THE SERVICE SYSTEM
AROUND THE BUSINESS

MASTER THESIS PROCESS REPORT BY ALICE MANFREDI & PASCAL BYRGESEN

AALBORG UNIVERSITY – CPH
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ABSTRACT

Through an investigation of the service system of Airtame, this paper aims to support the future business design of the startup providing schools and enterprises with a wireless streaming solution. The 3-month research was conducted through a user-driven approach and followed a 5-phase method allowing the researchers to investigate, assume, validate, realize, and eventually elaborate on the results. The analysis is primarily built on understanding former and potential users' needs. In addition, the analysis focuses on the Airtame company and other business profiles within the field of information technology. As a result, a combination of identification of users' unmet needs, value definition, and trends monitoring performed by the authors turned into a reconsideration of the Airtame service system. In fact, by incorporating the software installation with the enterprise mobility management (EMM), it enables users to explore a smooth and current experience when streaming from their smartphone. The study has formed evidence to conclude that an intervention on the service system can add value to the overall business design of a company.

#servicedesign #servicesystemsdesign #businessdesign #wirelessstreaming #emm #user-driven #Airtame

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LEARNING GOALS

According to the curriculum, the students must 'demonstrate the acquisition of competences, skills and knowledge that allow them to master the profession of service design'. This includes knowledge about design theories and the possibilities to apply appropriate methodological approaches on the design of advanced and complex product-service systems.

In order to do so, and in line with our interest, we have chosen to explore the possibilities of implementing service systems design tools and methods within the future business design and direction of a company. We want to identify where and how in the design process of a business direction our skillset can support. We have chosen to work on a real business case with a start-up company aiming to explore new business opportunities.

TARGET

The target of this *process report* is first of all external censor Thomas Hammer Jacobsen and our professor and supervisor Nicola Morelli. Secondly, the target is everyone who has an interest in service systems design and who is keen to know how the area of study can impact a business design and direction. For this reason, the 'process report' is affected by academic definitions and tools.

The *project report* on the other hand, it is intended to provide Airtame (the business case chosen) with clear and concise results. Therefore, the 'project report' is featured with a different tone of voice and has been developed around a pragmatic problem statement. In addition, the 'project report' has been created as a documentation source to support our portfolios as aspiring professionals in the service systems design area.

INTRODUCTION

A consistent amount of different businesses have started bringing human-centered design capabilities in house through the acquisition of design agencies and design talent. At the same time, service design agencies are using business design to increase the business relevance of their projects for clients. This is happening in response to a growing number of organisations struggling to find solutions to achieving digital capabilities, meeting customers' expectations, and delivering a consistent quality of service across different channels (Arico, 2015).

The purpose of this thesis is to explore the potential of service design to impact business. The motivation for investigating this area comes from two main reasons. First, a need as professionals to prove that the knowledge acquired during the Master's in Service Systems Design can be applied and bring value to a working environment. Second, an increasing interest in the service business to explore more in depth the relationship between service and business, and how these two aspects influence and affect each other.

The goal of this thesis is not only to perform research around the raised question, but also to pragmatically investigate the problem area by working on a real case with a company. In this setting, it will be possible to gather tangible insights and measure the efficacy of the outcome from service design tools and methods applied to a business case. By focusing on how businesses can use and be affected by service systems design, we aim to facilitate an appointed company to achieve significant value within its business design.

Fig.1 Interaction and exchange between business organizations and Design Agencies

RESEARCH QUESTION

When designers work in a service logic, they use design for services to enable deeper transformational change processes (Sangiorgi et al., 2015). This thesis wants to prove how a business could achieve significant business results by tackling the service system from a theoretical perspective. Several factors can be impacted, especially those ones related to customers engagements, i.a. customers' behaviours, perceptions and experience (Sangiorgi et al., 2015).

Based on these inspiring reflections, this master thesis aims to investigate the following research question:

HOW CAN AN INTERVENTION ON THE SERVICE SYSTEM OF A BUSINESS AFFECT ITS BUSINESS DESIGN?

CASE STUDY

The business case chosen to apply the thesis research regards the startup company Airtame. Airtame is a fast growing company that was crowdfunded in 2014 in Copenhagen and has expanded worldwide with offices and business relations ever since. The vision of the company is to allow users to share presentations without cables, thus to work without limits. The mission of the company is to guarantee an easy-to-use product that the customers are satisfied with. The product developed by Airtame is a dongle for streaming content wirelessly that makes it easy to present on the go. It uses a B2B model, primarily engaging schools and medium to large companies (Airtame, 2017, online).

Our purpose is to prove how business opportunities can be discovered by using a user-driven and a service systems design approach. This intervention requires customer research and benchmarking, together with the tools and methodologies within service systems design and design thinking. The outcome is assumed to be a paper addressing the customers' unmet needs and provide the company (Airtame) with new values and future insight.

By tackling the service system around the business, the output expected is to create new value for the business. In particular, to enhance the user experience and find innovative solutions by using diverse thinking. Eventually, we aim to support the business design. These elements are assumptions that will be validated along the process of this research.

RESEARCH	CONCEPT

input: design intervention   *output: new value creation*

- user-driven perspective
- iterative approach
- systemic view

- enhanced user experience
- innovative solution
- business design
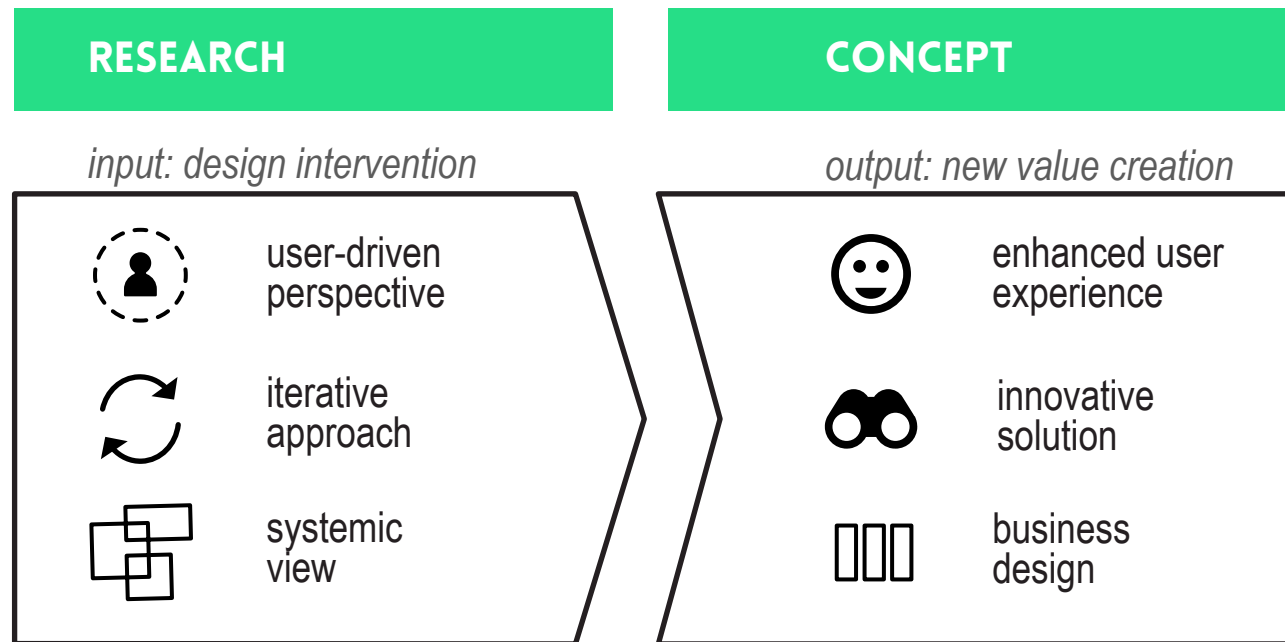
Fig.2 It shows the elements that we aim to bring as a design intervention (inputs) into an existing business (Airtame)

AIRTAME: PRODUCT VS SERVICE

It is relevant at this point to operate a distinction between the goods that Airtame offers to its customers. The intention is not to investigate the technicalities of the product that Airtame offers, but the service around it, and most importantly, how the customers are experiencing it.

The most interesting aspect to tackle and explore with this thesis project is the service provided. To describe it in a few words: Airtame provide their customers with a solution that facilitates the streaming of static content, branding or dashboard presentations.

The reason for choosing to focus only on the service is foremost because of the nature of the Master programme (Service Systems Design) and secondly because of the area of interest of the thesis direction. The whole service system is taken into consideration because "a service system represents any value-co-creation configuration of people, technology, value propositions connecting internal and external service systems, and shared information" (Vargo, 2008, p5).

This is how Airtame operate:

- The Airtame software needs to be installed in the presenter's computer (Airtame is compatible with any OS)
- The Airtame hardware (a dongle with 2 antennas) needs to be plugged into the screen where the presentation will be streamed to.
- Both the computer and the dongle are connect to the same WiFi network.
- The dongle has 2 internal antennas: one that connects to the local WiFi and one that activates and an internal network (so called ad-hoc mode), in case the WiFi is off.

Fig.3 Streaming a presentation with Airtame from a computer to a screen - wirelessly.

Slide presentation

WiFi

Personal device
connected to WiFi

Airtame software
installed in

Screen with Airtame
dongle plugged-in

Dongle connected to
WiFi ready to stream
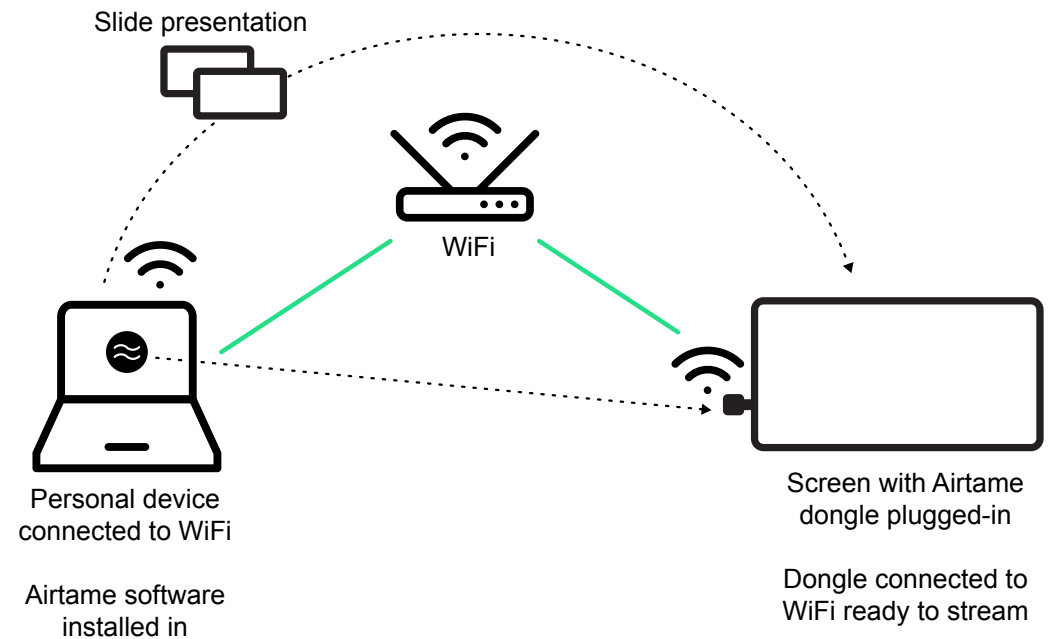
The wireless features for a wireless future

Ethernet support

Prefer using a wired network for extra stability? Try an ethernet adapter. It's still wireless from computer to TV/projector.

Using an ethernet adapter ▸

Flexible powering

Power Airtame with the included AC adapter or directly from your TV with the micro USB cable. Or even PoE.

Powering of the device ▸

Free support

Our team is ready to answer your questions on email, a scheduled phone call, and on our social media platforms.

Outside our hours? Try our Help Center ▸

Enterprise networks

We support WPA2 Enterprise and uploading certificates. With two built-in WiFi chips, you can use both 2.4 and 5GHz networks.

Read more about Network setup options ▸

Supports DVI/VGA

If you have a VGA or DVI projector, that's no problem. Just use an adapter and enjoy the magic of wireless.

Using adapters for screens without HDMI input ▸

Free updates

You get new features as soon as we develop them, like a portable app that's on our not-so-secret roadmap.

What's coming next ▸

Ready to go wireless?

THE AIRTAME DEVICE

1. Micro USB Power 5V 1A
2. Micro USB 2.0 Host port
3. Reset button / Power LED
4. HDMI 1.4

PACKAGE CONTENTS

AC Adapter

EU Plug   UK Plug

Airtame Device

Micro USB Cable for power

HDMI Extension cord

Fig.4 Overview of the Airtame components and features (Airtame, 2017, online)

DELIMITATIONS

Taking into account our interest and resources, it is of matter to delimitate the research context from outer areas.

Even though Airtame has a stake in the U.S. market, this thesis will primarily be focused on the Danish market. The business possibilities and customers expectations might be different overseas, which makes it difficult to explore. This does not mean that the results are indifferent to the U.S. market, but operating in the Danish market might be an evidence for greater insight.

We delimitate from going in-depth with all of the product functionalities and features, since the study of the product is not in scope. Yet an overall understanding and knowledge of the device is obviously needed.

Lastly, we delimitate from approaching Airtame customers other than our personal networks. Taking into account that this is a thesis project, exploring potential business directions, it is out of our responsibility to let them come to life. Meaning, we are not in charge of what the Airtame future holds. Additionally, it was not Airtame's interest that we reached out to their clients without their approval.

Fig.5 We delimitate our research to the Danish market

DEFINITIONS

USERS/CUSTOMERS/CLIENTS
When we refer to either 'users', 'customers' or 'clients', we take into consideration any person who has been in contact either with the Airtame dongle or the company itself. In this context, both customers and clients are the ones using Airtame.

PRESENTERS
We define 'presenter' as the individual who is in the act of sharing a presentation from a personal device to a TV screen. According to the previous definition, a presenter is indeed a user, a customer, and a client of Airtame.

ACTORS VS STAKEHOLDERS
According to Jonathan Metzger (2013), actors are always stakeholders but stakeholders are not always actors.
- *Actors* represent the active users, the ones interacting with the Airtame operations.
- *Stakeholders* are the ones passively attending a presentation, a meeting, or lecture at the school.

BUSINESS DESIGN
When business design is mentioned, we refer to the direction of a business. We consider the business design of a company strictly connected to its system - thus our interest to investigate.

ENTERPRISE
According to Eurostat Statistics (2016), enterprises can be classified in different categories depending on their size (number of persons employed). For this purpose different criteria and wordings may be used when referring to an enterprise (e.g. company, corporate, SME or business). In this case the number of employees is not crucial, but when the size of the enterprise matters, it will be explained. Indeed, when mentioning 'enterprises' we refer to the entire infrastructure and system of it (e.g. mobile devices and machines, IT department, communications department etc.).

SERVICE DESIGN INTERVENTION
We define a service design intervention as: "A design methodology based around how to organise service provision around the interactions between users, touchpoints, service personnel, and backstage stakeholders. It considers organising people, infrastructure, communication and material components of a service in order to improve its quality" (Simonds, 2016). This means that we recognise that the operations that we will make through our research have the objective to impact the whole service system of the chosen case study.

DESIGN THINKING
Design thinking
Design thinking is the methodology of Empathise, Define, Ideate, Prototype and Test, on which we intend to base our user-driven design principles. It is a highly collaborative, human-centred and iterative approach to problem seeking and problem solving, relying heavily on empathy, ideation and experimentation to drive innovative solutions that people love. It is a method of meeting people's needs and desires whilst ensuring that the solution is both technologically feasible and strategically viable (Brown, 2009).

ABOUT US AND OUR ROLE

ALICE MANFREDI has Italian origins, but has been living in Denmark for the past few years. It was in Florence where she graduated with a Bachelor degree in Industrial and Graphic Design. During that time, she developed an interest for the service aspect that design brings and started to grow a desire to learn more about the discipline. She moved to Denmark to pursue a career within the healthcare sector, where she strives to bring innovation and design thinking. What she finds most fascinating about Service Systems Design, is the fact that it provides a pragmatic mindset and critical tools to: engage stakeholders, build scenarios and eventually focus on the user needs and context. For the past 10 months, she has been proud to competently work on the project management of clinical trials in Novo Nordisk, mostly basing her knowledge and skills on her Service Systems Design education.

PASCAL BYRGESEN has his heritage not far away from Copenhagen, Denmark. Having parents working within human resources and insurances, it is no wonder why the sympathy for needs has played a big role in his life. From an early age Pascal started working with customer service in the retail industry. Later on, he explored his interest in the backend system of a service by kick starting his professional career as a Back Office Agent. Today his resume includes a Bachelor of Arts in Business Administration and professional titles such as Key Account Agent, Project Manager, and currently Assistant at Deloitte Denmark.

We collaborate with Airtame in the sense of information sharing. The company provides us with company insights about the customers and the usability of the product. We provide the design team with the results that we collect and we receive ongoing feedback and validation from Airtame. In the end, we want to provide Airtame with a paper explaining how our research can support them to explore new - and unmet - business opportunities.

MSc THESIS STUDENTS

RESEARCH & DISCOVERIES

PRODUCT & SERVICE EXPERTISE
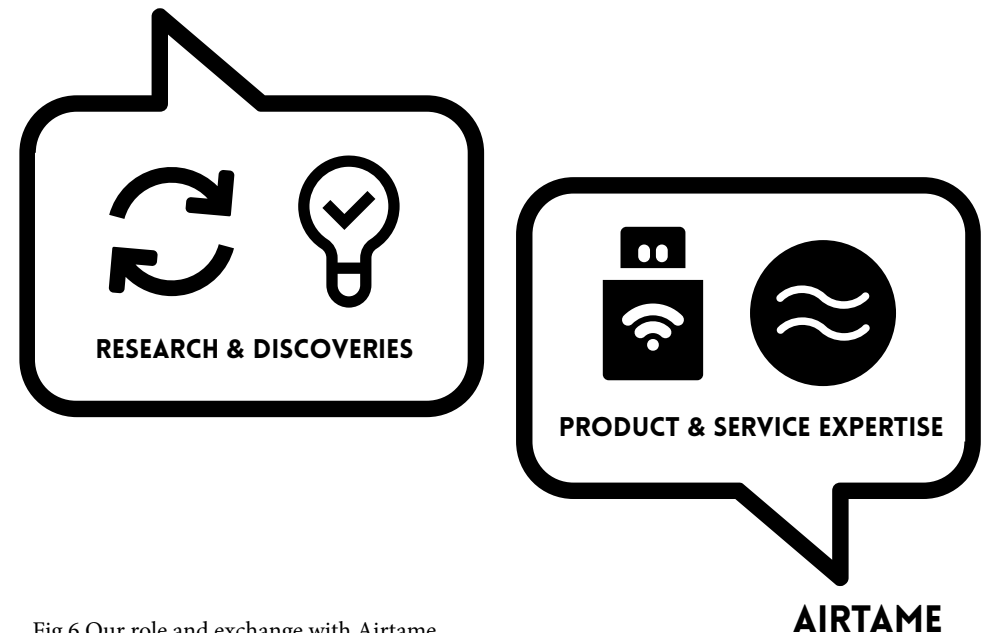
AIRTAME

Fig.6 Our role and exchange with Airtame

The timeline is an illustration of our collaboration in the projects during the MSc Service Systems Design. It also presents the different perspectives and experiences that shaped us as individuals, students and professionals.
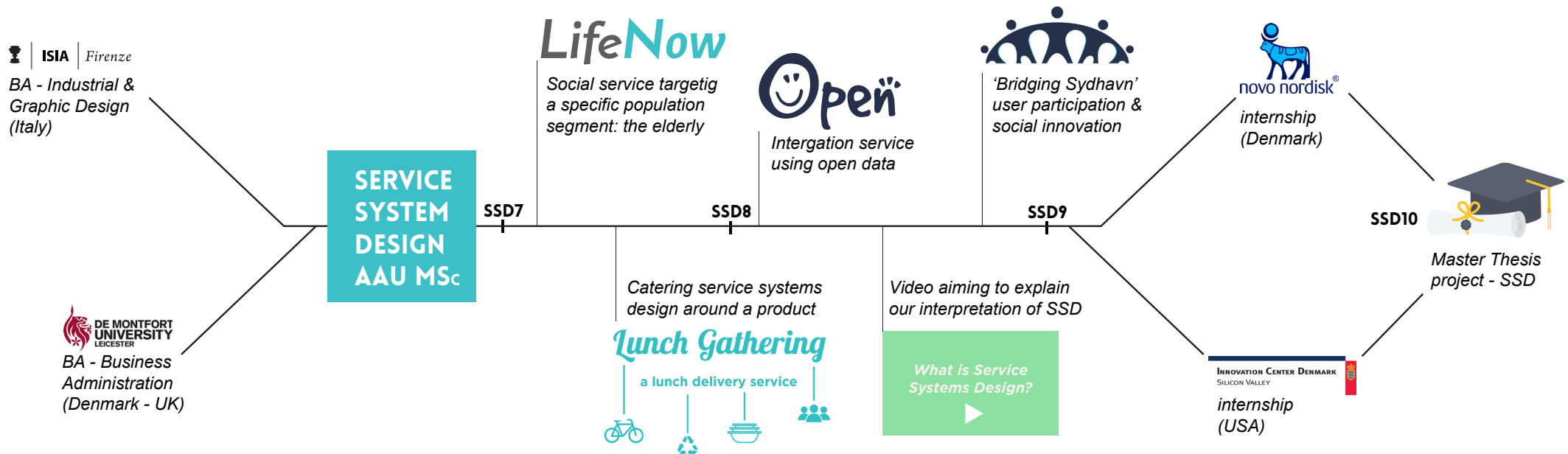
Fig.7 Timeline of the authors' collaboration during the MSc Service Systems Design

METHODOLOGY

As part of the methodological creation, we started to reflect on our previous experiences. We have worked both with the IDEO-inspired methodology and the Double Diamond. We reflected upon the benefits that we encountered when using one or the other and we also considered what aspects of the design process we felt that we were missing. This reflective discussion led us to build our own methodology.

