwarding link from IDnow to DocuSign did not work. With a company-wide zero bug policy, also the fixing of Flightright Now had highest priority.

Whereas statistics were not very meaningful at this stage of the project, telephone interviews were promising valuable qualitative insights. Therefore, the majority of the Flightright Now customers got contacted and interviewed about their perception of the process and unclear points they had encountered during the process. A further advantage of going live early was to detect flaws by analyzing the accepted cases and conduct corrective actions. For instance, among the first five cases two minors had used and passed through IDnow, which represents an invalid signature because actually the legal guardians have to sign such documents. The corrective action was to prevent minors already in the front end before forwarding to IDnow.

Nevertheless, it became obvious that the goal of 100 collected cases would not be reached by collecting only one or two cases per day. In order to quickly counteract, a new combination of multi-leg flights was incorporated into the algorithm. Getting more cases in the funnel and also accepting more cases, this measure was disadvantageous as the future overall enforcement rate would show that it was drastically lowered by this action and was later going to be redeemed.

In deviation from the plan, the marketing campaign was postponed to the upcoming quarter. This was done deliberately, as the management board preferred presenting a well working product over presenting it quickly.

With the upcoming departure of the project manager and the need to secure resources for the upcoming quarter, a requirements baseline was created. Some of the more important requirements were the payout automation, marketing coverage, implementing multiple passengers or continuous fixing and process automation.

Lastly, the state of Brandenburg had by that time ruled that Flightright Now cases underlie the regular VAT. This obviously diminished the business case drastically. Further drawbacks were the risk of not enforcing accepted cases as well as extra charges for online identification, leading to an unfavorable cost comparison of Flightright Now with the standard product. Consequently, the focus of Flightright Now for the next quarter shifted away from collecting many cases towards building a well working, reliable product which stands out in the legal technology market and could be used well for marketing purposes.

Summarizing the results of the fourth quarter of 2016, Flightright Now has gone live and Flightright's IT infrastructure has been improved considerably over the course of the project. How well the predetermined goals have been reached, can be seen in the following:

Objectives	Results
100 Flightright Now case openings	31 cases opened (31%)
Flightright Now is offered to 10% of all customers	Got offered to 5%, but goal attainment can be seen as successful as the 50:50 A/B-Test affected the achievement of this objective (100%)
95% success rate of Flightright Now cases	Not available, success rate can only be determined after sufficient time period of ca. 3 months
80% choose Flightright Now over standard	64% chose Flightright Now (80%)
Flightright Now is covered in 50 articles	Media campaign got postponed (0%)

Flightright Now in Quarter 1, 2017:

After having completed the heavily technical-based part of Flightright Now, new goals were set for the first quarter of 2017. When originally discussing the goals of Flightright Now the implicit assumption had been that there would be successively collected more cases with each new month, as the algorithm etc. would improve. Realizing that Flightright Now cases are less profitable than standard cases the focus of Flightright Now shifted. The overall goal was now to build a solid product, which stands out in the legal technology market and could be used for marketing purposes. On the other hand from a finance perspective it would be desirable to collect as few Flightright Now cases as possible. Further Oskar de Felice took over as the new project manager. The goals which were agreed upon are stated in the following:

- 300 Flightright Now cases paid out
- 10% offer rate of Flightright Now
- Fully automated processes without manual tasks
- Flightright Now covered in 50 articles

To get an overview over the to do's and their priorities, an issue tree can be used for identifying the input to software design (Podeswa, 2009). The issue tree helps structuring the problem and was divided into three levels: desired outcome, opportunities and possible solution approaches. Being in possession of a detailed list of issues, tasks could be prioritized in regards to limited resources and time constraints. So in that context an issue tree is not just useful for the visualization of issues, but also facilitates planning and easy-to-understand communication.

Applied to Flightright Now, the highest priority was allocated to the issue of redesigning the user flow, including sub-issues like the PayPal automation. The second highest priority was given several issues: to build in a self-learning functionality to the algorithm, structured controlling of Flightright Now cases and to enable multiple passengers to sign up at once for Flightright Now. In the following the issues are described separately and in each discipline. However, the issues were mostly executed in parallel.

Apart from handling operational tasks e.g. sending out e-mails, uploading files and making payments, the monitoring and controlling started with accepting the first Flightright Now case. Mainly two reports had to be created to reflect Flightright Now's status and to present it in the weekly management meetings.

Firstly, the user flow reporting which measured the conversion of Flightright Now. This report was built in Excel with data from Google Analytics and statistics from CMA. Once created it helped to identify the conversion from screen to screen, compare Flightright Now to the standard product and

measure the overall conversion. An interesting finding was that adding the pick-a-product screen caused an overall higher churn rate, contrary to our initial assumption. Further it could be seen that the conversion from IDnow to DocuSign was poor. As a consequence, DocuSign was completely removed from the process and the contract was sent solely with the IDnow signature to the airline. Overall the main disadvantage of Google Analytics was that the data was sometimes inconsistent and difficult to interpret.

Next a finance reporting had to be built in order to check up on total cash exposure, payback time and enforcement rate. Likewise this report was built in Excel, based on data extracted from Tableau. Tableau is Flightright's business intelligence and analytics tool, where most of the operational data is stored. One of the relevant insights gained from this report was the identification of airlines with low enforcement rates, which consequently could be blocked in the algorithm. Still while creating these reports it became clear that there were shortcomings with our tracking. The biggest issue was that we could not track the reasons why certain flights have not received the Flightright Now offer and hence were prevented of improving the algorithm. As a consequence tracking functionality was built in Kibana to visualize the missing data more precisely as it is directly connected to the back end logic of Flightright Now.

The main issue in this phase had been the restructuring of the user flow. As the focus had changed to building a solid product, the initial idea of building a purely digital service could be pursued again. Supported by the insights of the user flow report, the main change was to move the offer of Flightright Now to the end of the process. More precisely, the idea was to offer Flightright Now as an upgrade after the customer had already signed up for standard. This redesign of the user flow would bring two essential advantages: a) lower the churn rate due to a shortened funnel and b) loose less customers in case they do not conduct IDnow because they can be retransferred to the standard service. Having learned from the mistakes of the previous quarter, the IT developers got intensively involved in the planning process.