Defining a methodology is important to proceed with a systemic approach when designing a service. According to Morelli (2002), a service design approach is iterative and includes phases such as the identification of customers' needs, concept generation and selection, concept testing and final specification. Taking these considerations in mind, we have developed an approach that reflects these directions on a high-level structure, thus we can call it methodology (Ishak and Alias, 2005).

We have chosen to call our methodological design process ERIVA. ERIVA is an anagram that stands for the initial letters of the 5 phases: Investigation, Assumption, Validation, Realization, Elaboration.

1 – INVESTIGATION
It is the phase of research, when the problem area is identified and analysed. Researching about the problem field means that all the context around it is worth being investigated and observed. Research and observations are some of the tools that could be useful during this phase.

2 – ASSUMPTION
Hypothesis are built during the investigation phase. Indeed, while gaining a better understanding of the research area, assumptions and critical questions are generated.

3 – VALIDATION
The assumptions formulated need to be corroborated, in order to satisfy as much as possible the stakeholders or touch points identified while formulating the hypothesis. Qualitative and quantitative data can be collected to support the assumptions with evidence and insights.

4 – REALIZATION
It is the phase that holds understandment, awareness and discernment about the problem field. Because of these factors, it is possible to formulate ideas that reflect factual data based on solid information.

5 – ELABORATION
The findings generated during the realization phase need to be further developed in order to move forward and generate new scenarios, opportunities and solutions to satisfy the research area (and eventually create innovation).

ERIVA METHODOLOGY

INVESTIGATION

ELABORATION

ASSUMPTION

REALISATION

VALIDATION
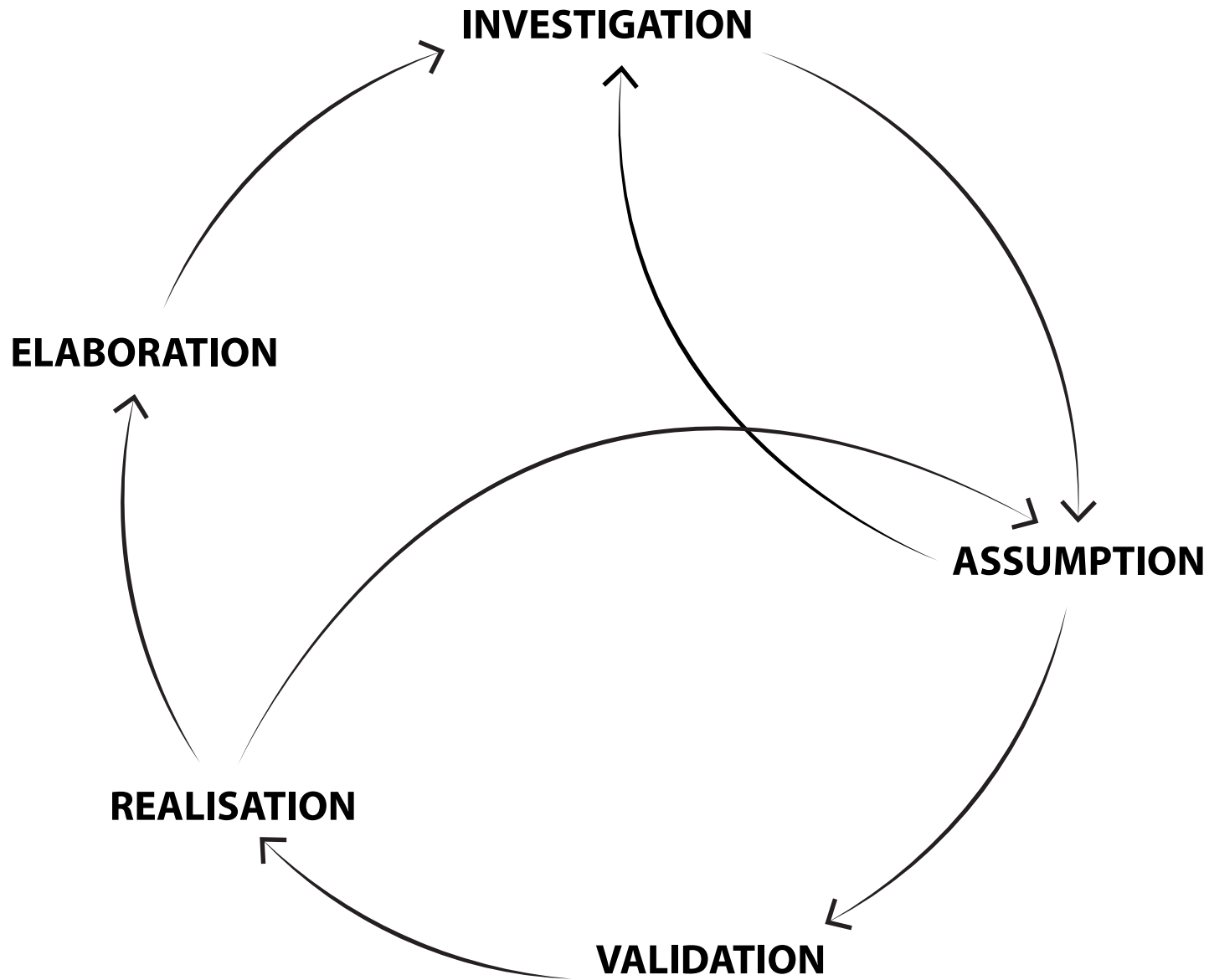
Fig.8 The ERIVA methodology is iterative. The following representation is just an indication of how the approach most likely would evolve throughout a project.

PROJECT MANAGEMENT

We have incorporated project management tools in order to plan, execute, and control the process. Besides the logbook, in which we emptied our heads with ideas, findings and missions, it was valuable to create a timeline with milestones and tools to be explored.

The timeline also shows the different phases of the ERIVA methodology. This allowed us to keep track of when and where Airtame validation had to be included, as well as supervision and sparring.

- The grey boxes mark the research and reflections upon the existing service and customer experience offered by Airtame
- The black and green boxes represent the milestones: those sessions when we got in contact either with Airtame, our supervisor or some other professionals in terms of further research or validation
- The green boxes mark new ideas and new knowledge acquired
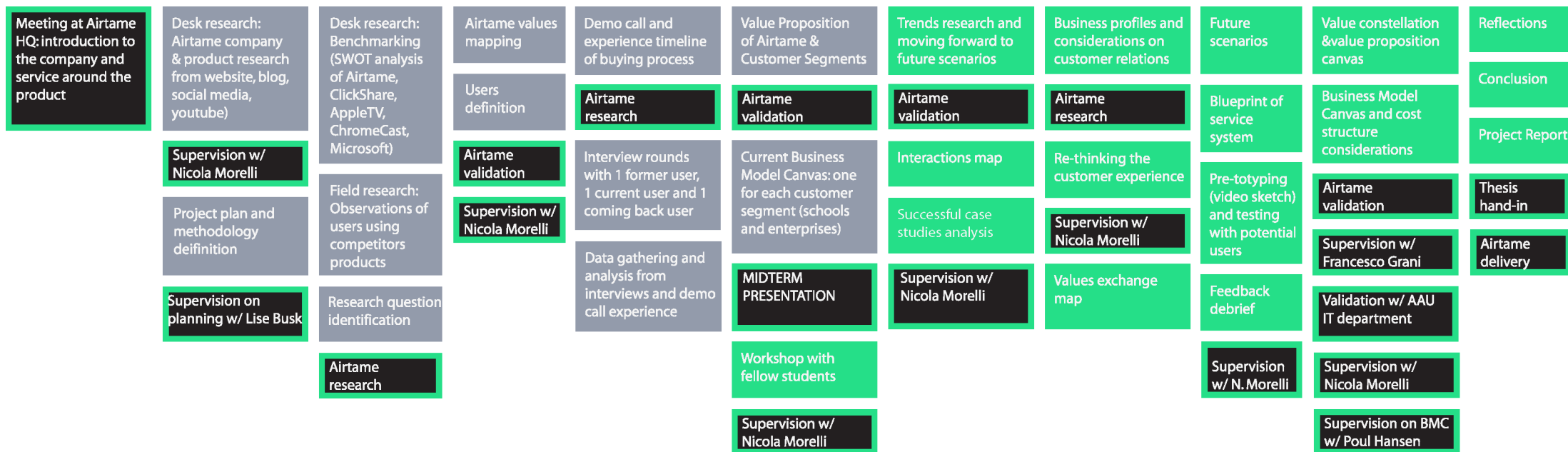
Fig.9 Project Management timeline

ANALYSIS

BENCHMARKING ANALYSIS

We went into desk research as a part of the investigation phase. The purpose of the desk research was to collect all the data that were already out there. We identified what are the main competitors to Airtame as well as what are people's perceptions. We used the SWOT analysis in order to get a deeper understanding of the strengths and values of the different products.

SWOT analysis is a classic planning tool used to determine and evaluate Strengths, Weaknesses, Opportunities, and Threats involved in a project, an organization or a program (The toolkit project, 2017, online). In this context, the analysis was used to identify the key internal and external factors considered important in achieving objectives for Airtame and their competitors as well.

Together with Airtame, the competitors analysed and compared are:
* Barco Clickshare
* Google Chromecast
* AirPlay (Apple TV)
* Microsoft Wireless Display Adapter

AIRTAME

Airtame offers a software (the Airtame app that can be downloaded on Google Play and Apple app store) and a hardware (the dongle). With the software installed in the presenter's computer and the dongle plugged in the screen, the users can present from their computer to a screen without cables support. The connection is established via WiFi as both the software and the hardware are connected to it. Airtame started out thanks to a record-breaking crowd-funding campaign in 2014. The Copenhagen based company has grown fast, expanding and establishing a strong market overseas, particularly in the U.S. Today, the HQ team praises 19 different nationalities and has shipped more than 40,000 devices (Airtame, 2017, online).
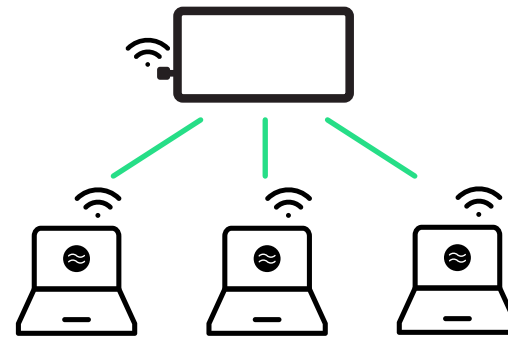
Fig.10 Many devices can stream to the same screen
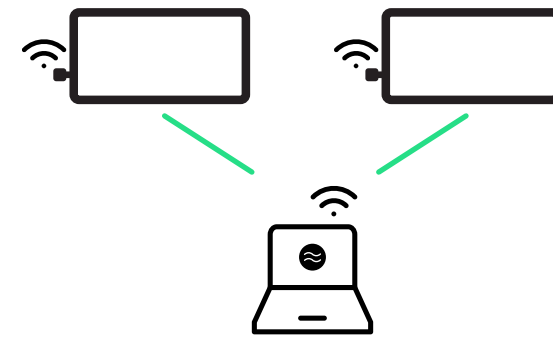
Fig.11 One single computer can stream a presentation to as many screens as many dongles are connected

The Airtame product is compatible with any OS, making it a very advantageous product for schools and any other business where users work on different personal devices. Another peculiarity of Airtame is that multiple users can share their presentation to the same screen, making it very relevant for classrooms. Since multiple devices can be connected to a single screen, Air-tame allows users to manage any of their devices from the Cloud. The Cloud provides an overview of all the dongles and softwares connected to the WiFi. The advantage is that the users are able to reboot and manage the dongles remotely (Airtame; Information Strategy, 2017, online).

SWOT ANALYSIS OF AIRTAME

STRENGTHS

- Wireless presentation, nothing plugged to the computer
- Device compatible with any OS
- Ad hoc mode integrated in the dongle
- On-the-go solution for presentation
- Cloud management of devices
- Successful crowdfunding
- 1 user can stream to multiple screens
- Multiple users can stream to the same screen
- Customer service, online chat
- Distributed through Amazon
- Supporting devices
- Customizable standby screen
- Security setting

WEAKNESS

- Software download and installation
- Strong WiFi connection required
- B2B market only
- Streaming of online video does not work properly
- Pricy (compared to competitors)
- Only allows 'mirroring' of content
- Requires 1 dongle for every screen
- Only distributed online

internal

external

OPPORTUNITIES

- Exploring external collaborations
- Expanding equipment and products
- Exploring unmet business opportunities

THREATS

- Tough competition
- Fast-changing trends in technology

BARCO – CLICKSHARE

Barco is a global technology company designing and developing networked visualization products for the Entertainment, Enterprise and Healthcare markets. It was established in 1934. ClickShare is Barco's wireless presentation and collaboration system that allows people to share content to the screen.

The analysis of this product has been conducted not only through desk research, but by attentive observations while the product was used in an office environment. Through user observations at Deloitte, we noticed that the device is not iOS compatible, contrary to what Barco claims in their website. (Barco, 2015, online)

SWOT ANALYSIS OF BARCO CLICKSHARE

STRENGTHS	WEAKNESS
• Strong market position • Active in more than 90 countries • Colossal customers • Accessory products • Plug and play feature requires no administrative rights/software	• Requires device plugged into computer (1 ClickShare for every device) • B2B market only • Few suppliers • Most expensive product • Smartphone screen streaming limited to Clickshare wifi (cannot connect to inhouse wifi) • Streaming of online video does not work properly • High-complexity installation *internal*
OPPORTUNITIES *external*	THREATS
• Expand office locations • New products and services • B2C segment • Retail distribution	• Device compatible only with Microsoft and iOS • Tough competition

GOOGLE CHROMECAST

The biggest advantage of the Chromecast device is that it enables the users to 'cast' their presentation, rather than 'mirroring' it. This means that while the presenters are streaming their content, they can work on other things while presenting. An additional strong advantage is the segmentation of the market, both B2B and B2C. The optimal online video streaming, makes the product a preferred solution for home entertainment.
(Google Chromecast, 2017, online)

SWOT ANALYSIS OF CHROMECAST

STRENGTHS	WEAKNESS
• Wireless presentation • Strong brand image • Large organizational size • Distributed in US biggest retailers and online worldwide • Guest-users can stream without connecting to in-house WiFi • Optimal for streaming online videos • Casted presentation • Offers diverse products/solutions • B2B and B2C • Home entertainment	• 6 clicks to share screen • No possibility to customise standby screen presentation • Cannot share screen from all smartphone OS • Needs tv with HDMI port (no adaptors provided) • Dependence on the WiFi
	internal
OPPORTUNITIES	*external* **THREATS**
• Sharing with multiple screens • Tap more mobile users • Penetrate new markets	• Tough competition

APPLE TV – AIRPLAY

Apple TV is a 'black box' connected to the users' WiFi and as a consequence, to any other iOS devices connected to the same WiFi. This 'black box' needs to be connected to the screen through an HDMI cable. The sharing runs through Airplay, an app by default included in any iOS device.
(Apple TV Support, 2017, online)

SWOT ANALYSIS OF APPLE TV

STRENGTHS	WEAKNESS
• Strong brand image • Large organizational size • Customer loyalty • Worldwide distributed in stores and online • Upgraded models/editions • Casted presentation • Software included on devices • Offers diverse products/solutions • Price friendly	• Online video streaming quality not always a guarantee • Optimal for iOS products only • Incompatibility with upgraded versions/models
	internal
	external
OPPORTUNITIES	**THREATS**
• B2B market • New services	• iOS compatible only • Increasing number of Android users • Great ideas are imitated • B2C only

MICROSOFT WIRELESS DISPLAY ADAPTER

The 'plug and play' Microsoft Wireless Display Adapter is connected to the WiFi and to a HDTV or monitor. It allows users to stream movies, view personal photos, or display a presentation.   (Microsoft; Information Strategy, 2017, online)

SWOT ANALYSIS OF MICROSOFT WIRELESS DISPLAY ADAPTER

STRENGTHS	WEAKNESS
• Casted presentation • Large organizational size • Medium price level • B2B and B2C • Home entertainment • Distributed online • Offers diverse products/solutions	• Online video streaming quality not always a guarantee • Runs on Microsoft or Android OS devices only • Runs on bluetooth (devices proximity is required) • HD tv is needed

internal

external

OPPORTUNITIES	THREATS
• Complementary services	• Tough competition • Only Microsoft compatible

LEARNING FROM BENCHMARKING ANALYSIS

The SWOT analysis of the different competitors taught us how and where Airtame differentiate itself from its competitors. Ensuring compatibility with any OS is one thing, the possibility of multiple sharing is yet another. Airtame stands out from its competitors also by including the Cloud in the system. It is also true that the product gains notice for being particularly pricy (it is 5 times more expensive compared to most of the competitors).

VALUES MAPPING

Inspired by Manzini et al. (2004), we mapped out the values that emerge across the different competitors. We used a radar chart which allows a visualization of the findings according to predefined assessment criteria - which we drawn from the SWOT analysis. Firstly, we performed the mapping for every single competitor, eventually we overlapped the graphs, which was useful to evaluate how significant each value is in its context of use.

Based on the SWOT analysis, we selected those criteria that we in agreement with Airtame considered relevant for further investigation:

- **OS friendly** - Compatibility to any OS (e.g. iOS, Android, Linux)

- **Ad hoc mode** - Possibility to rely on the dongle internal WiFi network

- **Software free** - Possibility to share a screen without the need to install a software to run the presentation or to connect to the screen

- **Smartphone enabling** - Possibility to share a presentation through a smartphone

- **Supporting devices** - Accessories offered by the company in order to enhance the performance of the product (e.g. plug adapter, ethernet cable, usb/HDMI adaptor, backup battery)

- **Cost friendly**

- **Customer service**

- **Static presentation** - Presenting a static content (e.g. slide deck)

- **Home entertainment** - Possibility to stream HD video content from online channels (B2C market)

- **On-the-go** - Flexibility of the product to adapt to any presentation context (e.g. switch presentation screens and devices)

AIRTAME VALUE MAPPING
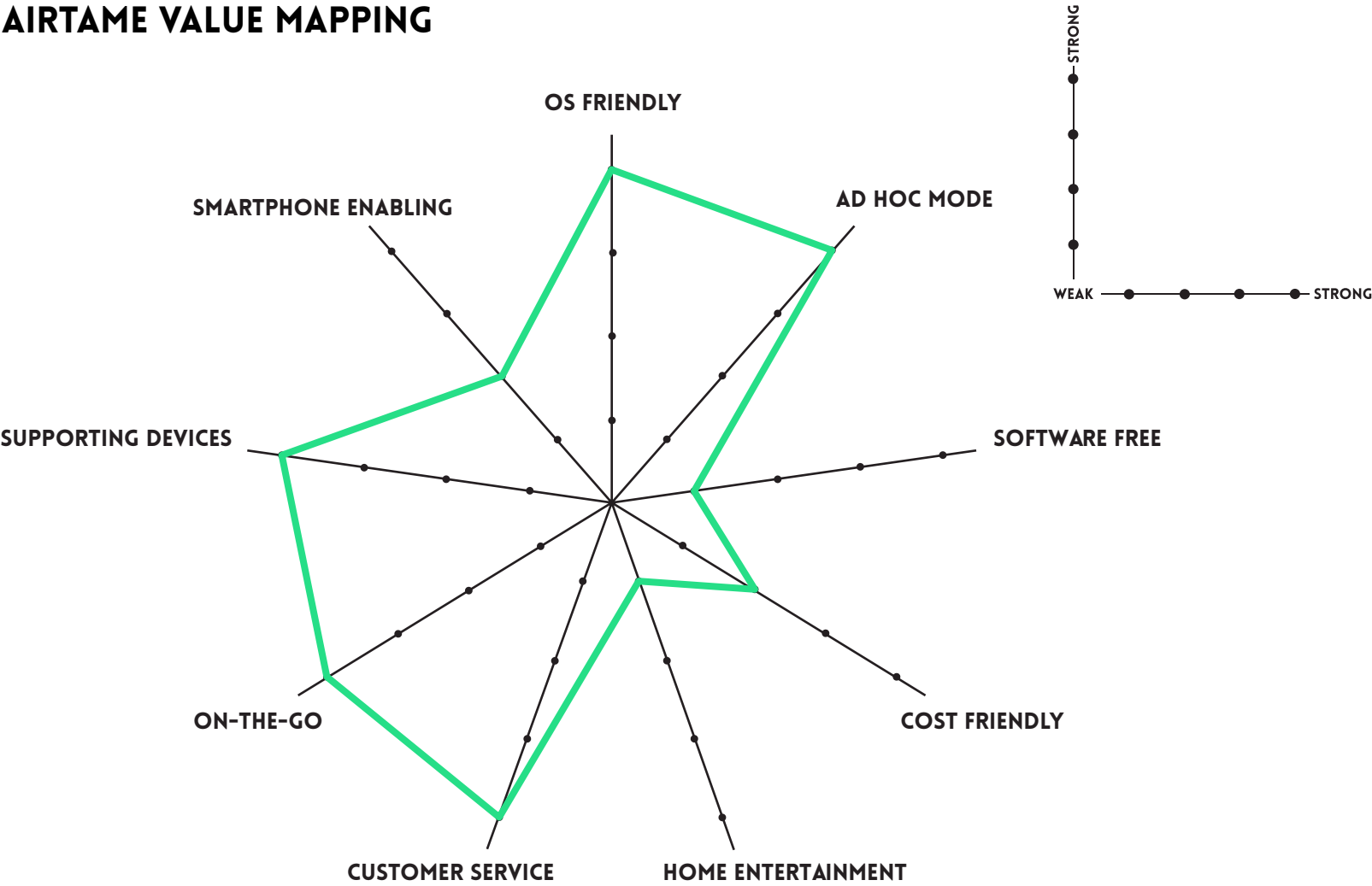
Fig.12 Values provided by the Airtame service and product

BARCO CLICKSHARE VALUE MAPPING
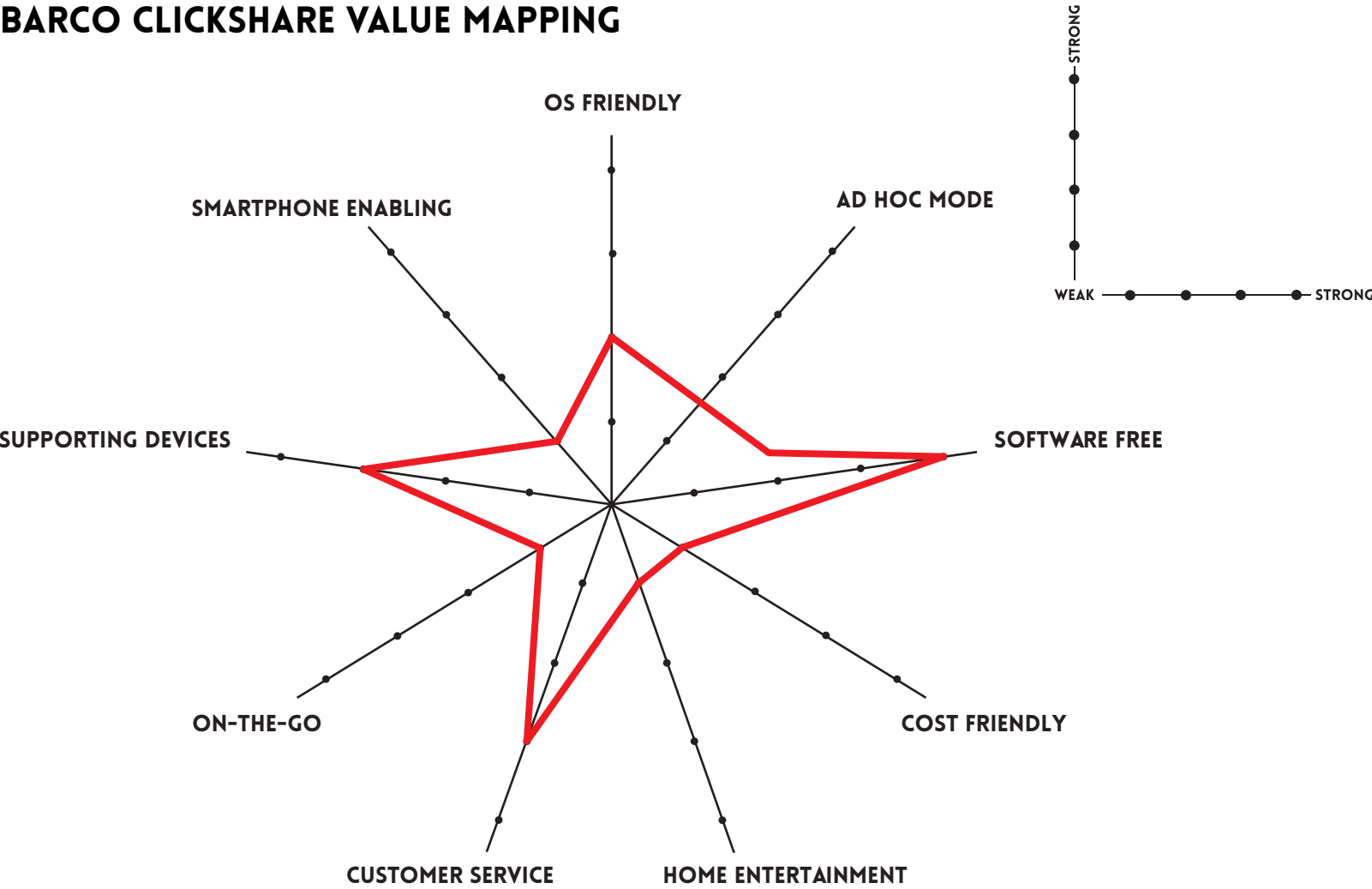
Fig.13 Values provided by the Barco Clickshare service and product

GOOGLE CHROMECAST VALUE MAPPING

OS FRIENDLY

AD HOC MODE

SMARTPHONE ENABLING

STRONG

WEAK   STRONG

SUPPORTING DEVICES

SOFTWARE FREE

ON-THE-GO

COST FRIENDLY

CUSTOMER SERVICE

HOME ENTERTAINMENT
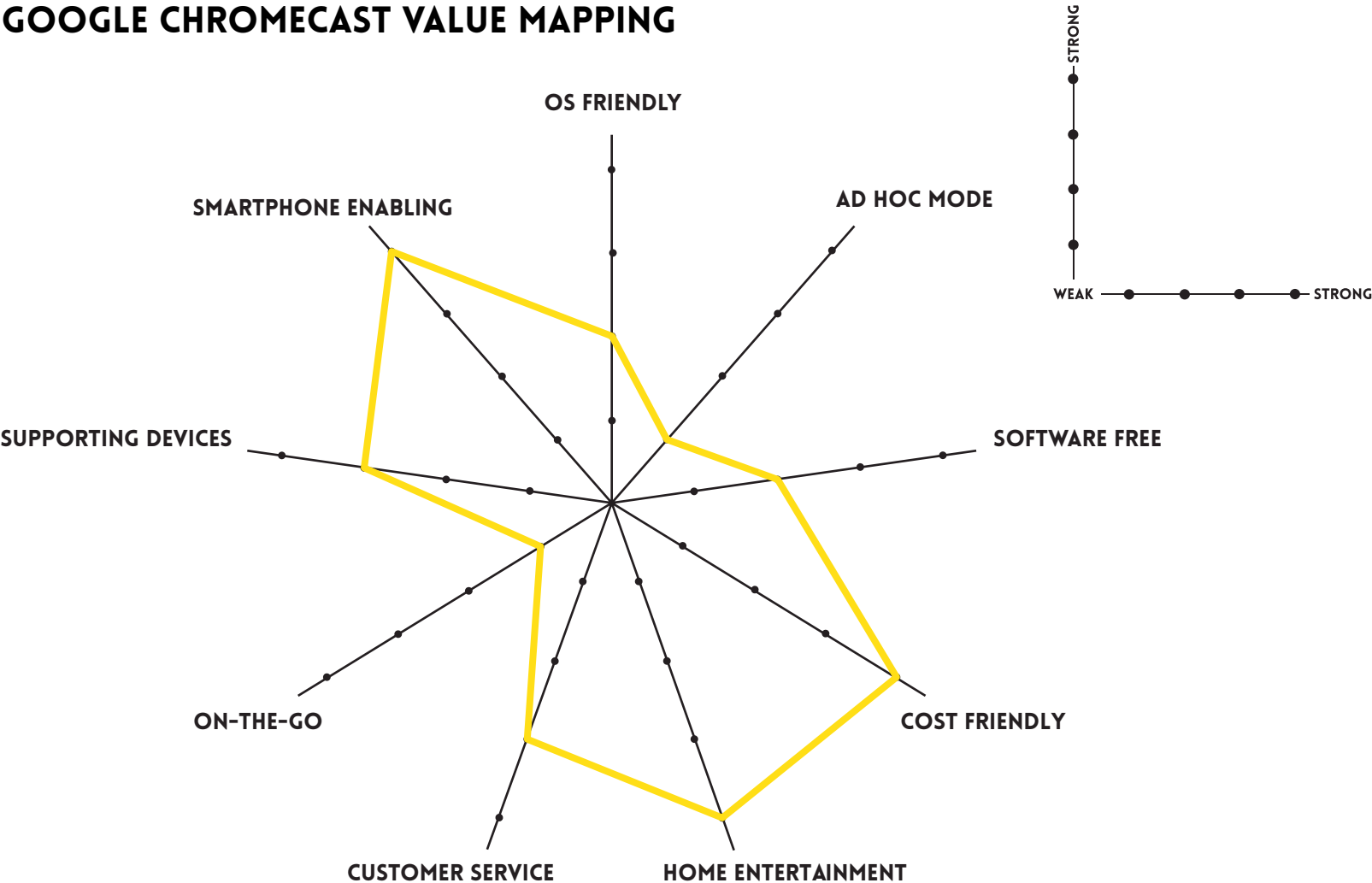
Fig.14 Values provided by the Google Chromecast service and product

APPLE TV VALUE MAPPING
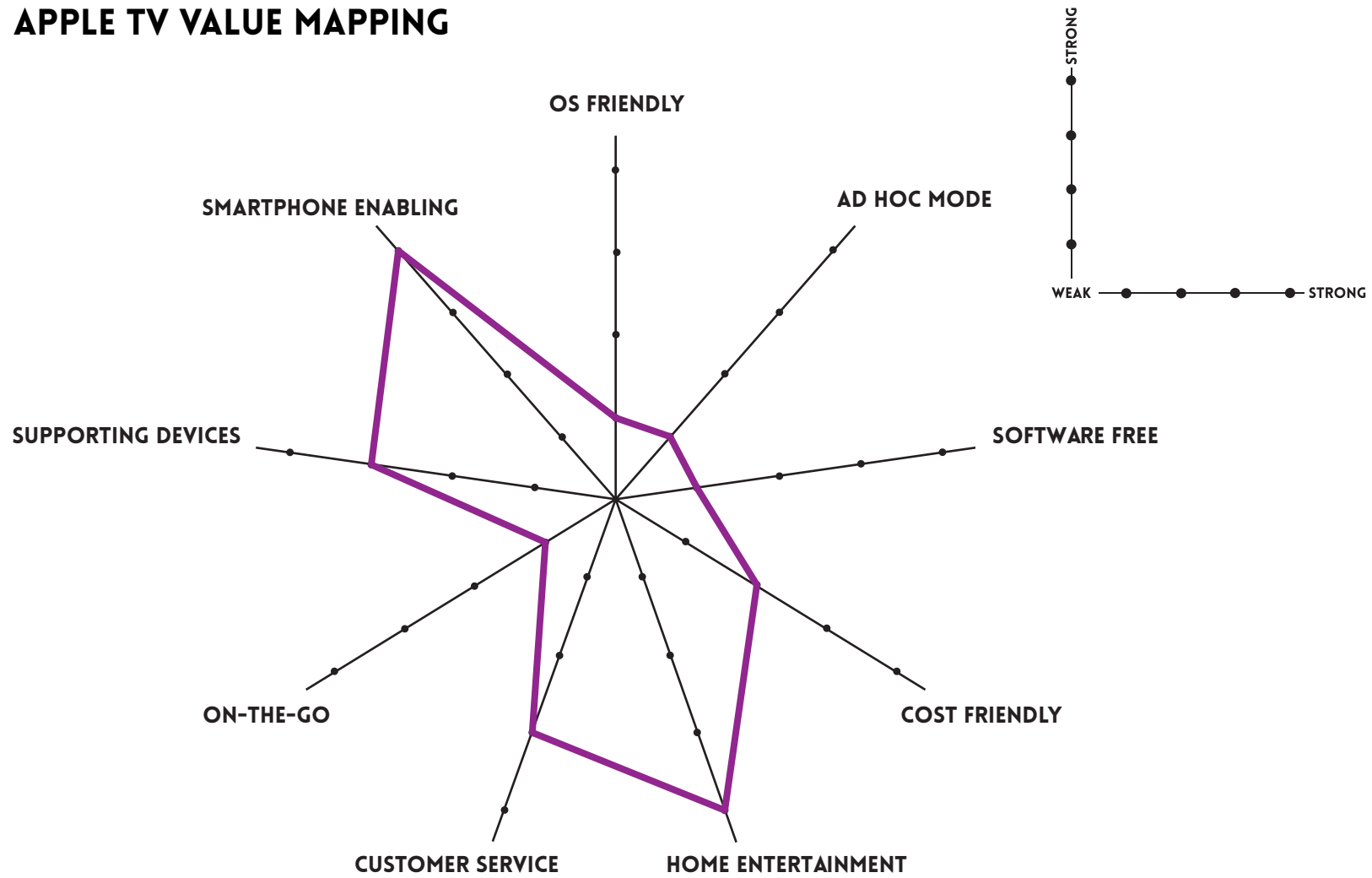
Fig.15 Values provided by the AirPlay (Apple TV) service and product

MICROSOFT WIRELESS VALUE MAPPING
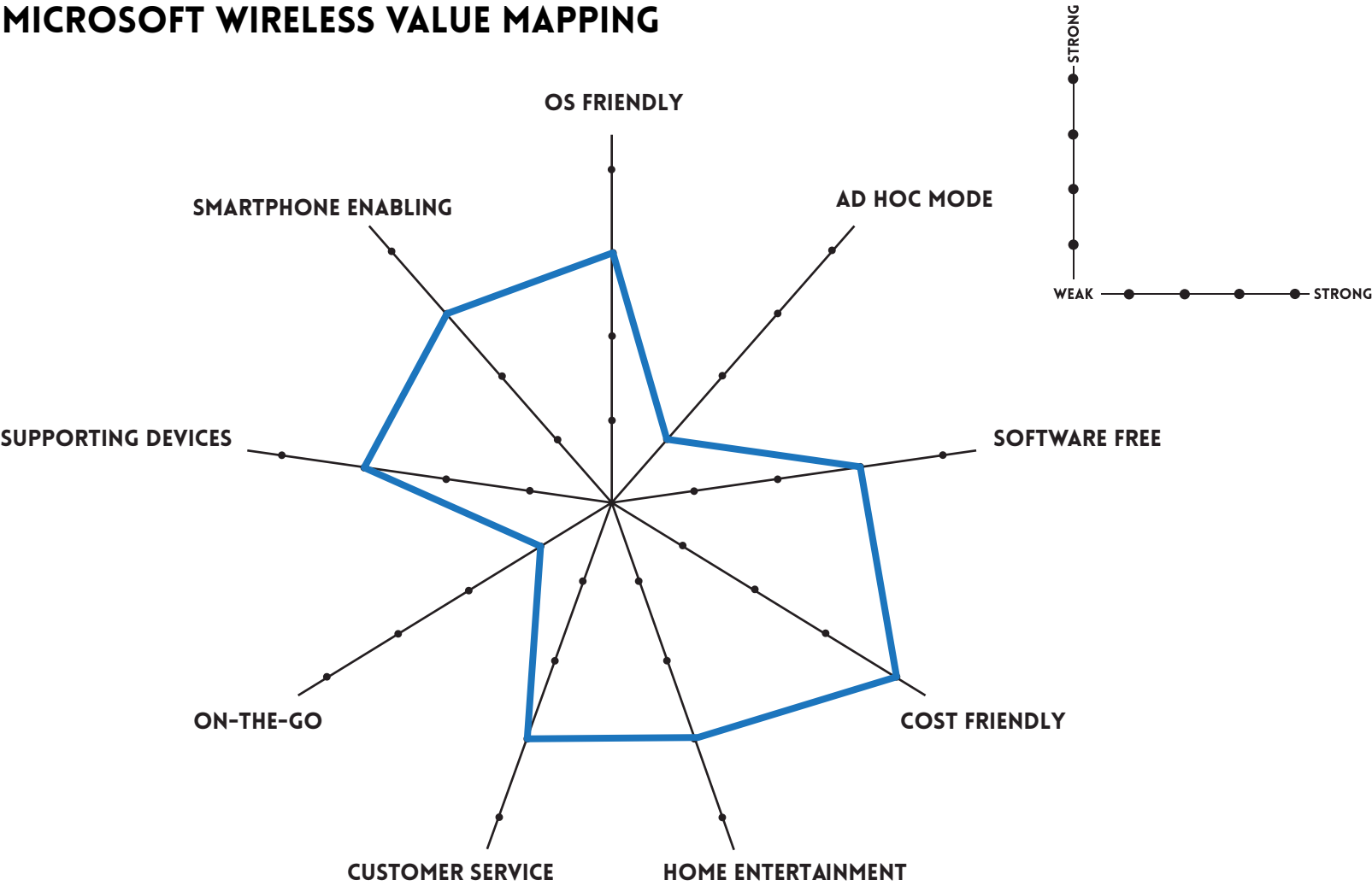
Fig.16 Values provided by the Microsoft Wireless Display Adapter service and product