Further the user flow redesign is the foundation of being able to automatically pay out because the CMA is only able to detect duplicate cases once they are created in CMA, which happens after the sign-up. Before the redesign it had to be checked manually if the customer has already created a case for the same flight before paying out the compensation. Now this check is ensured by offering Flightright Now exclusively after the sign-up. During the implementation of the new processing order, smaller automation tasks of the CMA process were implemented and bugs continuously fixed. Last step for completing the whole process automatically was to enable the PayPal API to automatically pay out via PayPal. Though the implementation of this automatism required little work effort, the mechanism as such may open the door for fraud. Before going live, the API and business logic was therefore intensively tested and a daily maximum budget set.

Another important task was to build a self-learning capability into the algorithm and to ensure its automatic adjustment to changing external factors. Apart from the fact that this would reduce manual work, delivering this functionality had been a requirement of an external research funding which was granted for the Flightright Now project. Simplified, a PMML-based regression model got generated in certain intervals to check changes of payment patterns of airlines and could adjust the airline white and black lists of the algorithm. After successfully live-testing the created model for three weeks, the algorithm could adjust autonomously. Obviously, a regular monitoring of payment patterns will still be necessary, but the bulk of manual work effort had been eliminated hereby.

Lastly the achievement of the marketing goals got delayed again as the public launch event took place on 30.03.2017 and the subsequent articles would be published afterwards. The strategy was to

get featured in the most relevant legal technology magazines as well as to gain awareness in the mainstream media. Accordingly the relevant newspapers and magazines got invited to the launch event, such as Die Zeit, FAZ etc.. A list of published articles mentioning the launch of Flightright Now can be found in appendix 11, including magazines like Gruenderszene, FAZ and FVW.

At the end of the quarter a legal issue appeared. As the signature of IDnow was new to the airlines, some airlines refused to pay out the claim. Consequently, a strategy from the legal department had to be created to clarify how to react to this circumstance. Eventually the airlines responded positively to our request and trial could be avoided. Overall the results of this quarter are again stated in the following table:

Objectives	Results
300 Flightright Now cases paid out	107 cases paid out (36%)
10% offer rate of Flightright Now	10% offer rate (100%)
Fully automated processes without manual tasks	Able to operate 100% automatically
Flightright Now covered in 50 articles	15 articles published (30%)

5.3.3. Phase C – Close-Out

The purpose of this phase was to finalize all project activities completed across the previous phases and transfer Flightright Now to the regular operations of Flightright. Moreover, it was meant to derive lessons learned as well as best practices for future projects. As the project was conducted transparently and close-out activities like process documentation were performed on a continuous basis, this phase had a formal character.

Hence a big part of this phase was made of administrative tasks, mainly the creation of the project documentation. Technical implementations were documented both directly in code and in the GitLab repository. On the business side the main content of the documentation file was the chronological summary of decisions affecting the project, implementations and changes. Looking ahead, the most valuable content of the documentation were the lessons learned. Derived from continuous retrospective meetings these were divided into organizational learnings and project management learnings. Apart from squad internal adjustments, the main purpose of writing down the lessons learned is to facilitate knowledge sharing across the company. In addition, the project close-out required the closure of contracts. Apart from the termination of the PostIDENT contract, which had been long overdue, no external contracts had to be terminated. Part of activities related to the administrative closing of project were the cancellation of all future squad and management meetings.

The second and third purpose of the phase were combined in a single effort: a) to transfer Flightright Now from the project environment into the regular operations and b) to ensure organizational learning. As a start, project achievements were critically evaluated in a post-project review. This meant to evaluate Flightright Now’s success which mainly included time, costs and quality as well as to confirm that the project had met all stakeholder requirements. Further it provided a historic view on the project and focused on successes, problems of the project and recommendations on how new processes could be adapted in other projects. Recommendations for follow-on activities and tasks got passed on to the affected parties, most importantly the operations department and a newly appointed product manager. They were supplied with a transition release note about what specifically was handed over as well as details about any outstanding issues. The operations

department received full autonomy of the case handling which previously had to be accepted by the Flightright Now squad. Part of the product manager's appointment was to define the task profile of this role in order to ensure that Flightright Now is maintained as well as the business side further developed. Eventually the project got closed via a formal project closure report.

5.4. DIFFICULTIES

Uncertainty and handling difficulties are inevitable aspects of projects. Flightright Now was no exception and has provided me with real-life insights into the challenges of managing projects.

General Difficulties:

On a personal level, starting my internship at Flightright and joining a new company, the first difficulties were more of general nature. The first weeks were characterized by understanding Flightright's business. From understanding the business logic with all its exceptions over memorizing abbreviations to figuring out the functionalities of different software, the first weeks were loaded with new information. Though the ISO 9001 recertification project got assigned to me right away which helped to absorb many information, the first weeks could be described as being thrown into the cold water.

Besides this rather personal issue, other difficulties did not wait for long to arise. On a general level, project management is a complex discipline, requiring knowledge in many fields and staying organized. Knowing how a project is set up in theory differs greatly from what it looks like in reality and one first difficulty was to maintain the to-do list and keep an overview over task completion and responsibilities. With the benefit of hindsight, it can be summarized that the only consistency of the project was frequent change. This involved product changes, new project managers as well as organizational changes like the introduction of squads. On the one side flexibility towards new circumstances is rather beneficial to project success, as uncertainty is a fact and no project is alike. On the other side accepting too much change can lead to delays or lacking focus like in Flightright Now. Apart from gaining a new perspective, consequences of the project manager changes were e.g. delays caused by the handover of tasks and loss of knowledge. Accepting new changes brought further delays caused by refactoring and can also be unfavorable for the moral as effort had been invested for irrelevant features.

Planning Difficulties:

In general, a better planning approach could have helped to avoid unrealistic schedules and could have partially pre-empted unforeseen changes. Though project management tools like the creation of a business model canvas or the Gantt-chart have been used, a defined project management framework for IT projects would have helped to not miss out certain aspects. Basic concepts like a critical path analysis were not used, but could have detected misplanning in advance. Hence choosing the right tools and not missing out on important bits depicted a major difficulty in the planning phase.

Next, struggles regarding the correct time estimation of tasks became apparent. On the one side the IT developers got insufficiently incorporated in the estimation of IT-related tasks. On the other side unforeseen events, like the development of a staging system, had not been considered in the schedule. To predict and think of all the details when implementing a new product is one major difficulty of project management. Useful measures to detect missing parts during the project were

the incremental approach itself which is open to change, continuous alignment meetings with the management as well as retrospective meetings with the Flightright Now squad.