COMPETITORS OVERLAPPING

GOOGLE CHROMECAST
MICROSOFT WIRELESS
BARCO CLICKSHARE
APPLE AIRTV
AIRTAME

OS FRIENDLY

AD HOC MODE

SMARTPHONE ENABLING

SOFTWARE FREE

SUPPORTING DEVICES

COST FRIENDLY

ON-THE-GO

CUSTOMER SERVICE

HOME ENTERTAINMENT

STRONG

WEAK   STRONG
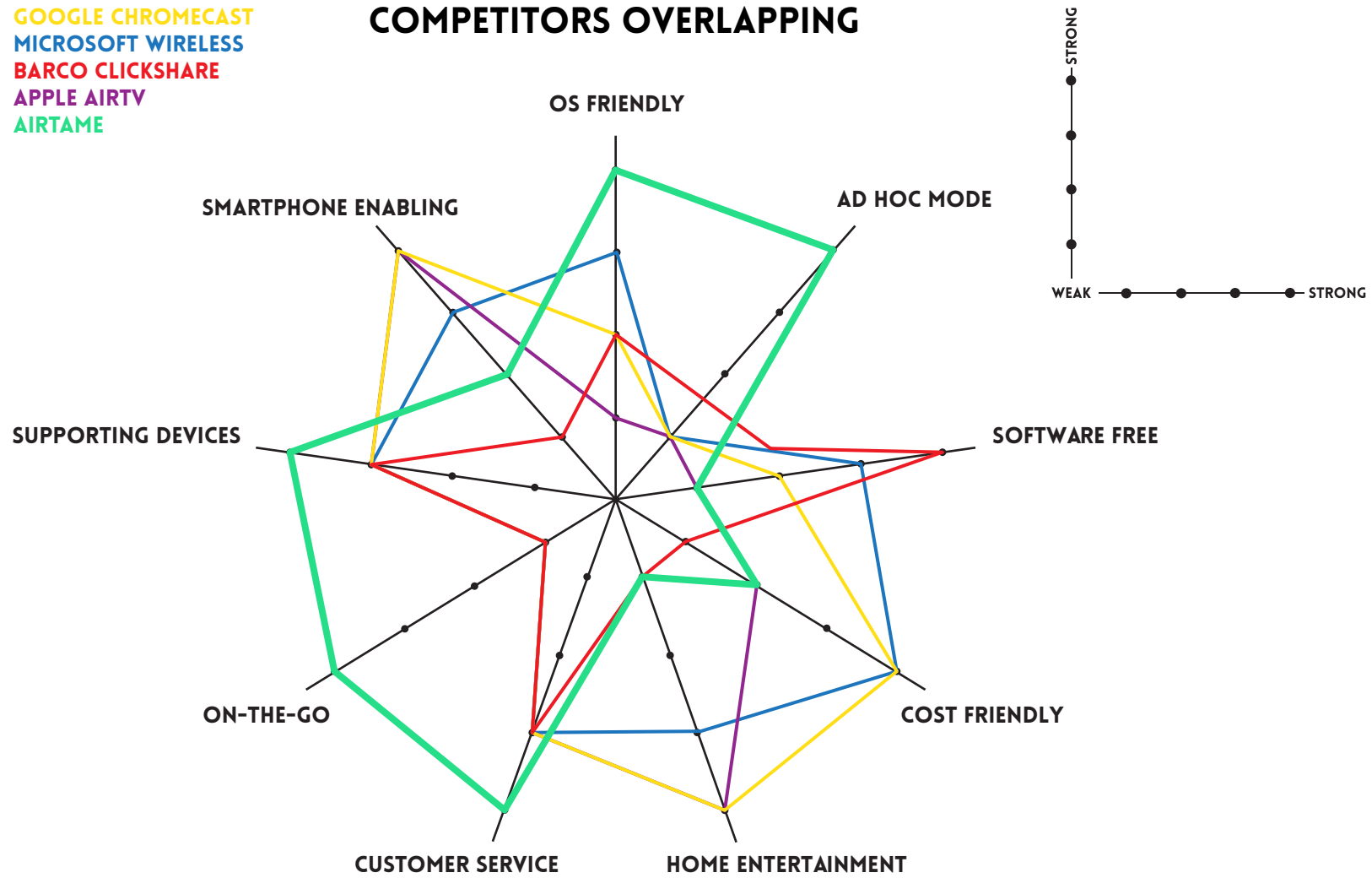
Fig.17 Comparison of values provided by all the competitors

REALIZATION

As previously anticipated, we used the value mapping with the purpose of increasing the critical thinking over the values of Airtame. This led us to the realization phase of the ERIVA methodology (can be found at page 17). This means that we have reached a stage where we have gained enough discernment around the analysed context field (Airtame company, its product and its competitors). Therefore it is possible to draw the directions that will be relevant to pursue further, in order to satisfy the case study. Airtame could be considered a front-runner in the market in these following aspects:

- **OS friendly** - Airtame is the only product that can efficiently perform on iOS, Microsoft, Android, and Linux

- **Ad hoc mode** - The dongle has 2 internal antennas: one that connects to the WiFi and one other that provides an independent WiFi for the dongle, if the house WiFi cannot be reached

- **Backup kit** - Airtame offers, together with the product essentials, a kit of accessories that facilitate the users (e.g. adaptors and plugs)

- **Customer service** - This is one of the preferred feature of Airtame, enabling its customers to personalize and brand their statics when the screen goes in standby

There are some other areas, although, where Airtame still has some margins of improvement. They are highlighted in the figure below, and they concern different aspects which need some reflections:
- Software free
- Smartphone enabling
- Cost friendly
- Supporting devices
- Home entertainment

- **Software free**

One of the biggest limits of Airtame is that the users need to install a software in order to share their screen. Some competitors like Google and Apple, are not tight to this constrains due to a default inclusion of the software in their products. Although, Apple runs only on iOS devices, whereas Google is performative on Android mostly.

- **Smartphone enabling**

This aspect is definitely to be considered a trend in this business and according to M. Saavedra (interview 31 March 2017), Airtame is currently investing important resources on developing the software to enable screen sharing through a smartphone. They aim to launch the new feature by the end of the year (2017). This aspect has great potential for several reasons: it is current and it responds to the need of people working on-the-go (Wired magazine, 2015, online). Moreover, it perfectly matches with the fact that Airtame is the only OS friendly device, making the product even more relevant for diverse smartphone users.

- **Cost friendly and Supporting Devices**

It emerges that the price of the Airtame product is higher than some of the competitors. Although, it could be argued that those competitors whose products have a lower price have the bonding constraint for the user to have supporting devices (e.g. computer, screen, tv, smartphone) of the same brand in order to use the product.

- **Home entertainment**

By 'home entertainment' we refer to the possibility of streaming content from the web. The current focus of Airtame is the B2B market, but a consideration on improving the video streaming online could led the company to open towards a B2C market as well.

CURRENT CUSTOMER SEGMENT

The very purpose of segmentation is to narrow down a large target audience into more defined target groups. In addition, Osterwalder and Pigneur (2010, p21) define the customer segments as the different groups of people that the company aims to reach based on common needs and behaviours. This is relevant since clients not only expect personalised services as standard, but they are also embracing different ways of enjoying the services (Deloitte Research, 2016). This is important due to the fact that Airtame cannot serve a market of 'one'.

In accordance with Airtame (2017, online), the company is a proud supplier of the wireless dongle to several segments: enterprises, education institutions, hotels and even a basketball team. However, the two main segments are enterprises and schools (Airtame email, 24 April 2017). Schools represent 30% of the segment, using the Airtame to engage students with an easy to use tool for sharing multiple computer screens. Enterprises, on the other hand, represent 60% of the segment, using the Airtame to provide their employees with a performative tool that enhance the presentation experience during meetings.

Regardless the size of the enterprise, they all are a part of an office environment, most likely requiring team-work.
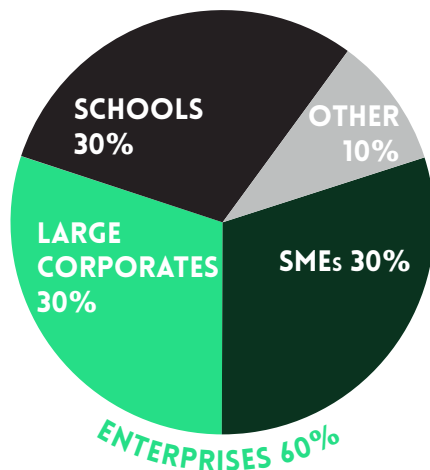
Fig.18 Airtame customer segmentation (concerning Denmark): 30% schools, 60% enterprises. More specifically, half of the enterprises are large corporates and the other half SMEs (Airtame, 24 May 2017)

Fig.19 Few of the +10.000 enterprises that use Airtame (Airtame, 2017, online)

SCHOOLS
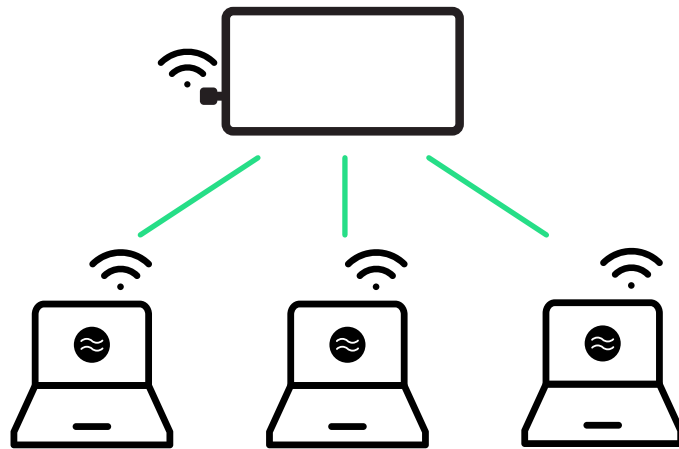
MANY DEVICES SHARING ON 1 SCREEN

CLOUD MANAGEMENT

OS FRIENDLY

Fig.20 Schools common usage of Airtame and benefit gained

ENTERPRISES
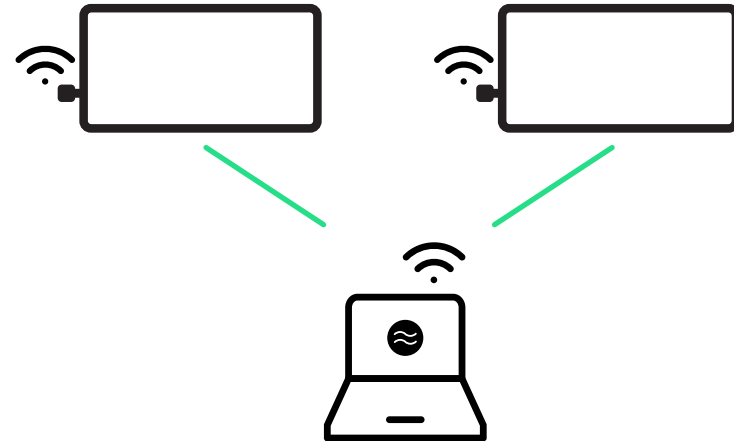
1 DEVICE SHARING ON MULTIPLE SCREENS

CLOUD MANAGEMENT

ON-THE-GO

Fig.21 Enterprises common usage of Airtame and benefit gained

USERS

Airtame users can have different roles, such as:

- The **buyer** is the one closing the deal with Airtame
- The **IT** is the one installing hardware and providing support
- The **presenter** is the one interacting directly with the dongle and the presentation experience

However, when we refer to the 'users', we refer to anyone interacting with Airtame, regardless their role.

It is also relevant to make a distinction between 'former', 'current' and 'potential' users. 'Former users' are those customers who have been using the device, but then abandoned it for some reason. 'Current users' are those ones who are still using the product. Eventually, 'potential users' are people who can be a future customer for Airtame.

	BUYER	IT DEPARTMENT	PRESENTER
PROFILE	• Dean of a school or several schools • Business developer • Decision maker	• Expert on technical and security issues and setup of the company or school • Decision influencer	• Employees • Educators • Students
MOTIVATION	• Interested in closing a good deal for improving the performances of the company/school • Communication purposes • Innovative tools for the users • OS friendly	• Supporting and facilitating the usability of the presentation experience • Managing devices from the Cloud • OS friendly	• Wireless • Multi interaction • Professional performance • OS friendly

Fig.22 Profile description of the differentiations among the users and their motivation to use Airtame

HOW CUTOMERS ARE EXPERIENCING AIRTAME

In terms of identifying the user journey and touch-points that potential customers are going through when purchasing the device, we decided to act as potential users ourselves. Airtame provides the possibility of trying out the dongle for 30 days without expenses. In order to proceed, a demo call with the company needs to be booked, in order to receive instructions and to address any further concerns regarding the product.
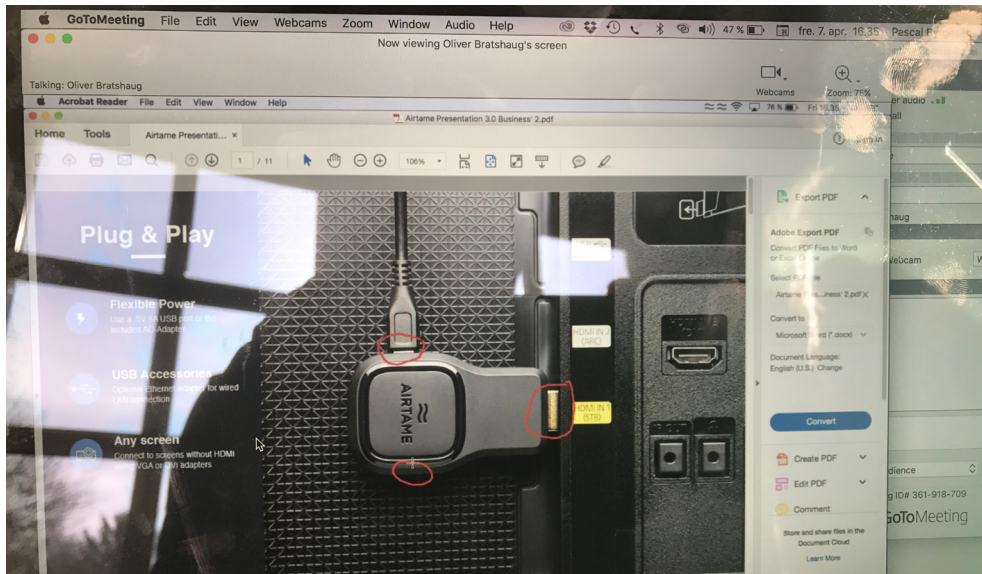
Fig.23 Documentation of demo call booked on April 1st, 2017

Based on our experience, we mapped the interactions and touch-points that we went through during the demo call. "A user journey map provides a vivid but structured visualisation of a service user's experience. The touch-points where users interact with the service are often used in order to construct a "journey" - an engaging story based on their experience" (Stickdorn and Schneider, 2011, p158).

The touch-points are many when buying an Airtame - the first time at least. The second time buying would not include the same steps, as the demo call would not be necessary. Also, according to M. Saavedra (interview, 31 March 2017) when a school or large business is purchasing a great amount of devices, Airtame provides physical support in regards to installation. Airtame is providing a 30-day free trial of the product. For these reasons, we made the user journeys based on the 30-day trial. This was additionally the reason for not incorporating a timeline in the user journeys. All actions are happening within the 30 days, depending on time of delivery, installation challenges etc.

USER JOURNEY - AIRTAME PURCHASE

SERVICE DESIGNERS

STAGES	DISCOVERY	RESEARCH	ORDERING	DELIVERY	RETURN	REFUND

USERS' JOURNEY	Get familiar with Airtame	Visit website / Book demo call — Calendar synchronicity	Receive reminder / Demo call / Follow up email with invoice — Purchase	Receive device / Install hardware — Install software / Receive call	Return device	Receive refund

TOUCH POINTS

EXPERIENCE

1 2 3 **4** 5	1 2 3 4 **5**	1 2 3 **4** 5	1 **2** 3 4 5	**1** 2 3 4 5 1	2 **3** 4 5

FEELING

Fig.24 User journey based on the interactions that we - as potential customers - have had with Airtame during a demo call, April 1st 2017. This user journey was validated in cooperation with Airtame design team

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INTERVIEWS WITH USERS

The purpose of interviewing former users of Airtame was to clarify why they stopped using the device but more importantly, to explore uncovered needs and identify missed business opportunities.

Even though it can be difficult to uncover a person's emotions through direct questions, we prepared some open questions with a semi-structured approach open for new directions (Bjørner, 2015).

The interviews showed us that some participants gave up on Airtame when asked to install the software, while some others dismissed the use of the technology for its poor performance. This is the time of the journey where they felt less positive towards the product and returned to the 'old way to present'

via the HDMI cable.

Sillas Poulsen is the Co-Founder and COO of Newsio and a former Airtame user. Sillas journey demonstrates how he got introduced with the product at Founders House, a Copenhagen based startup hub and the biggest one of its kind in Denmark and the Nordics.

As part of the user journey creation of Sillas, we got in contact with Kasper Smidt, the General Manager of Founders House and a current Airtame user. Kasper made us aware that the startup hub is sponsored by Airtame. We did not consider the relevance of mapping out Founders House user journey, since they have not experienced neither the Airtame purchase nor the demo-trial.

SILLAS POULSEN
CO-FOUNDER AND COO, NEWSIO
FORMER AIRTAMER USER

Fig.25 User Journey of Sillas Poulsen, Co-Founder and COO of Newsio and Airtame former user

USER JOURNEY – FORMER USER

Mathias Leander is working with brand and marketing at Sticks and Sushi, and is a 'come-back' Airtame user. Mathias' experience differs from others for one main reason: the user joined the service, then left, and then started to use it again. The user stopped using the technology due to a lack of performance while using the Airtame technology. This situation occurred once, but it was sufficient for the user to perceive the product as inefficient and unreliable. At this point, the user has not returned the dongle, but simply stopped using it. A few months later, the user was informed that the Airtame software had been updated and that the technology has been improved. It was at this point that the user brought back the dongle and decided to give it another chance.

STICKS|N|SUSHI

MATHIAS LEANDER
BRAND AND MARKETING, STICKS AND SUSHI
FORMER AIRTAME USER

USER JOURNEY – 'COMING BACK' USER

STAGES	DISCOVERY	RESEARCH	ORDERING	DELIVERY		USING	STOP USING	RETURN USING	
USERS' JOURNEY	Gets familiar with Airtame	*Executed by the IT department*	*Executed by the IT department*	Receives device	Installs software	Trys to run presentation, but technology doesn't work	Goes back to HDMI cable	Hears about tech improvement (software update)	Satisfyed with new performance
				Hardware installation by Airtame					
TOUCH POINTS									
EXPERIENCE	1 2 3 **4** 5			1 **2** 3 4 5		**1** 2 3 4 5	**1** 2 3 4 5	1 **2** 3 4 5	1 2 3 **4** 5
FEELING	☺			😐	😐	☹	☹	😐	☺

Fig.26 User Journey of Mathias Leander, Brand and Marketing at Sticks and Sushi. 'Coming back user' of Airtame

LEARNINGS FROM INTERVIEWS

Having the user journeys side by side allowed us to explore the gains and pains even further. Airtame claims that the product works on-the-go, but our interviewees, Sillas, Mathias, and Kasper found it difficult to connect the dongle outside the office. The reality is that the device is handy to bring on-the-go, but the system does not allow it to connect without installation.

Users simply give up on the installation. It was important to reflect on this aspect, since we experienced ourselves that the installation of the software is very simple in reality.

We understood that the users' _perception_ of the procedure is too complicated or time-consuming, despite the different kinds of support provided by Airtame to facilitate the installation. This is definitely an aspect to take into consideration going forward in our research.