Execution Difficulties:

During the execution several challenges came up. One major problem had been the availability of IT resources. Several occasions like private vacations, external education conferences, hackathons and paternal leave came together and caused the squad to be incomplete for longer periods. Dependencies arose and certain steps were set on hold until specific persons reported back on duty. Also dependencies to other company internal projects affected Flightright Now, such as the A/B-Test of the new Claimcheck on which Flightright Now operates. All of this poses an obstacle to the goal achievement and caused a slower learning curve than expected.

Further Flightright Now fell for both typical pitfalls of the incremental model which are mentioned in chapter 3. During the development, a knowledge gap between the business and IT side evolved. Whereas for the business side the lengthy programming times were incomprehensible, the developers were claiming to not have enough business insights. Talking at cross purposes, it took a while until this issue got detected. One problem detected was missing consistency of the IT ticket creation as several different tools and communication ways were used. Especially with changing requirements a rigorous change control process is essential to software development (Wang et al., 2008). Therefore Gitlab was introduced as the only to-be-used platform for IT tickets, which also made it easier for the business side to track progress. On the other hand, a weekly alignment meeting got introduced with the purpose of updating everyone about new business decisions. Another IT related difficulty was the existent IT infrastructure. As Flightright had grown extremely fast also the IT infrastructure had been built up rapidly. Missing documentation and troublesome written code made the integration of the new service a pain. Though the development itself was going well, merging and implementing the code turned out to be complicated and time-consuming. Lastly, lacking agreements with other squads implicated that also other squads were working on the same code, eliminating one another's efforts. For a short period, where the scope had slipped out of focus, the Flightright Now squad also focused on tasks which should have better been done by other squads e.g. the development of the signing pad.

Monitoring and Controlling Difficulties:

After the implementation of Flightright Now the reporting gained importance. Two issues were making the reporting difficult. Firstly, a small set of data, which had been statistically insignificant. Secondly the collected data e.g. in Google Analytics turned out to be inaccurate, not recorded or even contradictory to other data. Therefore, detecting trends or mistakes turned out to be challenging.

5.5. LESSONS LEARNED

The seven months at Flightright and the involvement in the Flightright Now project enabled me to learn more about various subject matters. Especially I could apply the subjects from my Master studies and expand my knowledge based on real-life examples, starting with the incremental model as the chosen development approach, which is subject of classes like IT architectures. Then the theory of business process management could be applied several times. Business Intelligence played a major role during the development of the Flightright Now algorithm. Web analytics was applied in

the user flow reporting for which Google Analytics has been used. Besides these subjects where I could deepen my knowledge, I especially gained knowledge in the field of IT project management, which deserves a more detailed explanation.

Overall the project was conducted under the motto 'get started – learning quickly matters more than a perfect product'. Projects which are characterized by variation and foreseen uncertainty allow more planning, whereas projects which are dominated by high levels of unforeseen uncertainty and chaos should focus on learning (Meyer et al., 2002). Having this in mind the quick iterations and frequent reviews were an insightful approach to modern software development.

Regarding the insights into project management, I did not just learn from the tools and techniques we have used, but also from the mistakes we have made and tools we should have used. Starting with the tools and techniques we have used, the Flightright Now project gave me an understanding of how to efficiently organize a team. On a high level, goals and objectives were set for both teams and individuals. To keep a progress overview daily stand-ups, weekly alignment and management meetings as well as regular retrospective meetings took place to improve the collaboration. I learned that regular highlight reports ensure stakeholder involvement. It became clear that frequent but short communication is key e.g. briefly mentioning latest results, potential issues/roadblocks and the next steps.

Especially the way of initially setting up the project had been instructive. The canvases used for this part are relatively easy to create, encourage exchange of ideas and facilitate easy communication of the project. Having performed it once on a real project, I have acquired an effective tool to analyze business ideas in the future. Also the use of the issue tree has been anchored in my mind as a simple tool to help structuring and re-prioritizing project issues. In general, these tools were helpful for communication purposes as they simply visualize the overall picture.

Obviously, mistakes have been made during the project as timelines have been overrun and budgets wrongly estimated. From a positive perspective, the project offers mistakes to learn from for the future. Communication turned out to be a critical factor in the project, as many difficulties arose of misperception or tackling tasks with incomplete information. Therefore, it must be ensured that information is passed correctly and it is understood what is expected. The only way to rest assured about this is obtaining feedback. A good way to identify lacks were the retrospective meetings which revealed inefficiencies like these.

The major shortcoming of the project had been inaccurate time planning. Retrospectively, the developers should have been included with their expertise in the planning process. This could have led to more realistic time estimations as well as raise awareness for tasks which have been missed out. Besides these expert judgements further tools like the three-point estimation (most likely, optimistic and pessimistic cases) for a more precise schedule or the critical path analysis for identifying bottlenecks could have been used (Project Management Institute, 2013). Buffers should have been included in the time plan to account for schedule uncertainty like absence or leave of resources. Also it might be necessary to set hard rules in advance to guarantee availability for certain periods of the project. Further I realized that it is important to be aware of the optimism bias regarding own estimations. Future events tend to be in a more positive light which does not reflect reality (Flyvbjerg, 2008) and might negatively affect duration estimation, which can ultimately result in declining moral of the team.

One intentional advantage why the incremental model was chosen had been the possibility to integrate new requirements and allow change. Though in the case of Flightright Now with frequent changes of requirements and staff the limit was kind of reached. Due to the external decision of

paying taxes the focus of Flightright Now had to be readjusted. In summary, this homed in the fact that too many changes can cause confusion. I also realized that goals might change during the project and readjustments might be necessary to continue the project. Further it is important to be aware of related projects and their interdependencies, especially for setting realistic goals.

Having made these experiences in project management I have gained knowledge which is not company specific and can be also valuable in similar future situations. Hence these new insights make me confident to perform better in new projects or jobs.

Also regarding my entrepreneurial interest, I could gain new knowledge. Especially the meetings with the management were valuable as they focused on the bigger picture and offered a strategic perspective. Continuous benchmarking and looking for inspirations in the e-commerce industry helped me to be more perceptive towards outside trends. Another take away from these meetings was the importance of customer-centric thinking and constantly validating assumptions against reality e.g. through customer interviews or surveys. Often asking simple questions to customers brought better insights than deeply analyzing facts and numbers. The start-up environment further enabled me to take over tasks with a high degree of responsibility and also promoted the attitude of looking for tasks instead of waiting for them to come to me. As Flightright continues to grow quickly, also organizational changes like the implementation of squads and difficulties like a changing company culture could be observed. Lastly I gained specific industry know-how of the legal technology market and service related e-commerce.

6. CONCLUSION

In a nutshell, the internship at Flightright has been an excellent and rewarding experience. Without a question, project management and technical aspects of the work we have conducted have not been flawless, but offered great opportunities to learn from. In this sense writing this report itself helped to recapitulate, critically evaluate and better understand the applied methods and techniques.

Throughout the internship I could deepen my theoretical knowledge and gain new practical skills. With an academic background in business administration and IT, this internship was the ideal opportunity to apply both fields. In the early stages of Flightright Now rather knowledge in business administration was required, e.g. in business analysis and financial planning. Later subjects in need drew on my Master studies, which particularly included IT project management, but also business intelligence, IT architectures, knowledge management, business process management, information systems management and web analytics. Summed up, the content of the internship at Flightright proved to be perfectly tailored to my academic background.

Condensed, there are two key hands-on insights I have taken away from the internship, which are transferable to new projects. Firstly, I gained experience in IT development and became aware of the several challenges when developing a new IT service: from time-planning over communication to architectural struggles. Secondly, I have deepened my know-how in project management and have now a better understanding of tools and techniques, and how to use them. Continuous feedback and advice from different sides helped me to improve my skills already on the job, like communication skills and project management knowledge.

Also, I gained the start-up experience I had been particularly looking for. Being closely connected to the management and having touch points with all departments, I could gain an understanding of how the entire company works. The work was characterized by a high degree of responsibility, giving me the opportunity to immediately contribute to company success. Advantages I have gained are experiences which are transferable to other projects and getting connected to many smart colleagues. In addition, the company supports a learning culture and has shown great flexibility regarding its organizational structure, making it an inspiring place to work at.

A further great aspect of my internship was that it provided me with a clear idea of how to proceed on my professional path. Given that the area of e-commerce related start-ups continues to fascinate me, I have realized that project based work offers a good opportunity to learn extremely fast about industry issues as well as from mistakes. It also forces me to work in a highly organized way. So, to follow my determination to found a company myself in the future, a good way to prepare is to become a business IT consultant. Not only will such a role expose to me to all of the above, but will let me access a breeding ground for relevant business ideas. Therefore, this will be the next career that I will focus on.

Revisiting my initial goals for the internship, I am fortunate to have found an internship, which allowed me to achieve them all. In my assessment, I learn from practical experiences more than studying theory. As such the internship report has been the perfect opportunity to finalize my Master in Information Management.

7. BIBLIOGRAPHY

- Basil, V. R., & Turner, A. J. (1975). Iterative Enhancement: A Practical Technique for Software Development. *IEEE Transactions on Software Engineering*, SE-1(4), 390–396.
- Beck, K. (2004). *Extreme Programming Explained* (2nd ed.). Boston, MA: Pearson Education.
- Besner, C., & Hobbs, B. (2006). The Perceived Value and Potential Contribution of Project Management Practices to Project Success. *Project Management Journal*, 37(3), 37–48.
- Bloch, M., & Blumberg, S. (2012, January 2017). *Delivering large-scale IT projects on time , on budget, and on value*. Retrieved from <http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/delivering-large-scale-it-projects-on-time-on-budget-and-on-value>
- Boehm, B. W. (1988). A Spiral Model of Software Development and Enhancement. *Computer*, 21(5), 61–72.
- Boston Consulting Group, Brucerius Law School, Veith, C., Bandlow, M., Harnisch, M., Wenzler, H., ... Hartung, D. (2016, December 2016). *How Legal Technology Will Change the Business of Law*. Retrieved from http://www.bucerius-education.de/fileadmin/content/pdf/studies_publications/Legal_Tech_Report_2016.pdf
- Doran, G. T. (1981). There's a S.M.A.R.T. way to write management's goals and objectives. *Management Review*, 70(11), 35–36.
- Flyvbjerg, B. (2008). Curbing Optimism Bias and Strategic Misrepresentation in Planning: Reference Class Forecasting in Practice. *European Planning Studies*, 16(1), 3–21.
- Greer, D., & Ruhe, G. (2004). Software release planning: An evolutionary and iterative approach. *Information and Software Technology*, 46(4), 243–253.
- Gruenderszene (2015, January 2016). Wachstums-Ranking 2015. Retrieved from http://www.gruenderszene.de/wp-content/uploads/2016/08/201608_GS_Ranking_2015_pdf-1.pdf?ref=gsranking16
- Guazzelli, A. (2012a). *Predicting the future , Part 1 : What is predictive analytics ?*
- Guazzelli, A. (2012b). *Predicting the future, Part 2: Predictive modeling techniques*.
- Guazzelli, A. (2012c). *Predicting the future, Part 3: Create a predictive solution*.
- Guazzelli, A. (2012d). *Predicting the future, Part 4: Put a predictive solution to work*.
- Halper, F. (2014). *Predictive Analytics for Business Advantage. TDWI Best Practice Report*.
- IATA. (2016, October 2016). IATA Forecasts Passenger Demand to Double Over 20 Years. Retrieved from <http://www.iata.org/pressroom/pr/Pages/2016-10-18-02.aspx>

- International Organization for Standardization. (2015, December 2016). *Reaping the benefits of ISO 9001*. Retrieved from www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/reaping_the_benefits_of_iso_9001.pdf
- Lavagnon, A. I. (2009). Project Success as a Topic in Project Management Journals. *Project Management Journal*, 40(4), 6–19.
- Leau, Y., Loo, W., Tham, W., & Tan, S. (2012). Software Development Life Cycle AGILE vs Traditional Approaches. *2012 International Conference on Information and Network Technology*, 37, 162–167.
- Mahapatra, H. B., & Goswami, B. (2015). Selection of Software Development Methodology (SDM): A Comparative Approach. *International Journal of Advanced Research in Computer Science and Software Engineering*, 5(3), 58–61.
- Mathai, M. K., Venugopal, R., & Abraham, J. T. (2015). Software Engineering Process in Web Application Development. *IOSR Journal of Computer Engineering Ver. V*, 17(1), 28–32.
- Meyer, A. De, Loch, C. H., & Pich, M. T. (2002). Managing Project Uncertainty: From Variation to Chaos. *MIT Sloan Management Review*, 60–67.
- Mishra, A., & Dubey, D. (2013). A Comparative Study of Different Software Development Life Cycle Models in Different Scenarios. *International Journal of Advance Research in Computer Science and Management Studies*, 1(5), 64–69.
- Petersen, K., Wohlin, C., & Baca, D. (2009). The Waterfall Model in Large-Scale Development. In *Product-Focused Software Process Improvement* (pp. 386–400).
- Podeswa, H. (2009). *The Business Analyst's Handbook*. Boston, MA: Cengage Learning.
- Pressman, R. S. (2010). *Software Engineering - A Practitioner's Approach* (7th ed.). New York, NY: McGraw-Hill.
- Project Management Institute. (2013). *A guide to the project management body of knowledge (PMBOK® guide)*. Project Management Institute (5th ed.). Newtown Square, PA: Project Management Institute, Inc.
- Project Management Institute. (2016). *The high cost of low performance. PMI's Pulse of the Profession*. Retrieved from <http://www.pmi.org/-/media/pmi/documents/public/pdf/learning/thought-leadership/pulse/pulse-of-the-profession-2016.pdf>
- Ruparelia, N. B. (2010). Software Development Lifecycle Models. *ACM SIGSOFT Software Engineering Notes*, 35(3), 8–13.
- SAS. (2017, March 2017). Predictive Modeling Techniques. Retrieved from https://www.sas.com/pt_br/insights/analytics/predictive-modeling-techniques.html
- Saxena, P., & Kaushik, M. (2013). Software Development: Techniques and Methodologies. *International Journal of Software & Hardware Research in Engineering*, 1(3), 48–52.