AIRTAME SOFTWARE INSTALLATION

REALITY   **VS**   USERS PERCEPTION

1 2 3

3 CLICK STEPS PROCEDURE   COMPLEXSOME PROCEDURE

MOVING FORWARD

Is it possible to avoid the software installation?

How could the users perceive the process differently?

FUTURE SCENARIOS
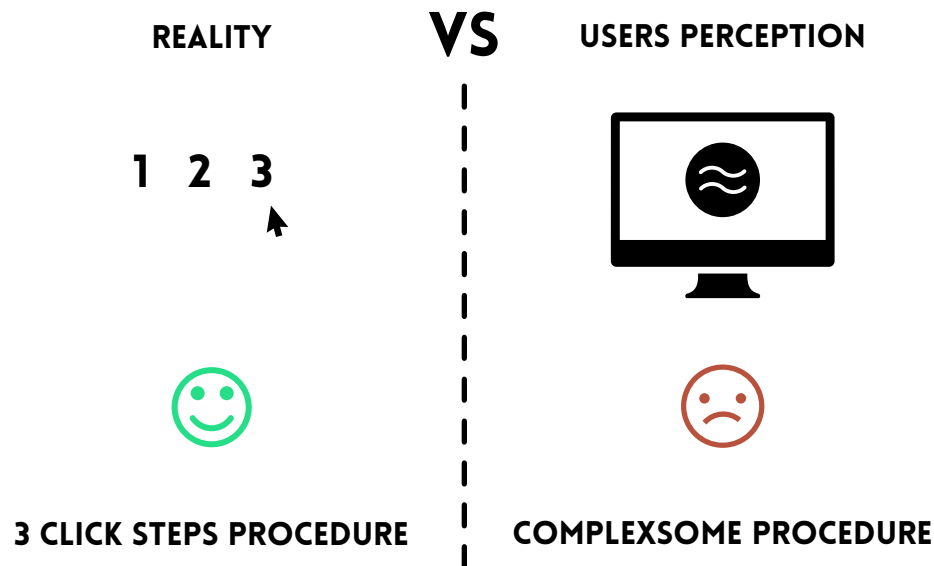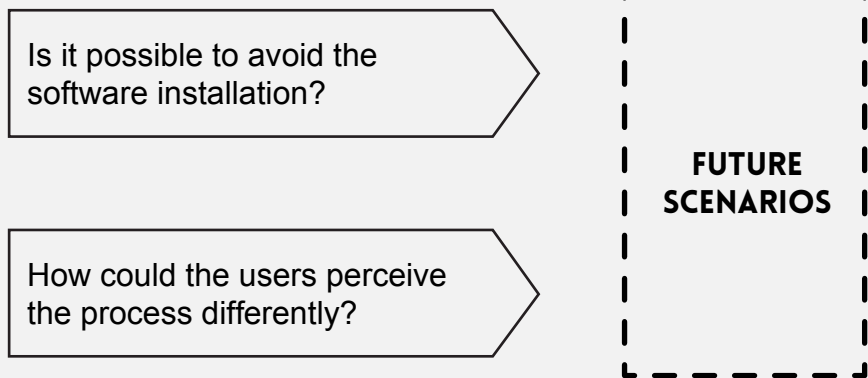
Fig.27 Summary of the major finding from the interviews with the users of Airtame.

CURRENT BUSINESS DESIGN ANALYSIS

VALUE PROPOSITION CANVAS

A Value Proposition Canvas is the statement which identifies the benefits that the customers get when buying a particular product or service. A value proposition relies on reviews and analysis about the company and its customers as well (Strategyzer, 2017, online). In order to identify the core value of Airtame, we refer to the desk research that we made. We wanted to combine desk research with field research, as well combining quantitative data with qualitative data in order to draw an accurate view of the Airtame value proposition. This should be seen as a 'plug' of the Business Model Canvas in which the customer segments are the ones that Airtame intend to create value for.

It is important to point out that the Value Proposition Canvas has two distinct elements: the Customer Profile and the Value Map.

- The **Customer Profile** refer to the customers' perspective. It shows their expectations and needs for which Airtame is not in control of.

- The **Value Map**, on the other hand, concerns exactly those aspects for which the company is in control of. It addresses those customers needs that the company is aware of.

Fig.28 Study phase of the Value Proposition Canvas

VALUE PROPOSITION CANVAS TARGETING ENTERPRISES

AIRTAME

ENTERPRISE

GAINS CREATORS

- No more wires
- No more computer adaptors
- Dynamic presentations
- Time-saving
- Cloud management of devices

PRODUCTS & SERVICES

PHYSICAL:
- Dongle
- Backup kit

INTANGIBLE:
- Wireless presentation
- On-the-go solution
- OS friendly
- Multiple screen sharing

DIGITAL:
- Software
- Cloud management of multiple screens
- Ad-hoc WiFi
- Security code
- Customizable static

FINANCIAL:
- 30-day trial
- 3 different packages options

- Avoid wire-trouble presentation
- Allow presenter's mobility (on-the-go)
- Multiple screens sharing
- Multiple presenters streaming
- OS friendly
- Customer service

PAIN RELIEVERS

GAINS :)

REQUIRED:
- Presentation mirrored on TV screen

EXPECTED:
- OS friendly

UNEXPECTED:
- Share presentation on multiple screens
- Cloud management of devices

FUNCTIONAL:
- Share presentation on TV screen
- Knowledge sharing
- Avoid wire-trouble

SOCIAL:
- Looking professional and innovative
- Flexibility (on-the-go)

EMOTIONAL:
- Feeling trendy and innovative
- Feeling in control

USER JOBS

FUNCTIONAL:
- Technology not working

SOCIAL:
- Looking un-professional/un-reliable

EMOTIONAL:
- Software installation is complex and time consuming

PAINS :(

Fig.29 Value proposition canvas targeting enterprises

VALUE PROPOSITION CANVAS TARGETING SCHOOLS

AIRTAME

SCHOOLS

GAINS CREATORS

PRODUCTS & SERVICES

PHYSICAL:
- Dongle
- Backup kit

INTANGIBLE:
- Wireless presentation
- On-the-go solution
- OS friendly
- Multiple screen sharing

DIGITAL:
- Software
- Cloud management of multiple screens
- Ad-hoc WiFi
- Security code
- Customizable static

FINANCIAL:
- 30-day trial
- 3 different packages options

- No more wires
- No more computer adaptors
- Dynamic presentations
- Time-saving
- Cloud management of devices

- Avoid wire-trouble presentation
- Allow presenter's mobility (on-the-go)
- Multiple screens sharing
- Multiple presenters streaming
- OS friendly
- Customer service

PAIN RELIEVERS

GAINS :)

REQUIRED:
- Multiple users sharing on the same TV screen
- Presenting from a distance
- Ease and fast use

EXPECTED:
- OS friendly

UNEXPECTED:
- On-the-go
- Cloud management of devices

FUNCTIONAL:
- Share presentation on TV screen
- Knowledge sharing
- Enable multiple users to share on same screen
- Time-saving
- Avoid wire trouble

SOCIAL:
- Engage students & prof.

EMOTIONAL:
- Trendy/innovative
- Feeling in control

FUNCTIONAL:
- Technology not working
- WiFi strength

SOCIAL:
- Looking un-prepared

EMOTIONAL:
- Uncomfortable towards new technology

USER JOBS

PAINS :(

Fig.30 Value proposition canvas targeting schools

45

CURRENT B2B BUSINESS MODEL CANVAS

With the customer segments and value proposition identified, we moved towards the mapping of the current business model canvas. The canvas itself allows to think about all the pieces of the business, but also to discuss, design, challenge, improve or even innovate further aspects (Osterwalder and Pigneur, 2010).

Since Airtame is targeting 2 different segments - schools and enterprises - we designed a canvas for each segment. It was soon obvious that Airtame is targeting the different customer segments in a similar way. Thus, in order to facilitate clarity and avoid repetition, we collated the two customer segments in one single canvas.

Fig.31 Current Business Model Canvas targeting schools and enterprises

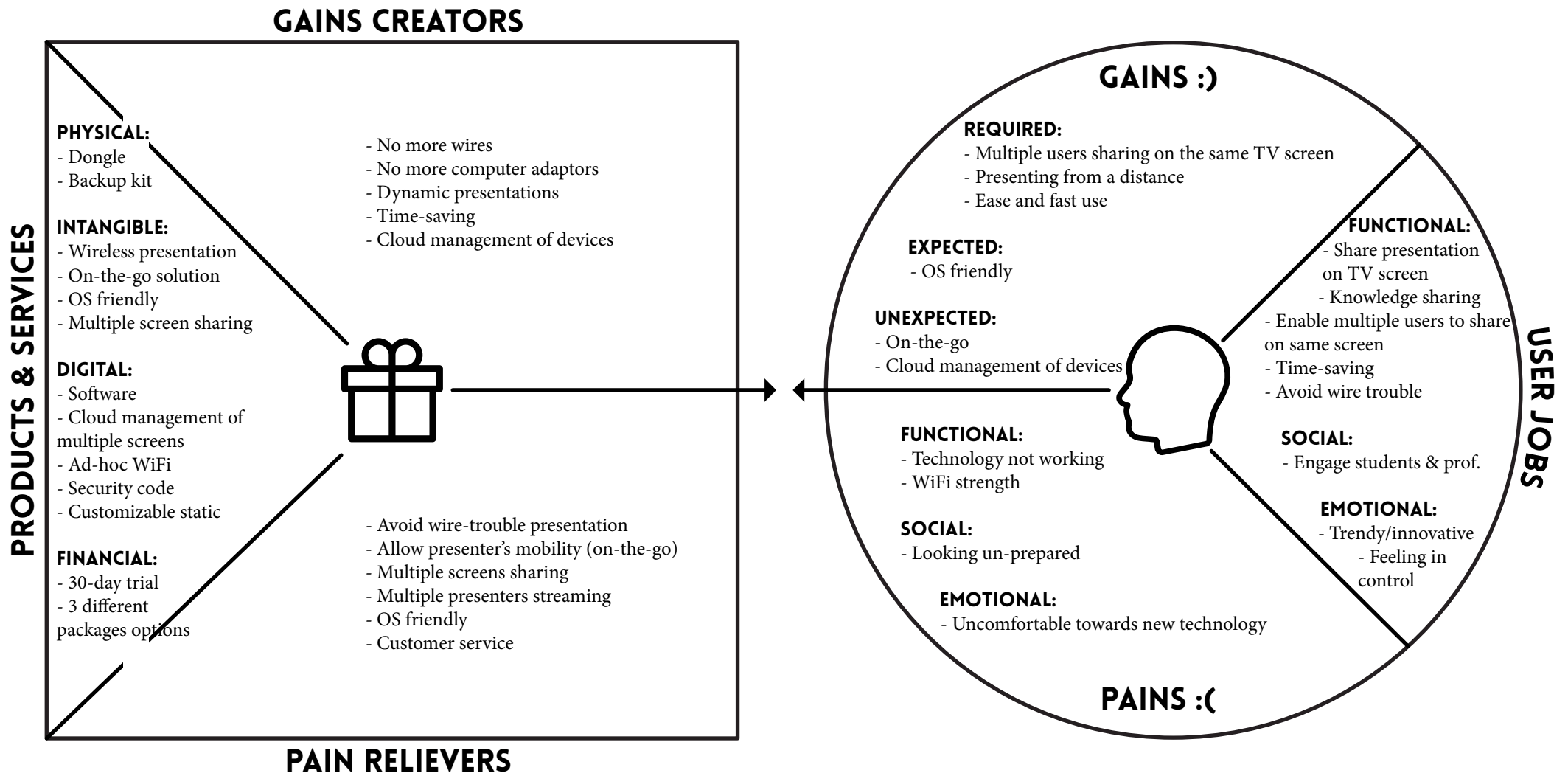| KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITIONS	CUSTOMER RELATIONSHIPS	CUSTOMER SEGMENTS

*Hardware supplier
 	
*Founders House?
	*Airtame dongle
	*Airtame Software
	*Antennas to connect to network (WiFi and Ad-hoc mode)
	*Airtame website (e-commerce)
	*Social media (Youtube, Airtame Blog, Facebook)
	*Backup kit
		Wireless way to present
		
		*software doesn't need installation: it is syncronized via Enterprise Cloud
		
		*flexible way to presentation on-the-go through smartphone
			*B2B
			*Customized customer service
				*Enterprises:
				  Large corporates
				  SMEs
				
				*Schools:
				  Highschools

KEY RESOURCES

*Hardware developers
Software developers
*Programmers
*Customer service
*Sales
*Account management
*Design team
*Marketing (via social media and Advertising)

CHANNELS (TOUCHPOINTS)

*Airtame website
*Social media
*E-mail
*Chat function
*Software
*Hardware
*Airtame Cloud Management

*Events, fairs, exhibitions and trade shows
*Amazon

COST STRUCTURE

*Software development
*Hardware development

*Customer service
*Account management

REVENUE STREAMS

*Volume dependent (hardware purchase)

REALIZATION: ROADMAP TOWARDS FUTURE SCENARIOS

With this section, we want to provide an overview of the tools that we used in the process during the realization (or ideation) phase. Therefore, the road-map presented hereby is a summary of the next following chapters.

We set a workshop to gain diverse perspective during an expansive thinking brainstorming (1). In parallel, we run a trends research to ensure that our solution would stay current and relevant in the future (2). Based on the findings, we built an interaction map and used it as a brainstorming tool to identify new possible stakeholders. We picked the most relevant stakeholders'

interactions with Airtame and researched similar case-studies to learn from that (3). To validate our findings, we mapped possible future scenarios using a user journey (4). We soon discovered that the identified interactions were not of value for neither of the stakeholders (5). We iterate, reflecting back on the trends research (6). Instead of keeping on looking outside for new opportunities, we investigate into the context of the chosen customer segment, in order to spot opportunities for Airtame (7). We combining together the findings from the trends analysis and the system mapping, which was beneficial to identify and define the pertinent stakeholders and future scenarios (8).
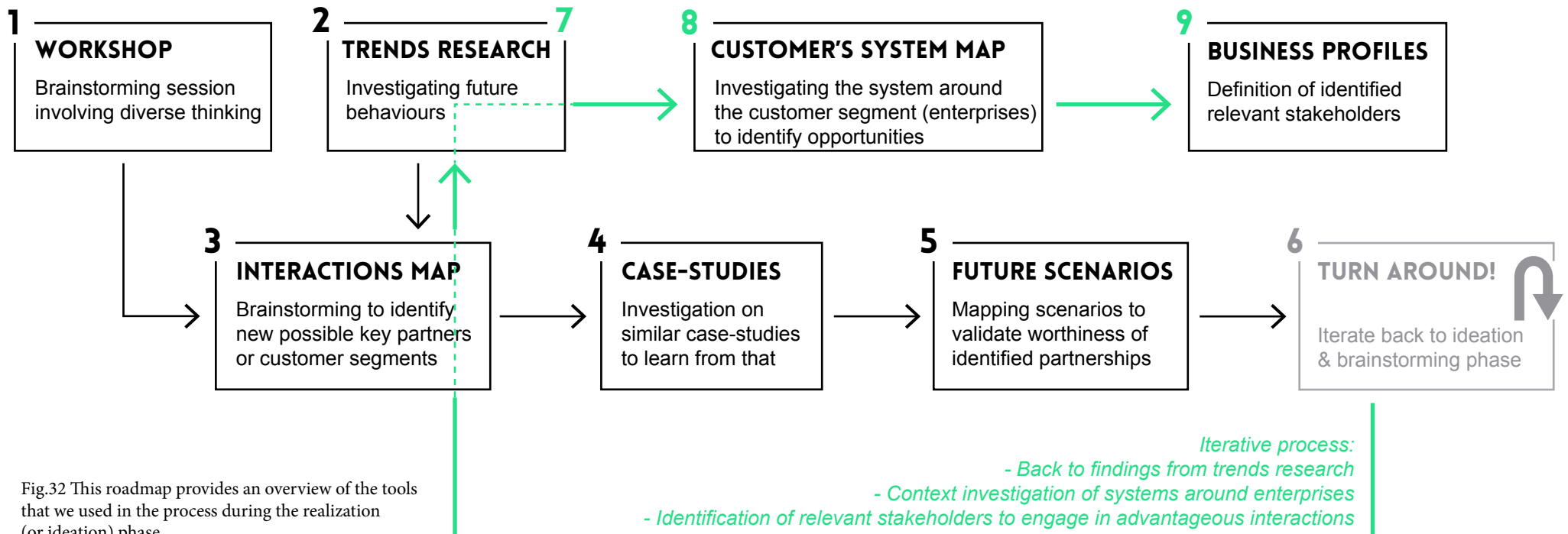

1 WORKSHOP
Brainstorming session involving diverse thinking

2 TRENDS RESEARCH
Investigating future behaviours

7

8 CUSTOMER'S SYSTEM MAP
Investigating the system around the customer segment (enterprises) to identify opportunities

9 BUSINESS PROFILES
Definition of identified relevant stakeholders

3 INTERACTIONS MAP
Brainstorming to identify new possible key partners or customer segments

4 CASE-STUDIES
Investigation on similar case-studies to learn from that

5 FUTURE SCENARIOS
Mapping scenarios to validate worthiness of identified partnerships

6 TURN AROUND!
Iterate back to ideation & brainstorming phase

Iterative process:
- Back to findings from trends research
- Context investigation of systems around enterprises
- Identification of relevant stakeholders to engage in advantageous interactions

Fig.32 This roadmap provides an overview of the tools that we used in the process during the realization (or ideation) phase.

IDEATION WORKSHOP AND FINDINGS

On March 23rd, we had the midterm presentation. Besides presenting the thesis process status in front of the supervisors and our fellow students, we took the chance to perform a quick workshop. We value the critical view on design thinking that both our professors and fellow students have. Moreover, we wanted to take advantage of their varied educational and professional background, to explore diverse opportunities for Airtame. Our audience was well used to sharing a presentation to a screen, of course via HDMI cable. This made every person in the room (a total of 15 participants) a new potential user of the wireless device (none of the participant has ever tried Airtame or a similar technology).

We gave each participant a tangible 'device' (a pre-totype made by us). We provided an imaginative scenario: '**What if** this device could allow you to share a presentation without any cables?' The participants, were asked to write how and where the wireless device could 'empower' them to share a screen in their professional context (e.g. at the university, at conferences, during working meetings).
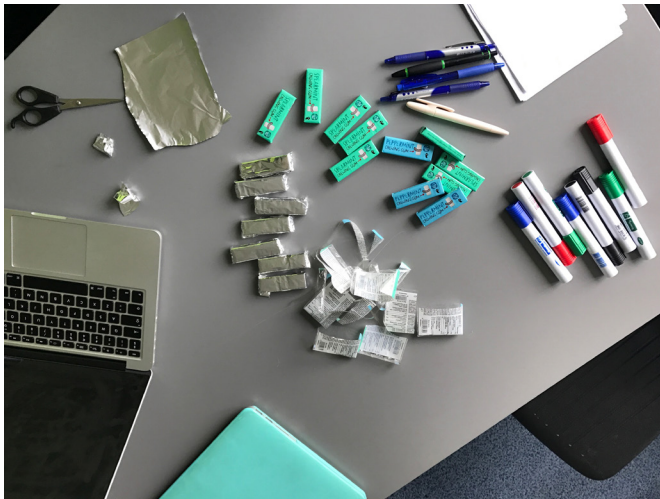
Fig.33 Workshop with professors and fellow students

GENERAL LEARNINGS FROM USER EXPERIENCE (WORKSHOP & INTERVIEWS)

- Several people would find it beneficial to have a wireless device that can allow sharing of material in a team-work environment.
- Others pointed out the advantage of sharing a presentation on-the-go. On this consideration, we found a pattern with what Kasper from Founders House and Sillas from Newsio expressed in the interviews.
- Some people expressed concern regarding the protection of sensitive data, quality issues, and the possibility to include sound when displaying a video. At this point, these requests are already satisfied in some ways by the Airtame technology.
- Others wished for a technology that could enable a group of people to work simultaneously on the same presentation, while they are not physically in the same place. Currently, Airtame is not providing such solution. It could also be argued that, the scenario depicted is actually describing a different kind of service (e.g. Skype), which is not relevant for the Airtame market. Indeed, the objectives of the 2 services are very different: while a service like Skype is a communication channel, a service like Airtame is a presentation enabler.

By collecting all the different perspectives and analysing the scenarios, it was clear that people are particularly focusing their attention towards the potential that the flexibility of the device allows. Another important learning earlier emerged from the interviews: the users' perception of certain actions in the service, may differ from the reality.

These aspects were extremely important to take into consideration in order to move forward with our research and adventure into the ideation phase - or elaboration phase, as we call it in the ERIVA methodology.
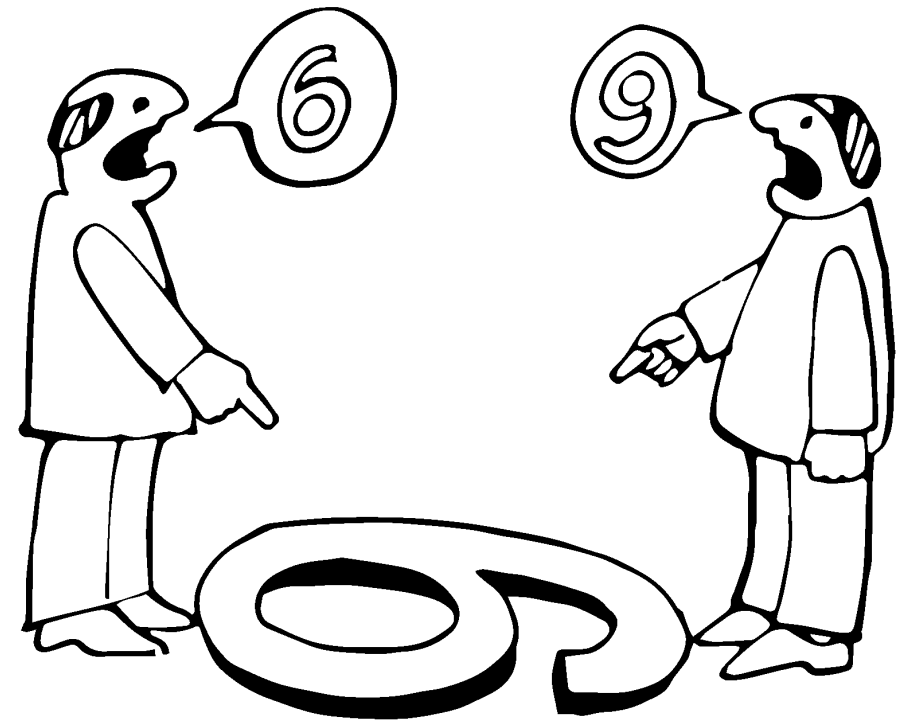

Fig.34 Divergent views on the same reality

FUTURE TRENDS: SMARTPHONE SOCIETY

In the very first meeting with Airtame design team, we noticed the lack of sharing a presentation directly from a smartphone. This was one of the first questions that we advanced to Airtame, since we consider the use of smartphones a sensible topic in nowadays society.

We performed a brief trends research on this topic and found some supporting sources to our assumption: 'Global experts are now predicting that smartphones and tablets will increasingly replace desktop and laptop PCs. [...] With each passing season, another wave of mobile devices is released that's more capable and more powerful than the generation preceding it' (Bonnington, 2015, online). It is in fact evident that in the past few years, smartphone technologies have been already shaping enterprises IT architectures and capabilities. The future office is starting to look very different than the traditional one with a desktop.

At this point, we could infer that flexibility was a requirement for the current and future users. We validated this instance with M. Saavedra (9 May 2017), who confirmed in an email that Airtame is currently developing a software for smartphone to stream presentations. This confirmed the relevance of designing a possible concept which should include the smartphone as streaming device.

Fig.35 Exemplification of the 'smartphone society': having everything on the palm of a hand

EXPLORING NEW RELATIONSHIPS/INTERACTIONS

In order to proceed towards future solutions, we used expansive thinking in order to brainstorm potential stakeholders that could interact with and benefit from the Airtame technology. This direction was inspired by Morelli (2006), according to whom, the service design process is a result of the interactions and value exchanged among a network of stakeholders.

INTERACTION MAP
We built an interaction map and used it as a brainstorming tool to identify new possible stakeholders. The map shows the functions exchanged within the system. Arrows going towards the core of the service system (hereby identified as Airtame) are values received (inputs). Arrows going the opposite way are values exchanged (outputs).

The interaction map provided us with a framework of criteria for identifying new potential key partners or customer segments to be explored. At the same time, we kept the current customer segments, in order to identify yet unexplored interactions. One of the actors in the map particularly caught our attention: the mobile operators. According to the trend research performed early on, it was of interest to explore smartphone related solutions.
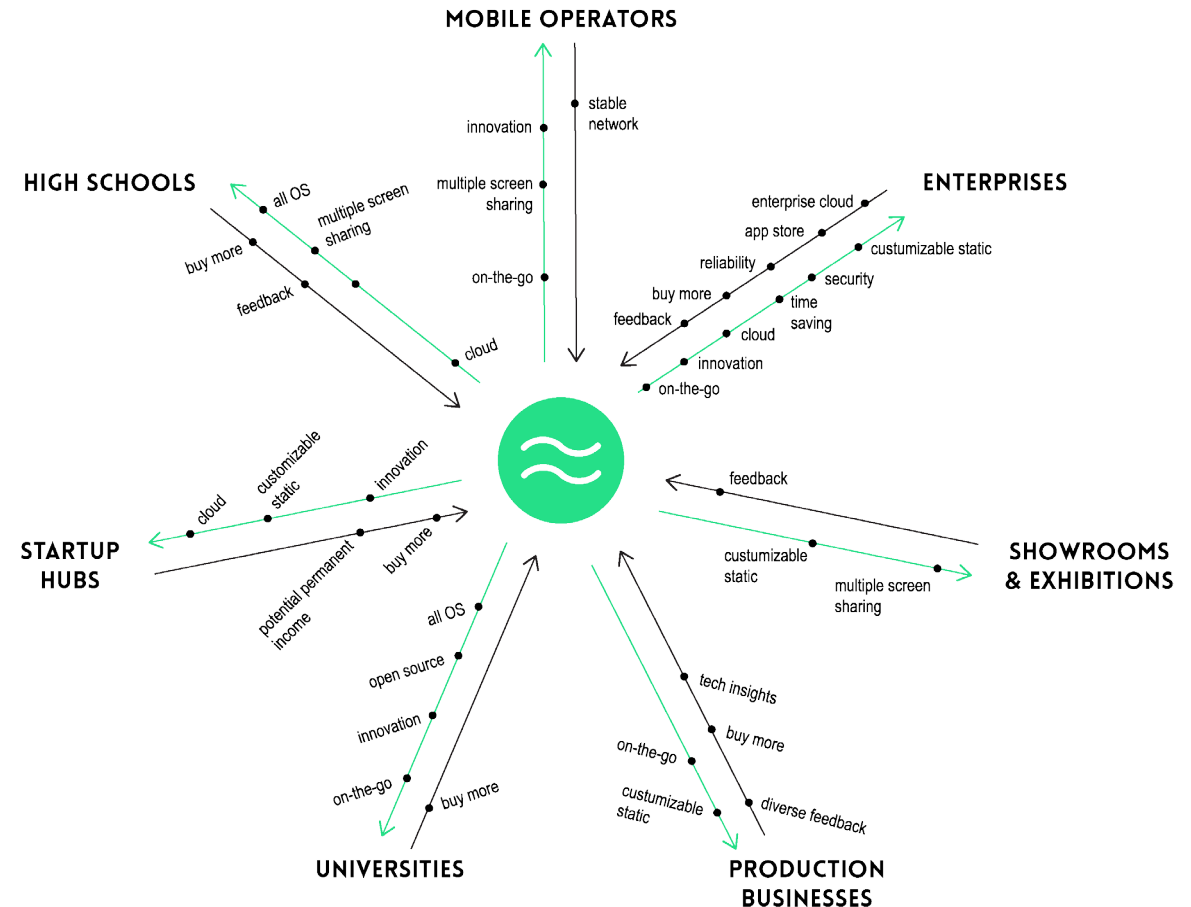

Fig.36 Interaction map heavily based on the IDEF0 model

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LEARNINGS FROM CASE-STUDIES

It was relevant to seek inspiration from successful case studies that saw the collaboration of mobile operators with another service provider.

One of the most notable cases of the last 5 years is Skype for Business (Lewis et al. 2016). Skype evolved its strategy back in 2013, when it went from B2C to B2B. This was also possible thanks to the acquisition of Skype by Microsoft. Moreover, it allows organizations running the same software to communicate with other consumers on Skype (on the network) (Lewis et al. 2016).

Then we found that TDC Business and Skype for Business have recently started a collaboration, in order to offer a coherent IT and telephone solution (TDC Erhverv, 2017, online)

Lastly, we also wanted to explore a case that did not gain the hoped outcome, in order to learn from those errors. One example is the collaboration between Skype and the mobile operator 'Hi3G', that failed to meet their customers' expectations since neither Skype or Hi3G took into consideration the diverse aspects of the system around the new service provided (Ecommerce, 2017, online).

Fig.37 Skype: from B2C to B2B

Fig.38 Skype and TDC collaboration

VALIDATING POTENTIAL SCENARIOS

We wanted to explore if it would be worth it pursuing a partnership between Airtame and the Mobile Operators. Therefore, we map some scenarios in order to identify the value and level of interactions exchanged among the stakeholders.

We noticed that, by including the mobile operator into the scene, one advantage could be ensuring a strong bandwidth. This would allow the presenters to rely on their mobile data when streaming the presentation - in case the nearest WiFi is neither accessible or available, hence improving the service experience of the presenter. Nevertheless, we also identified the lack of value

for the mobile operators. In fact, they would not benefit from the collaboration in the long term. On top of that, when validating this idea with Airtame (9 May 2017), it was confirmed that any streaming from the phone would rely solely on WiFi.

Our conclusion was that the level of value exchanged between Airtame and any mobile operator was too weak to come to life. This discovery was not discouraging, though. Indeed, in accordance with the iterative approach on which we based our research, we went back to the ideation phase to test yet another solution.
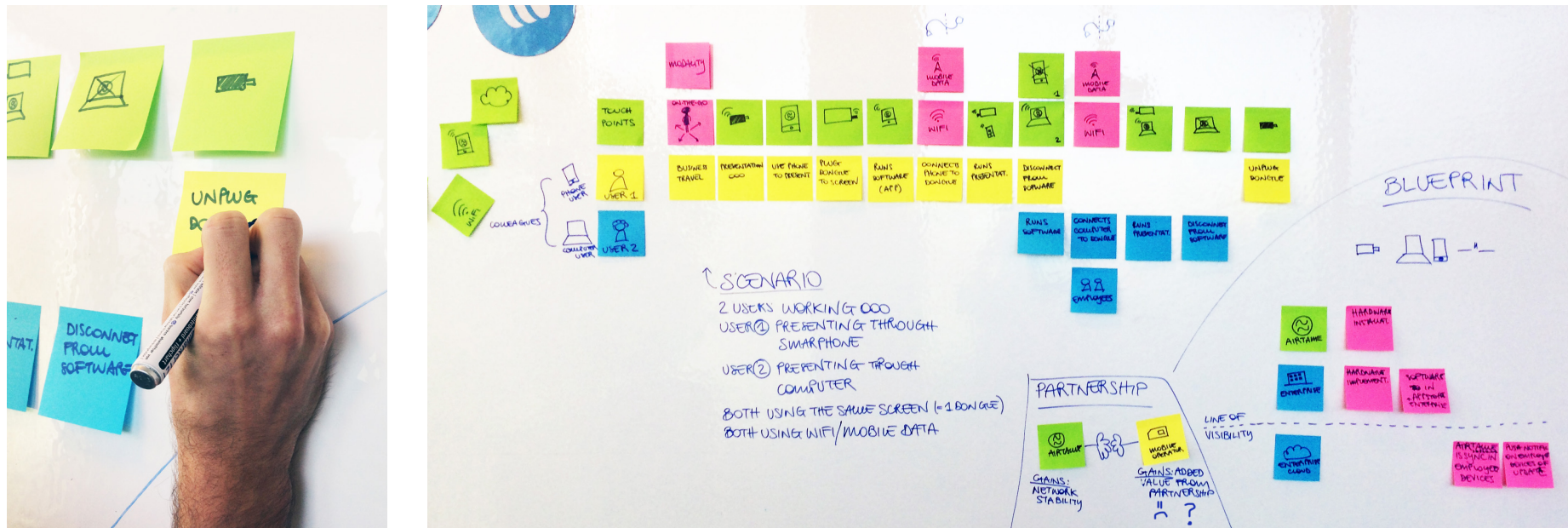

Fig.39 Studying phase. Scenario mapping

ITERATING TO BUILD VALUABLE SCENARIOS

It was relevant at this point to go back to the research phase. We elaborated further reflections on the trends findings. According to our research, it is a common trend that workers are more and more relying on smartphone and tablet computing devices to execute work related tasks (Bonnington, 2015, online). This made us reflect on the fact that we want to provide Airtame with a business design that is current in the near future, not just 'today'. It would be pointless to think that our solution will be implemented immediately.

Furthermore, we intended to satisfy the request of the users - who see a major pain point in the software installation. With these thoughts in mind, instead of brainstorming for new customer segments to reach, we focused on the current ones that Airtame is targeting, in order to fulfill their expectations.

We started by mapping the different services offered by large corporates - a system familiar to both of us.

With the intention of avoiding the installation, we looked at the system that corporates offer within their digital services. One of these services is the cloud-based Enterprise Mobility Management (EMM) system in which companies can allow easy access to their employees to selected apps. It is the company choosing which apps should be available in the EMM, based on relevance and purchase agreements. Both large corporates and SMEs can buy access to an EMM (Mobileiron, 2017, online).

Eventually, we reflected on the school's needs and did not find a match on the pain point raised by the business-users. Indeed, during a research session with M. Saavedra (27 April 2017), we discovered that Airtame actually is supporting the installation of hardwares and softwares in the school devices.

It can also be argued that 60% of the customer segmentation of Airtame is covered by enterprises, thus a bigger portion of users to satisfy (Airtame, 24 May 2017). Thus we focused on the enterprises and move forward based on the latest research and findings.
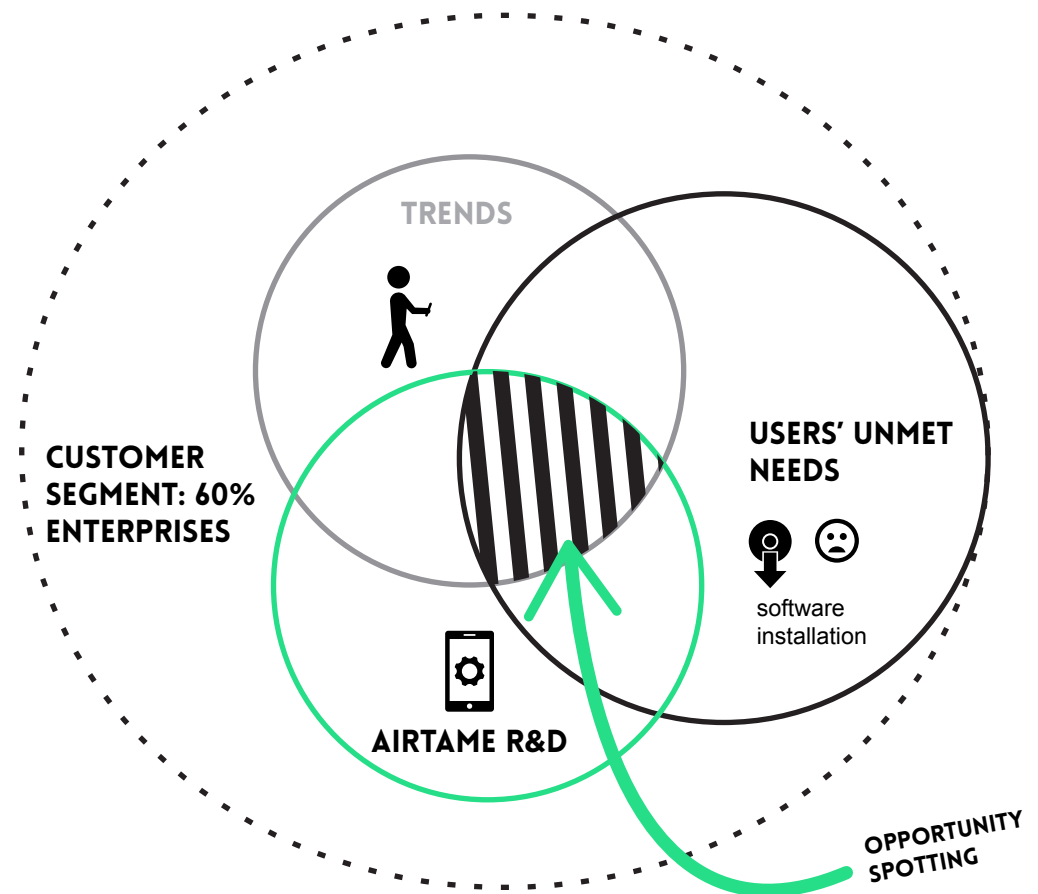

Fig.40 Findings map to spot hidden opportunities

BUSINESS PROFILES

In this session, we introduce the business profiles that are relevant to include in the business design that we are shaping. It is important to define them, in order to build clarence when mapping out the service blueprint.

PRESENTER
The presenter is whoever uses and performs with the Airtame technology - both the hardware and the software. It can be a presenter in charge for a presentation in front of a big audience, or a meeting in the office, else on-the-go travelling for business. The presenter is someone internally the enterprise.

LARGE CORPORATES
(>250 persons employed)
Large corporates are often big well-known brands. Due to the amount of personnel within them, they are capable of having many but specialized departments, such as IT (Scotland, 2013). Furthermore, they are characterized by a very complex and structured distributed system that allows the employees to access the company services offered online at any time and location (Inc., 1999, online). Those services are, for instance, communication channels, softwares, phone applications, company browser and EMM (to be elaborated in the section below).

SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs)
(<250 persons employed)
This category is very broad and could be further subdivided into:
- Micro enterprises (<10 persons employed)
- Small enterprises (10 to 49 persons employed)
- Medium-sized enterprises (50 to 249 persons employed) (Airaksinen, et. al. 2015)

It could be argued that both micro and small enterprises do not have a complex system as it could be the case for medium-sized enterprises or large corporates. Thus, for the sake of this research, when we mention 'company' or 'enterprise' we refer to large corporates and medium-sized enterprises.
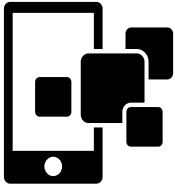
ENTERPRISE MOBILITY MANAGEMENT (EMM)

A cloud-based EMM - or MDM (considered a part of the EMM) - is basically an SaaS deploying apps and programs direct to the 'company app store'. The service/license is provided by an external supplier e.g. Microsoft or Airwatch and allows employees to easily access selected programs and apps, in order to facilitate and enhance their work performances (Microsoft, 2017, online). Once distributed, the apps do not have to be managed by any type of policy. The users can rely on the fact that the apps are secure and always updated due to the distributed system (Networkworld, 2011, online). One of the primary reasons why many companies use EMM is to deploy apps that users need in order to get their work done (Microsoft, 2017, online).

EMM ADMINISTRATOR

Once an enterprise gain access to an EMM, the operations with the EMM system are coordinated by the enterprise itself. Therefore, we identify the EMM administrator as a function internal to the enterprise taking care of e.g. managing mobile applications, configuring settings, managing users and roles, and device management. This department is often a part of the IT.