- Schwaber, K., & Beedle, M. (2001). *Agile Software Development with Scrum*. Upper Saddle River, NJ: Pearson.
- Schwalbe, K. (2012). *Information Technology Project Management* (7th ed.). Boston, MA: Cengage Learning.
- Seema, & Malhotra, S. (2012). Analysis and tabular comparison of popular SDLC models. *International Journal of Advances in Computing and Information Technology*, 1(3), 277–286.
- Sommerville, I. (2006). *Software Engineering. Software Engineering* (9th ed.). Boston, MA: Pearson.
- Spotify (2014, December 2016). Spotify Engineering Culture. Retrieved from <https://labs.spotify.com/2014/03/27/spotify-engineering-culture-part-1/>
- Taylor, J. (2013). *Managing Information Technology Projects: Applying Project Management Strategies to Software, Hardware, and Integration Initiatives*. New York, NY: Amacom.
- The Standish Group. (2009). *CHAOS Summary 2009*. Retrieved from <https://www.classes.cs.uchicago.edu/archive/2014/fall/51210-1/required.reading/Standish.Group.Chaos.2009.pdf>
- VersionOne. (2016, January 2017). *The 10th Annual State of Agile Report*. Retrieved from <http://stateofagile.versionone.com/>
- Wang, E. T. G., Ju, P. H., Jiang, J. J., & Klein, G. (2008). The effects of change control and management review on software flexibility and project performance. *Information and Management*, 45(7), 438–443. <https://doi.org/10.1016/j.im.2008.05.003>

8. APPENDIX

Appendix 1

Source: Schwalbe, K. (2012)

Knowledge Area/Category	Tools and Techniques
Integration management	Project selection methods, project management methodologies, stakeholder analyses, work requests, project charters, project management plans, project management software , change requests , change control boards, project review meetings, lessons-learned reports
Scope management	Scope statements , work breakdown structures , statements of work, requirements analyses , scope management plans, scope verification techniques, scope change controls
Time management	Gantt charts , project network diagrams, critical path analysis, crashing, fast tracking, schedule performance measurements
Cost management	Project budgets, net present value, return on investment, payback analysis, earned value management, project portfolio management, cost estimates, cost management plans, cost baselines
Quality management	Quality metrics, checklists, quality control charts, Pareto diagrams, fishbone diagrams, maturity models, statistical methods, test plans
Human resource management	Motivation techniques, empathic listening, responsibility assignment matrices, project organizational charts, resource histograms, team building exercises
Communications management	Communications management plans, kick-off meetings , conflict management, communications media selection, status and progress reports , virtual communications, templates, project Web sites
Risk management	Risk management plans, risk registers, probability/impact matrices, risk rankings
Procurement management	Make-or-buy analyses, contracts, requests for proposals or quotes, source selections, supplier evaluation matrices

Appendix 1: Common project management tools and techniques by knowledge area

Appendix 2:

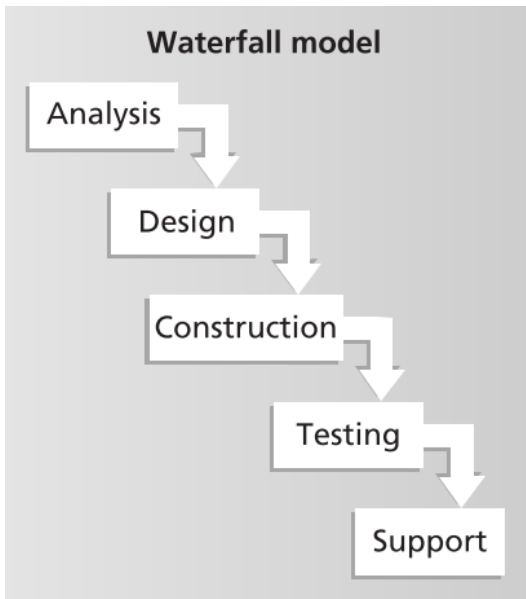
Source: The Standish Group (2009)

1. **User Involvement**
2. **Executive Support**
3. **Clear Business Objectives**
4. **Emotional Maturity**
5. **Optimization**
6. **Agile Process**
7. **Project Management Expertise**
8. **Skilled Resources**
9. **Execution**
10. **Tools and infrastructure**

Appendix 2: Project success factors

Appendix 3:

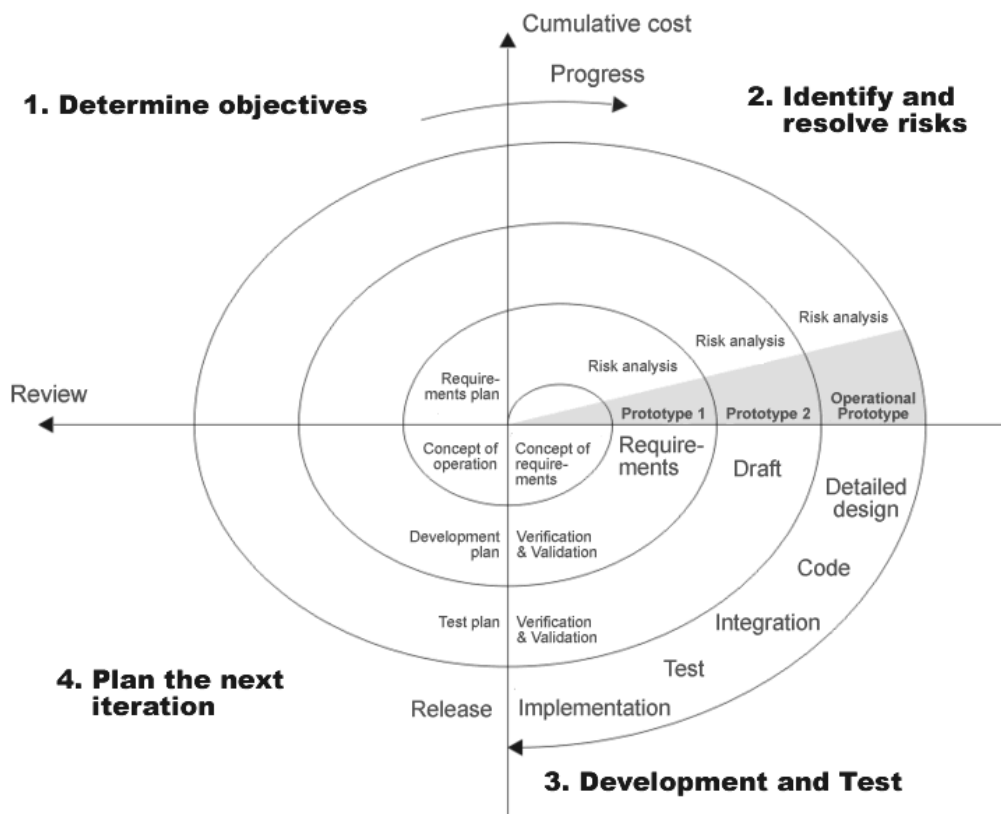
Source: Schwalbe, K. (2012)



Appendix 3: Waterfall model

Appendix 4:

Source: Mishra, A., & Dubey, D. (2013)

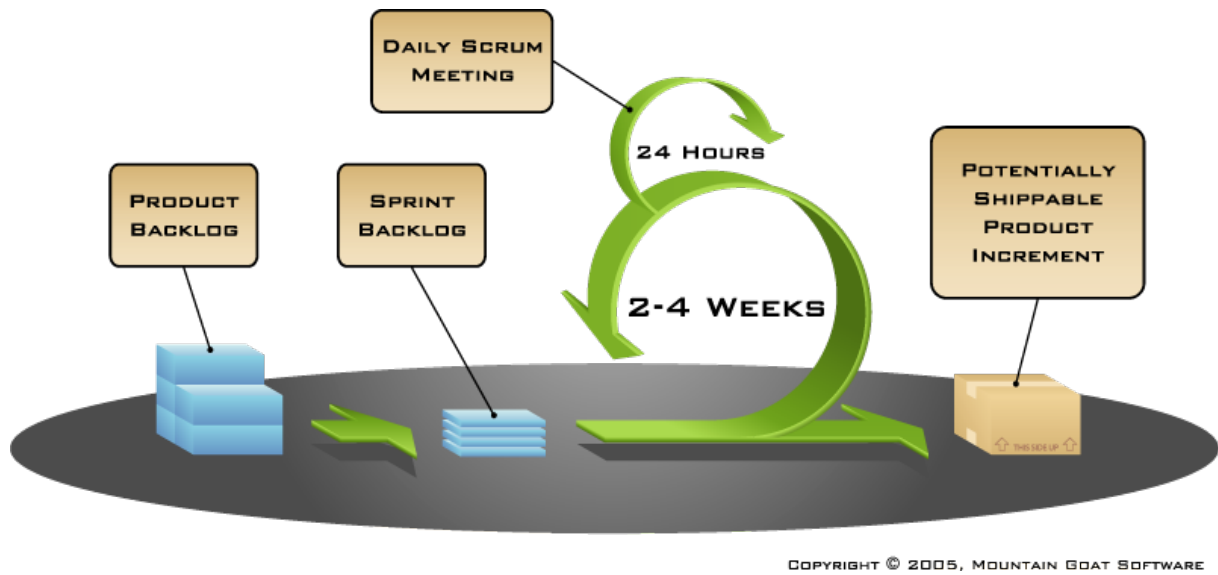


Appendix 4: Spiral model

Appendix 5:

Source: <https://www.codeproject.com/Articles/704720/Scrum-explained>

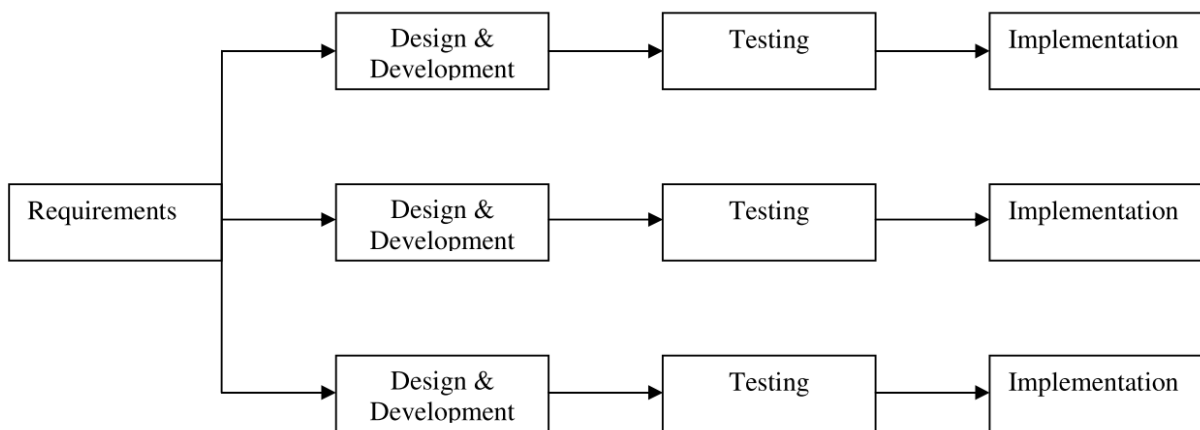
Date: Mar 03, 2017, 5:13 p.m.