AIRTAME IS OS FRIENDLY!

Automate IT - Ready to use apps

Enhace employees performance

Grow and innovate business

DEVICES MANAGEMENT
SECURE DISTRIBUTED SYSTEM
AUTOMATED OPERATIONS

BYOD & COPE
SECURE COLLABORATION
STREAMLINED WORKFLOW

EMM

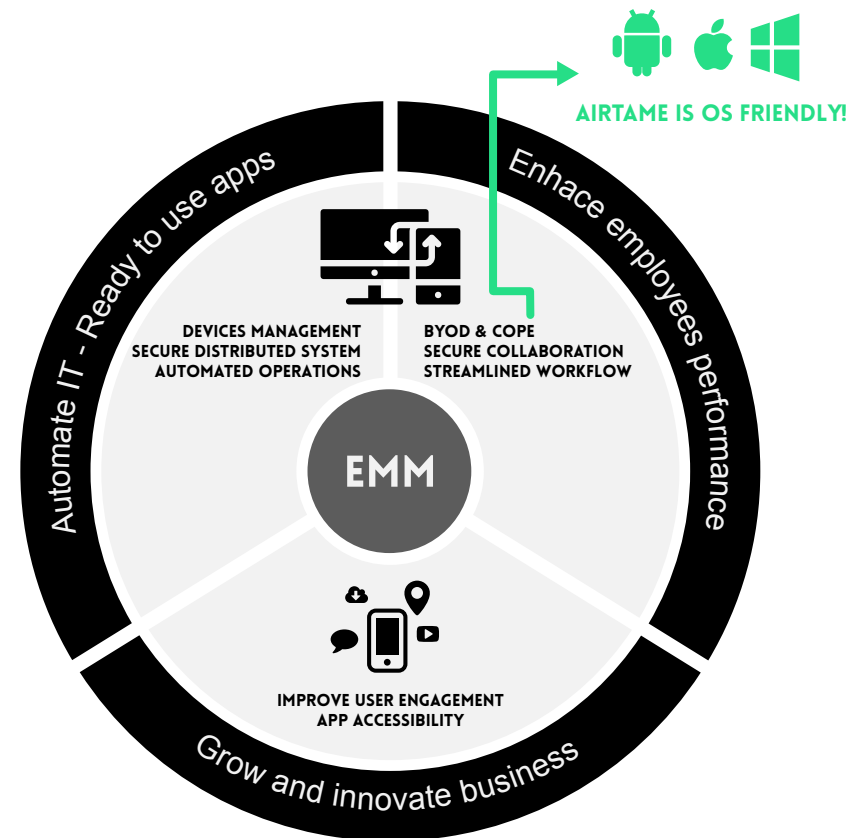IMPROVE USER ENGAGEMENT
APP ACCESSIBILITY

Fig.41 Services offered by an EMM

EMM FACTS

EMM MARKET SHARE

Product Manager, Kristoffer Rosenmeier, from Microsoft told us in an email (19 May 2017) that EMM systems are becoming more and more relevant to businesses of all sizes. Unfortunately he was not able to share the number of companies using Microsoft's software. However, digging into some desk research, we discovered that more than 450 of the Global 2000 companies (world's biggest public companies) are transforming their business through the EMM system provided by MobileIron. This means that 450 out of the Global 2000 are making use of the very same EMM provider. With 100+ EMM providers, globally, it can be argued that the majority of the Global 2000 companies are also equipped with an EMM solution (Mobileiron, 2017, online).

Google searchers and traffic prove that the EMM is a trend that is not going away soon (O'Dowd, 2016). Further, an EMM survey conducted by a technology market research firm shows increasingly revenues for EMM providers in the past year. This figure is expected to grow to over $4.5 billion by the end of 2020, and it presents an average annual growth rate of 27% in the next four years (The Radicati Group, 2016).
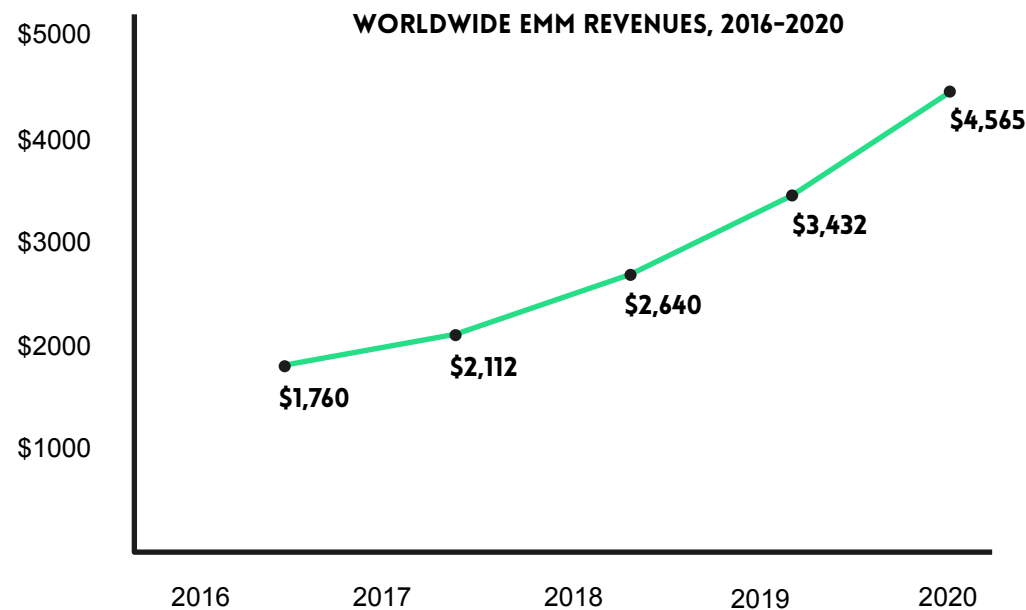
WORLDWIDE EMM REVENUES, 2016–2020

Fig.42 Worldwide EMM Revenue, 2016-2020 (The Radicati Group, 2016, online)

EMM USERS

Since neither Microsoft or Monilelron were capable of providing information in regards to the the number of clients, we reached out to our own networks in order to support the desk research. We identified the following companies as currently EMM users:

Fig.43 Few of the companies using an EMM worldwide

Finally, we discovered that also Aalborg University is an EMM user. We then took advantage of this to investigate further on the service offered by an EMM and the interactions that the users have with it. In an interview with IT employee Søren Filtenborg, something interesting was brought to our attention. The EMM is accessible for teachers only, and just on the pc's (for Aalborg University at least). Secondly, it is a team of EMM administrators internally the company or university taking care of the installation of what goes in and out the EMM. As a result, it is not necessary to include the EMM provider in case Airtame or any other app needs to be incorporated in the EMM portal.

ELABORATION: ROADMAP TOWARDS NEW-CONCEPT-IDEA

With this section, we want to provide an overview of the tools that we used in order to reach the elaboration phase. Therefore, the roadmap presented hereby is a summary of the next following chapters.

Starting from the blueprint (1), we focused on mapping the user experience through a user journey (2). Then we zoomed into three specific use-cases explaining the details of the experience (3). We pre-totyped the use-cases in form of video sketching (4), which were tested with potential users (5). From the testing, we collected and analysed feedback that led us to iterate (in accordance with our methodology) and return to previous steps in the process (6 & 7). As a result, we landed into the elaboration of a new business model canvas (8).

1 **6** **SERVICE BLUEPRINT**
Service system map of stakeholders' interactions flow

2 **USER JOURNEY**
User's experience with the service

3 **7**
USE-CASE #1 → **VIDEO #1**
USE-CASE #2 → **VIDEO #2**
USE-CASE #3 → **VIDEO #3**
User's actions with the service

4 PRE-TOTYPE

5 TESTING
Collecting feedback from potential users

8 ELABORATION
BUSINESS MODEL CANVAS
Business design of new concept-idea

Analysis of values

Iterative process:
- Blueprint edited
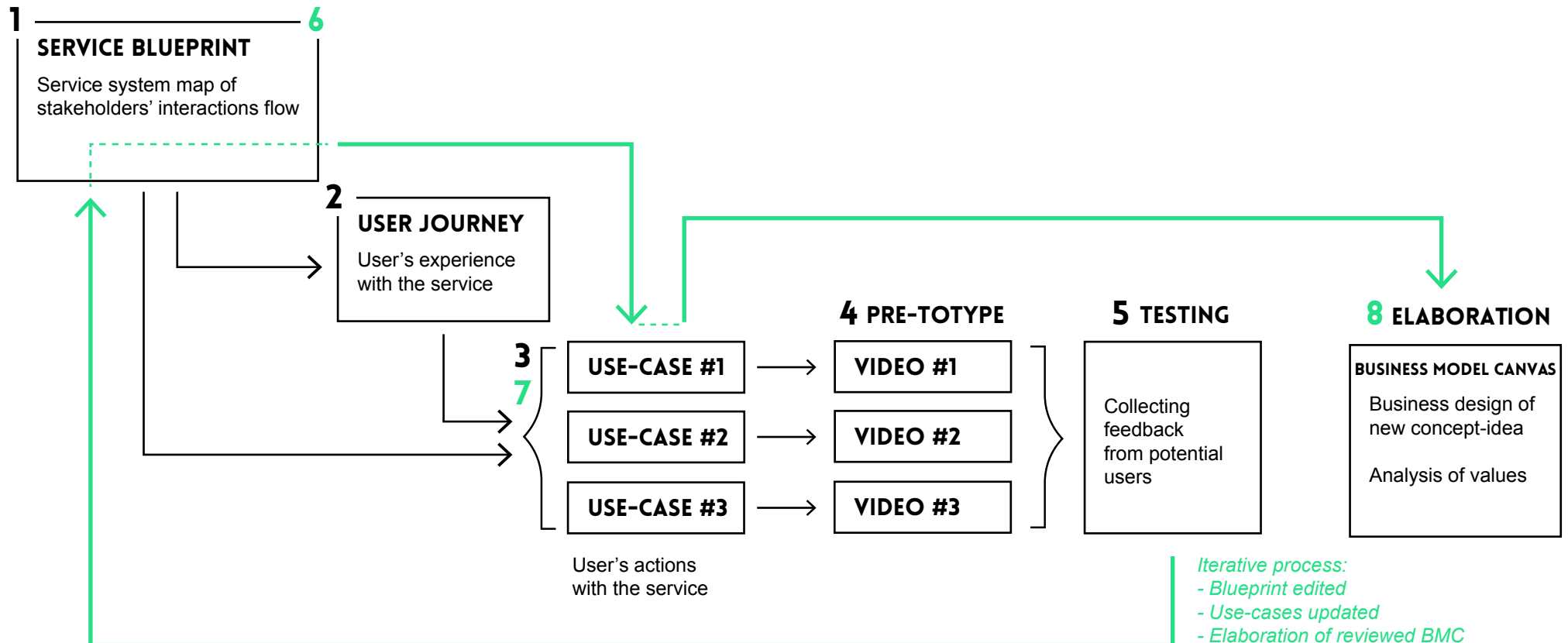*- Use-cases updated*
- Elaboration of reviewed BMC

Fig.44 This roadmap provides an overview of the tools that we used in order to reach the elaboration phase

INTRODUCING THE NEW CONCEPT-IDEA

During a 'What if' brainstorming session, we pictured a scenario where:

- The Airtame software for smartphone is available on the market (currently it is still under development)
- The employees of the enterprise 'X' are already familiar with the Airtame technology (they previously used the Airtame dongle to present from their laptops)
- The EMM of the corporate 'X' hosts the Airtame app
- The employees of the corporate 'X' can access the Airtame technology with no need to install the app on their smartphones. The EMM guarantees that the app is already installed in the smartphone regardless whether the smartphone is provided by the company (COPE) or brought upon hiring (BYOD)

The Airtame software for smartphone is available on the market (currently it is still under development)
The employees of the enterprise 'X' are already familiar with the Airtame technology (they previously used the Airtame dongle to present from their laptops)
Corporate 'X' hosts the Airtame app from the EMM
The employees of the corporate 'X' can access the Airtame software with no need to install the app on their smartphones, whether the smartphone is provided by the company (COPE) or brought upon hiring (BYOD)

We used the scenario to introduce the concept idea and create a plausible context of use, in order to explore the further situation (Stickdorn and Schneider, 2011). It was a starting point to later build a blueprint of the service system. Furthermore, we created a fictional character (Anders) that serves the scenario purposes.
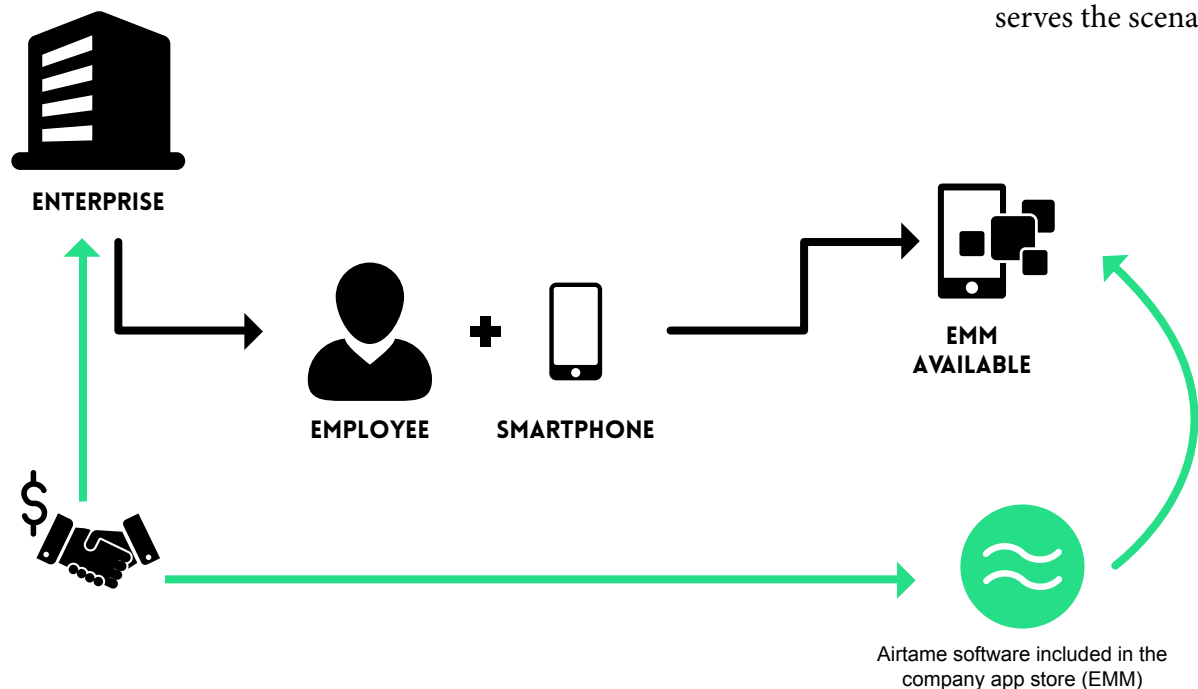

ENTERPRISE

EMPLOYEE **SMARTPHONE**

EMM AVAILABLE

Airtame software included in the company app store (EMM)

Fig.45 Exemplification of how the EMM is integrated in the service system of an enterprise

EXCHANGED VALUES

Before introducing the scenario, we analysed the exchanged values among the stakeholders (employees, Airtame and the EMM). This was useful in order to visualise how the stakeholders involved would benefit from the interactions. In addition, we also considered the requirements that are necessary in order for the envisioned scenario to work.
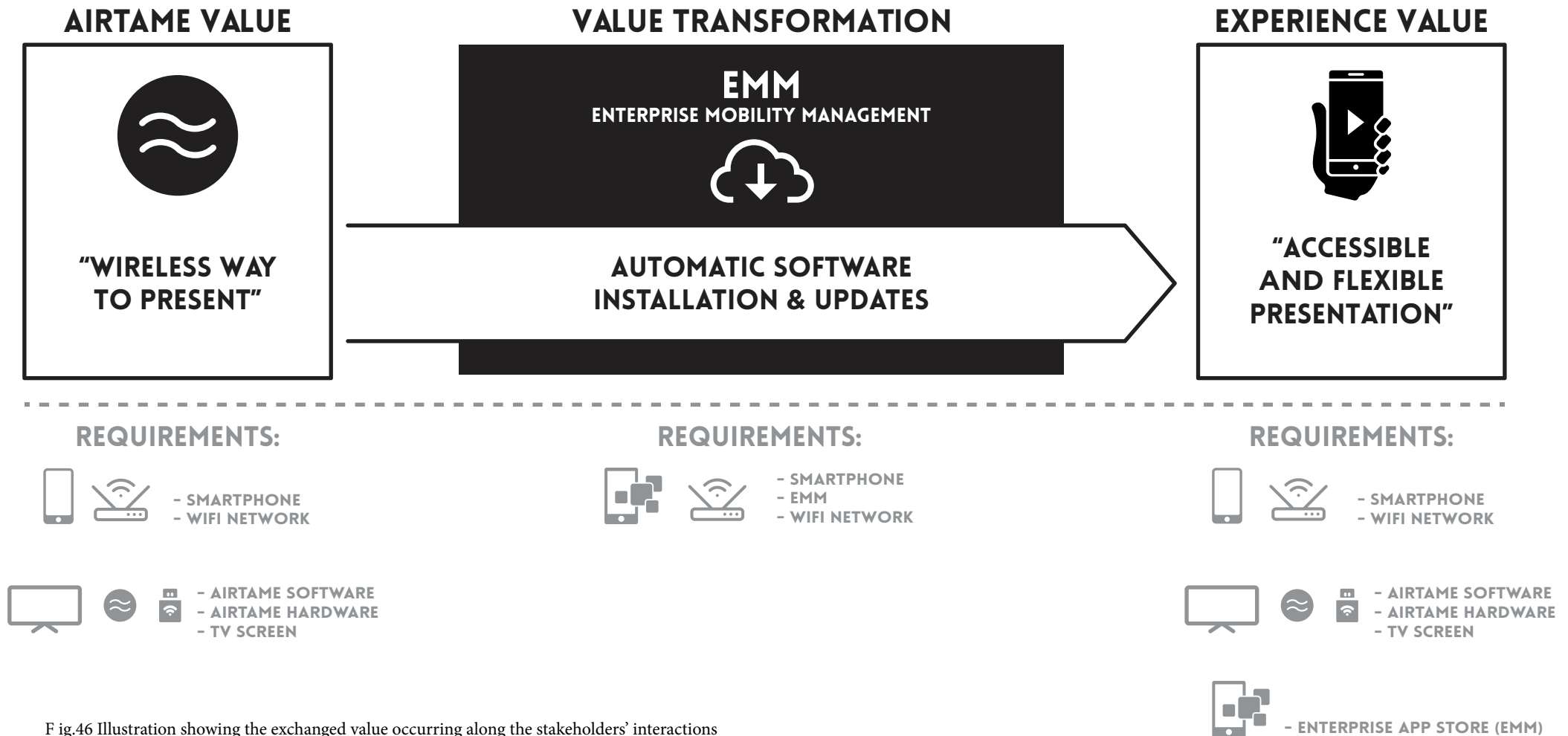

AIRTAME VALUE

VALUE TRANSFORMATION

EXPERIENCE VALUE

EMM
ENTERPRISE MOBILITY MANAGEMENT

"WIRELESS WAY TO PRESENT"

AUTOMATIC SOFTWARE INSTALLATION & UPDATES

"ACCESSIBLE AND FLEXIBLE PRESENTATION"

REQUIREMENTS:
- SMARTPHONE
- WIFI NETWORK
- AIRTAME SOFTWARE
- AIRTAME HARDWARE
- TV SCREEN

REQUIREMENTS:
- SMARTPHONE
- EMM
- WIFI NETWORK

REQUIREMENTS:
- SMARTPHONE
- WIFI NETWORK
- AIRTAME SOFTWARE
- AIRTAME HARDWARE
- TV SCREEN
- ENTERPRISE APP STORE (EMM)

F ig.46 Illustration showing the exchanged value occurring along the stakeholders' interactions

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SCENARIO

Character: Anders, 32 y.o., project manager at Deloitte

Anders is a Deloitte employee, working as a project manager in the area of financial and technology (fintech). As a project manager, Anders has a busy schedule including daily meetings with co-workers, vendors and clients. In most cases, Anders is the one providing these stakeholders with information. He has been using Airtame quite often during his presentations with stakeholders. He finds it very flexible and helpful on his everyday business.