Appendix 5: Scrum model

Appendix 6:

Source: Seema, & Malhotra, S. (2012)



Appendix 6: Incremental model

Appendix 7:

Last update: Feb 17, 2017

Name	Weblink
Google Gmail	www.gmail.com
Google Calendar	www.google.com/calendar
Google Sites	www.sites.google.com
Google Slides	www.google.com/slides
Slack	www.slack.com
GitLab	www.gitlab.com
Customer Management Application	https://cma.flihtright.de
Docker	www.docker.com
Ember.js	www.emberjs.com
lab – internet access GmbH	www.internet-access.de
IDnow	www.idnow.eu
PostIDENT	www.deutschepost.de/en/p/postident.html
PayPal API	https://developer.paypal.com/docs/api/
Tableau Software	www.tableau.com
Google Analytics	www.analytics.google.com
Postman	www.getpostman.com
Elastic Search / Kibana	www.elastic.co/products/kibana
Balsamiq	www.balsamiq.com
Draw.io	www.draw.io
Small Improvements	www.small-improvements.com
MailJet	www.mailjet.com

Appendix 7: Sources of used applications and technologies

Appendix 8:

Source: <https://tech.zalando.com/blog/zalando-project-management-framework/>

Date: Jan 30, 2017, 1:46 p.m.

- What will we do and what not? (Scope / Non-Scope),
- Who is involved with which responsibilities? (Stakeholders),
- Where do we start? (Initial Situation)
- What are the risks we already can think about? (Known Risks)
- What will be the outcome of the project? (Deliverables)
- When will we be successful with the project? (KPI's / Success Factors)

Project Charter Canvas		Project Name	Purpose / Objective	Date												
				Iteration #												
Participants <small>Who is involved? Who is supporting the project in which role?</small>	Scope <small>What is the project all about? What will be the subjects the project takes care of?</small>	Deliverables <small>What will be produced by the project team? What are the outcomes that can be touched, seen or used?</small>														
	<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> Non Scope <small>What will not be done in this project, but could easily be assumed?</small> </div>															
Tradeoffs <small>Where can you make tradeoffs to strengthen fixed project constraints? "The X (never) marks the spot." Dr. Henry Walton Jones, Jr.</small>	Initial Situation <small>Where do we start? What do we already have?</small>	Requirements <small>How does the deliverables look, feels and behave when they enable the purpose of the project?</small>	Acceptance Criteria <small>What are the success criterias and personal expectations of the project participants?</small>													
<table border="0"> <tr> <td style="padding-right: 10px;">Scope</td> <td style="text-align: center;">← fix</td> <td style="text-align: center;">: tradeoff</td> <td style="text-align: center;">→</td> </tr> <tr> <td>Quality</td> <td style="text-align: center;">←</td> <td style="text-align: center;">:</td> <td style="text-align: center;">→</td> </tr> <tr> <td>Time</td> <td style="text-align: center;">←</td> <td style="text-align: center;">:</td> <td style="text-align: center;">→</td> </tr> </table>	Scope	← fix	: tradeoff	→	Quality	←	:	→	Time	←	:	→	Risks <small>What are the known uncertainties and threats of the project?</small>			
Scope	← fix	: tradeoff	→													
Quality	←	:	→													
Time	←	:	→													

Project Charter Canvas by Tobias Leonhardt for Zalando SE is licensed under a Creative Commons Attribution 4.0 International License.

Appendix 8: Project charter canvas

Appendix 9:

Source:

https://en.wikipedia.org/wiki/Business_Model_Canvas#/media/File:Business_Model_Canvas.png

Date: Jan 30, 2017, 10:35 p.m.

Designed for:
Designed by:
Date:
Version:

The Business Model Canvas

<p>Key Partners </p> <p>Who are our Key Partners? Who are our key suppliers? Which key Resources are we acquiring from partners? Which key Activities do partners perform?</p> <p>KEY RESOURCES WE ACQUIRE Specialized human resources Manufacturing and machinery Production of raw materials Acquisition of particular resources and activities</p>	<p>Key Activities </p> <p>What key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams?</p> <p>KEY RESOURCES Physical Human Financial</p>	<p>Value Propositions </p> <p>What value do we deliver to the customer? Which one of our customer's problems are we trying to solve? Which bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?</p> <p>KEY RESOURCES Channels Partnerships Customer Relationships "Getting the job done" Design Manufacturing Channels Costs Risk Reduction Access to Resources Accessibility Complementarity</p>	<p>Customer Relationships </p> <p>What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have the most established? How are they engaged with the rest of our business model? How costly are they?</p> <p>KEY RESOURCES Human resources Manufacturing equipment Software Manufacturing process Channels Customer Relationships Distribution</p>	<p>Customer Segments </p> <p>For whom are we creating value? Who are our most important customers?</p> <p>KEY RESOURCES Human Human Equipment Software Manufacturing Distribution</p>
<p>Key Resources </p> <p>What key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams?</p> <p>KEY RESOURCES Physical Human Financial Partners Partnerships</p>		<p>Channels </p> <p>Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?</p> <p>KEY RESOURCES 1. Activities 2. Channels 3. Distribution 4. Partnerships 5. Partners 6. Channels 7. Distribution 8. Partnerships 9. Partners 10. Channels 11. Distribution 12. Partnerships 13. Partners 14. Channels 15. Distribution 16. Partnerships 17. Partners 18. Channels 19. Distribution 20. Partnerships</p>		
<p>Cost Structure </p> <p>What are the most important costs inherent in our business model? Which key Resources are most expensive? Which key Activities are most expensive?</p> <p>KEY RESOURCES Cost of raw materials Cost of direct and indirect costs, but some value proposition, maximum automation, extensive outsourcing Value Drivers (Fixed or variable costs, premium value proposition) KEY RESOURCES Human Human Equipment Software Manufacturing Distribution Customer Relationships</p>		<p>Revenue Streams </p> <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?</p> <p>KEY RESOURCES 1. Activities 2. Channels 3. Distribution 4. Partnerships 5. Partners 6. Channels 7. Distribution 8. Partnerships 9. Partners 10. Channels 11. Distribution 12. Partnerships 13. Partners 14. Channels 15. Distribution 16. Partnerships 17. Partners 18. Channels 19. Distribution 20. Partnerships</p>		

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The masters of Business Model Generation and Strategyzer

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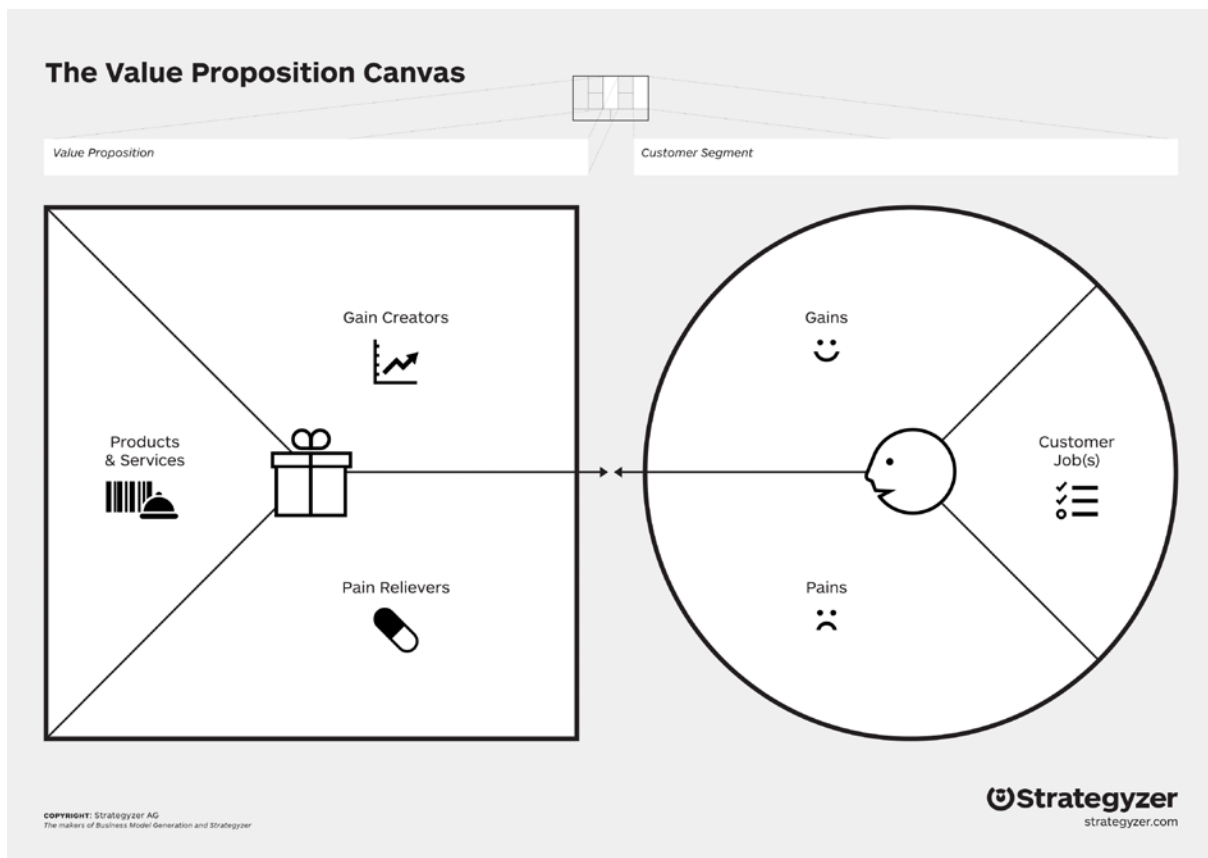
strategyzer
strategyzer.com

Appendix 9: Business model canvas

Appendix 10:

Source: <https://strategyzer.com/canvas/value-proposition-canvas>

Date: Jan 30, 2017, 11:08 p.m.



Appendix 10: Value proposition canvas

Appendix 11:

Last update: Apr 04, 2017

Title	Medium	Link
«Flightright Now»: Portal verspricht Sofort-Entschädigungen	aboutTravel	http://abouttravel.ch/reisebranche/travel-tech/flightright-now-schluss-mit-ewigen-wartezeiten-bei-flug-entschaedigungen/
Flightright Fluggäste sollen schneller entschädigt werden	Berliner Zeitung	http://www.berliner-zeitung.de/wirtschaft/flightright-fluggaeste-sollen-schneller-entschaedigt-werden-26283556
Flightright	CHIP	http://www.chip.de/webapps/Flightright_111767484.html
Flightright: Bei Verspätung in Minuten Geld zurück	Computer Bild	http://www.computerbild.de/artikel/cb-Aktuell-Internet-Reisekostenerstattung-Verspaeung-Flightright-Now-10463469.html
Flugreisende sollen in nur acht Minuten entschädigt werden	FAZ	http://www.faz.net/aktuell/wirtschaft/unternehmen/flightright-buisnessplan-14955834.html
Flugreisende sollen in nur acht Minuten entschädigt werden	F.A.Z. PLUS	http://plus.faz.net/evr-editions/2017-04-04/k1PoZyYPHNZsHGUBnBKnFOCN?GEPc=s5
Flightright will binnen Minuten entschädigen	fvw.de	http://www.fvw.de/fluggastrechtsportale-flightright-will-binnen-minuten-entschaedigen/393/171030/0
Heimliche Ausweitung des Geschäftsmodells	fvw.de	https://www.fvw.de/index.cfm?event=page.index&cmp.socialbookmarks.metadata.key=169515 150&xid=18082&cid=18865
Euflyght will Flightright-Kunden mit Prämie ködern	fvw.de	https://www.fvw.de/index.cfm?event=page.index&cmp.socialbookmarks.metadata.key=169579 150&xid=18082&cid=18865
Konkurrent greift Flightright scharf an	fvw.de	https://www.fvw.de/?event=page.index&cmp.socialbookmarks.metadata.key=169888 150&xid=18082&cid=18865
Ärger bei den Flugrechte-Startups	Gruenderszene	http://www.gruenderszene.de/allgemein/zoff-flugrechte-flightright-euflyght#disqus_thread
Flightright Fluggäste sollen schneller entschädigt werden	Kölner Stadt-Anzeiger	http://www.ksta.de/wirtschaft/flightright-fluggaeste-sollen-schneller-entschaedigt-werden-26283556
Entschädigung in Echtzeit	Kyffhäuser Nachrichten	http://www.kyffhaeuser-nachrichten.de/news/news_lang.php?ArtNr=209793
Flightright Fluggäste sollen schneller entschädigt werden	Mitteldeutsche Zeitung	http://www.mz-web.de/wirtschaft/flightright-fluggaeste-sollen-schneller-entschaedigt-werden-26283556
Entschädigung in Echtzeit: Flightright Now bietet Sofortzahlung innerhalb von Minuten	StartupValley.news	http://www.startupvalley.news/de/flightright-now-sofortzahlung-innerhalb-von-minuten/

Appendix 11: Published Flightright Now articles