One day, on the company's intranet, Anders reads that now all employees are capable of presenting from their smartphones. He wants to know more about it, so he accesses the Deloitte company portal (EMM), finds and opens the Airtame app (touch-point). He choses the right screen from the app menu hence connects his phone to the Airtame dongle plugged in the TV screen next to him (touch-point). This new mobile possibility is convenient for Anders for more reasons:

1. It is flexible - he is running around for internal and external meetings all day long, always carrying his mobile phone
2. It will make him look innovative in front of stakeholders
3. He does not have to install yet another app on his smartphone, the software is ready to use already

To summarize, this particular scenario would allow the users to have the Airtame software installed in their smartphones by default.

Before moving forward it is worth mentioning that partnering up Airtame and the external EMM provider directly, would be out of relevance for more reasons. Firstly, there are more than a hundred solutions in the market that offers the SaaS (Patel, 2015). Secondly, similar to the case with the mobile operator, this partnership would not provide any increased value to the EMM provider. In addition, it is the enterprise deciding what kinds of apps are needed for the best interest of their employees' work.
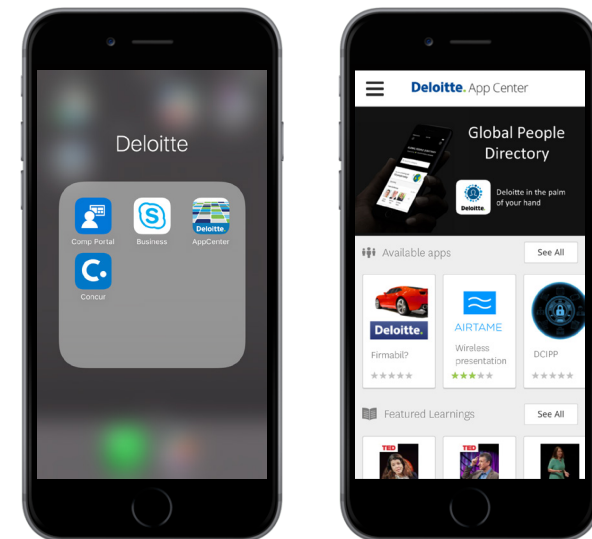

Fig.47 Fictional screens taken from the character's smartphone. They show how the Airtame app can be found the company app store (EMM)

SERVICE SYSTEM BLUEPRINT

We used blueprints to study the processes that lie behind the critical elements of our concept idea (Polaine et al., 2009). It was a crucial tool that helped us understand:

• How each business profile is involved in the ecosystem
• What are the actions required from every part involved
• Which actions are repetitive and which other are missing

The blueprints show the organizational actions that need to take place in order to implement the Airtame software in the EMM. In addition, it was important to distinguish among 3 different situations in which the Airtame implementation could take place:

1. **Service blueprint #1:** The enterprise is an existing Airtame client
2. **Service blueprint #2:** The enterprise is approached by Airtame for the first time
3. **Service blueprint #3:** The enterprise is approached by Airtame for the first time and decides to disregard the offer after having tried a demo version

We took into consideration the perspective of the enterprise, the EMM administrators (internal to the enterprise), and Airtame. It was out of interest to acknowledge the external EMM provider, since it does not have any interactions with Airtame nor the enterprise. The management is outsourced to the EMM administrator (Søren Filtenborg, 23 May 2017).

While designing the blueprint, we became aware that both large corporates and SMEs would have played the same actions. For this reason, 'enterprises' define both profiles. Indeed, the service blueprints grew as we went further in analysing and detailing the interactions occurring among the stakeholders involved. It is indeed to be considered a 'living' document that should periodically be revised.

SERVICE BLUEPRINT #1

The enterprise is already an Airtame client, thus it is already familiar with the technology. It is relevant to isolate those actions that only concern EMM users (framed in the green box). Indeed, by taking out that section, the blueprint could be relevant also for those enterprises not having an EMM - since that is the case for some of the current customers of Airtame (smaller SMEs).
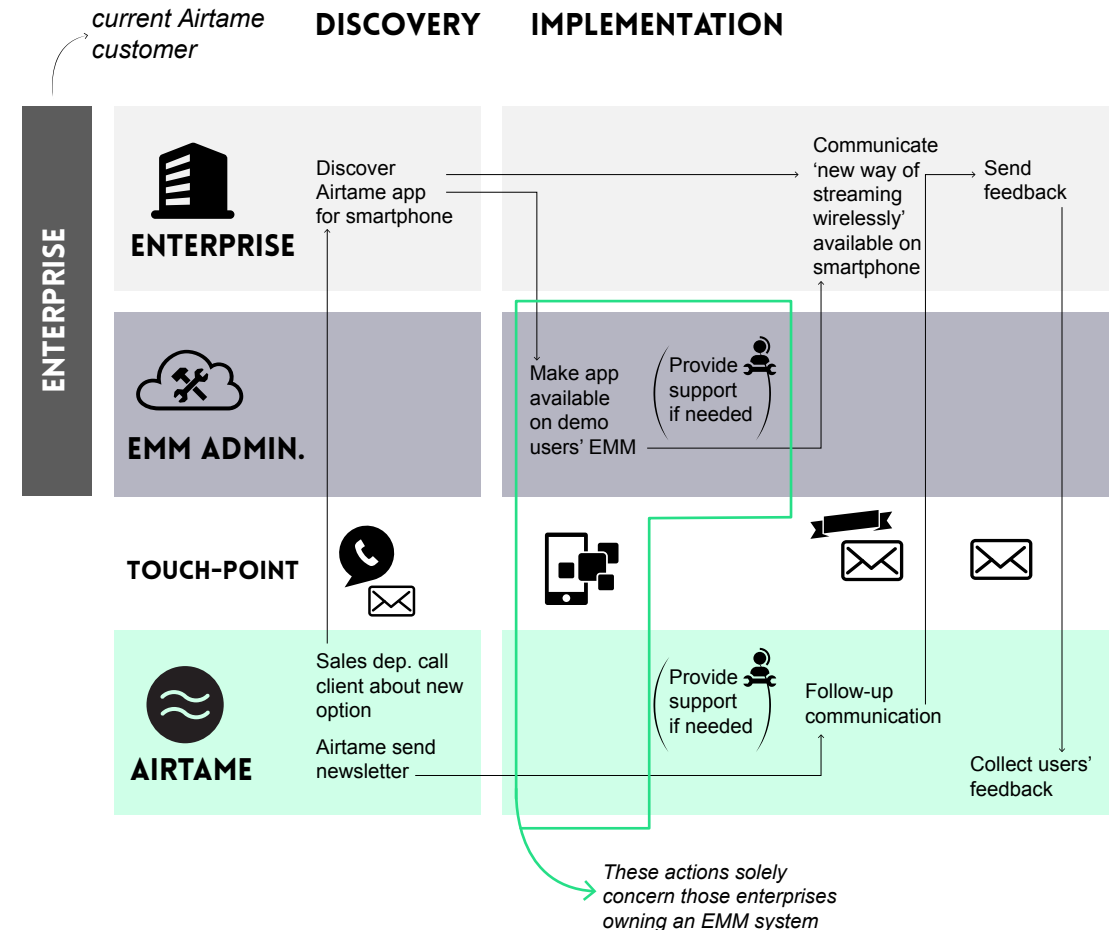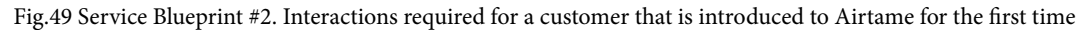

Fig.48 Service Blueprint #1. Interactions required for a current customer of Airtame

SERVICE BLUEPRINT #2

The enterprise is approached by Airtame for the first time. In order to learn about the service and get familiar with the technology, a 30-day trial is offered. The actions concerning the installation of the hardware are framed in a green box. Indeed, they could actually open up a dedicated blueprint, where the EMM administrator is also responsible for configuring all the dongles to the Airtame Cloud Management.

Fig.49 Service Blueprint #2. Interactions required for a customer that is introduced to Airtame for the first time

SERVICE BLUEPRINT #3

The enterprise is approached by Airtame for the first time. In order to learn about the service and get familiar with the technology, a 30-day trial is offered. Although, at the end of the trial, the enterprise decides not to purchase the Airtame offer.
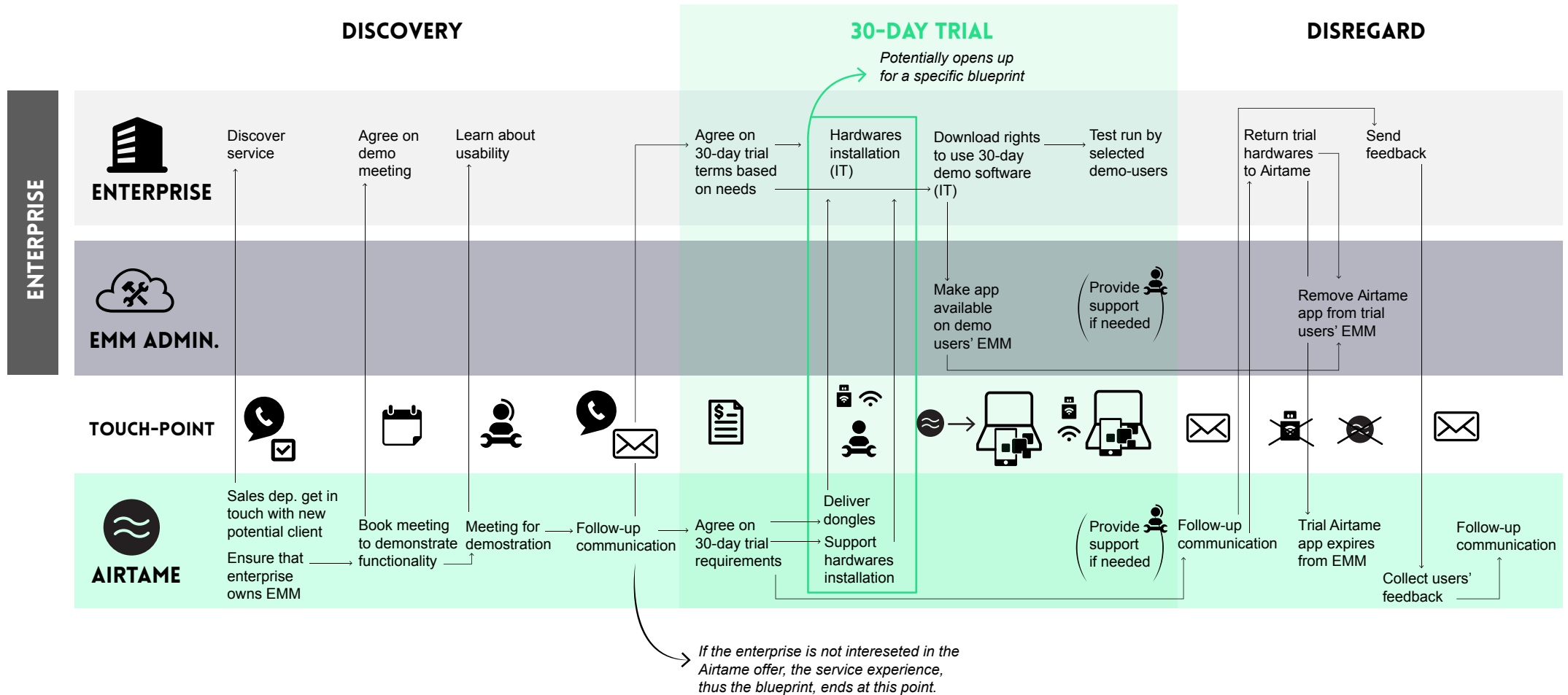

Fig.50 Service Blueprint #3. Interactions required for a customer that is introduced to Airtame for the first time and that decides to disregard the offer from Airtame

USER JOURNEY

In order to focus on the users' perspective and how they could potentially experience the new service, we created a user journey. The purpose of using a journey is to give a narrative representation of the flow, touch-points and actions that the users experience when interacting with the new service (Schneider and Stickdorn, 2011).

This user journey describes the actions of two users interacting with Airtame: user 'B' and user 'C'. In particular, the two users are colleagues (i.e. they belong to the same enterprise) and they both need to share a presentation on the same TV screen. So far, this could be a current scenario for the Airtame users.

The new element in this user journey is that the users stream their presentation from their smartphones. Additionally, the way they access the Airtame software is through the company portal (EMM). In the user journey, we highlighted a section called 'interaction out of office'. This section describes the actions needed if the users are bringing the dongle out of their office and need to configure the hardware and access a new WiFi point. It is important to notice that, in case the users are presenting in-house, the actions highlighted in the section called 'interaction out of office' would not be necessary.

Based on the user journey, we 'zoomed in' into 3 specific situations and we created a use case for each one of them. The sections of the journey which lead to the use-cases are appointed in the graphic.

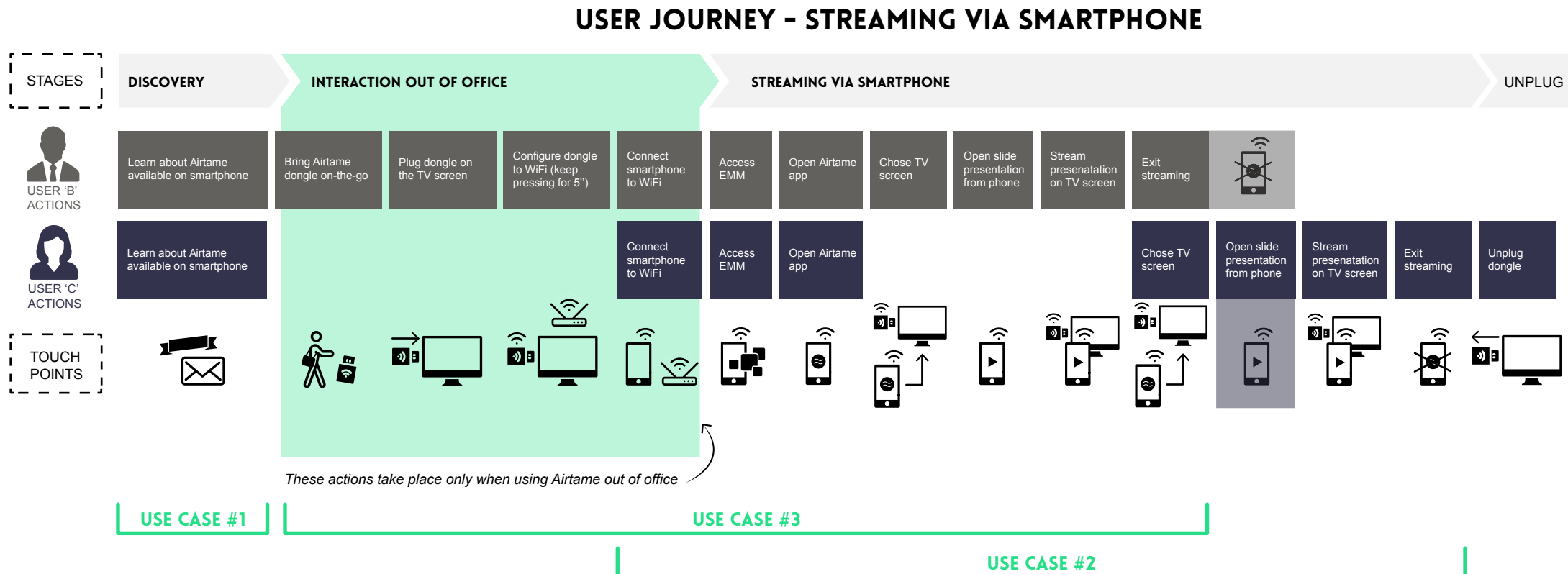## USER JOURNEY – STREAMING VIA SMARTPHONE

Fig.51 User journey describing the actions and touch-points of 2 users interacting with Airtame - framed in the new scenario that we designed. Use case#1 can be found at page 67. Use case#2 can be found at page 68. Use case#3 can be found at page 69

USE CASES

Use cases are 'zoomed-in' actions taken from the blueprints and the user journey. By 'zooming' into a specific action, it is possible to disclose very precise details of an action from the user's perspective (Stickdorn and Schneider, 2011). It is possible to map the different paths that a user can follow within the same service system. Furthermore, the purpose of the use-cases was to define and describe the presenter's experience when using Airtame from a smartphone. We focused on 3 particular use-cases:

USE CASE #1: It describes the experience of user 'A' learning about Airtame for the first time and later presenting in front of an audience

USE CASE #2: It describes how two colleagues (user 'B' and 'C'), who are already familiar with the Airtame technology, are streaming a presentation from their phones

USE CASE #3: It describes the experience of user 'D' using the phone to stream a presentation out of the office - which requires configuration to the WiFi (i.e. the dongle antenna and the phone network)

USE CASE #1

It shows how a presenter is informed about Airtame, via one of the company's communication channel. Since he has the EMM company app installed in his smartphone by default, he will simply just needs to access the app whenever he needs to make a presentation.
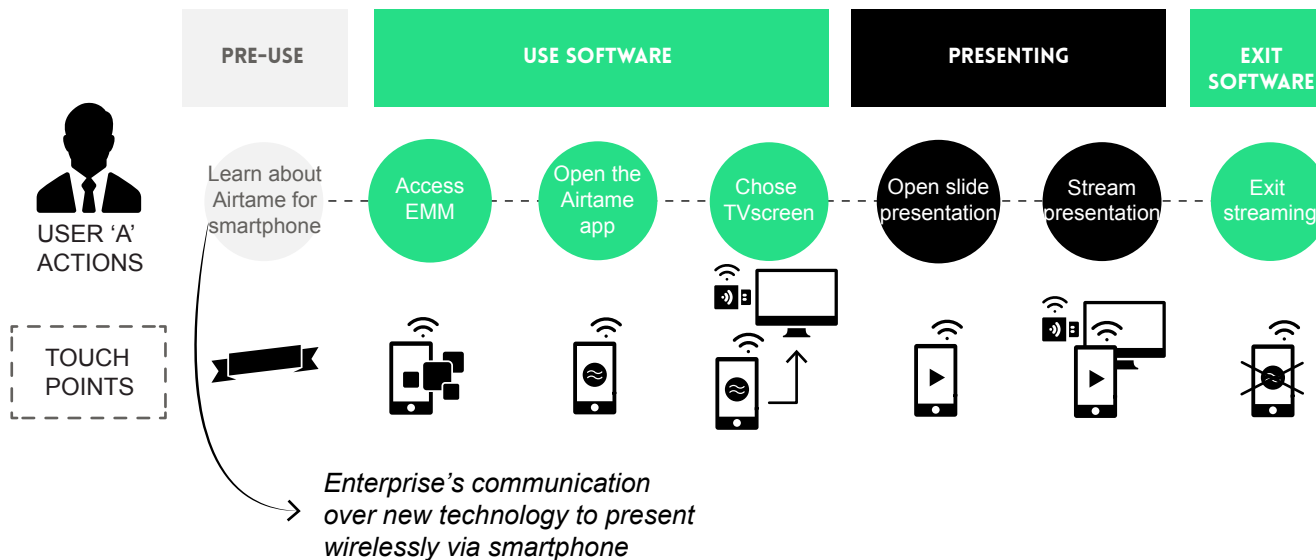

Fig.52 Use case #1
User 'A' getting introduced to Airtame for the first time

USE CASE #2

It shows how two users can have a meeting and easily switch presentation while presenting on the same TV screen. Since the EMM allows the users to access the Airtame software without any prior installation, any employee of the enterprise can connect their phones to the Airtame dongles.
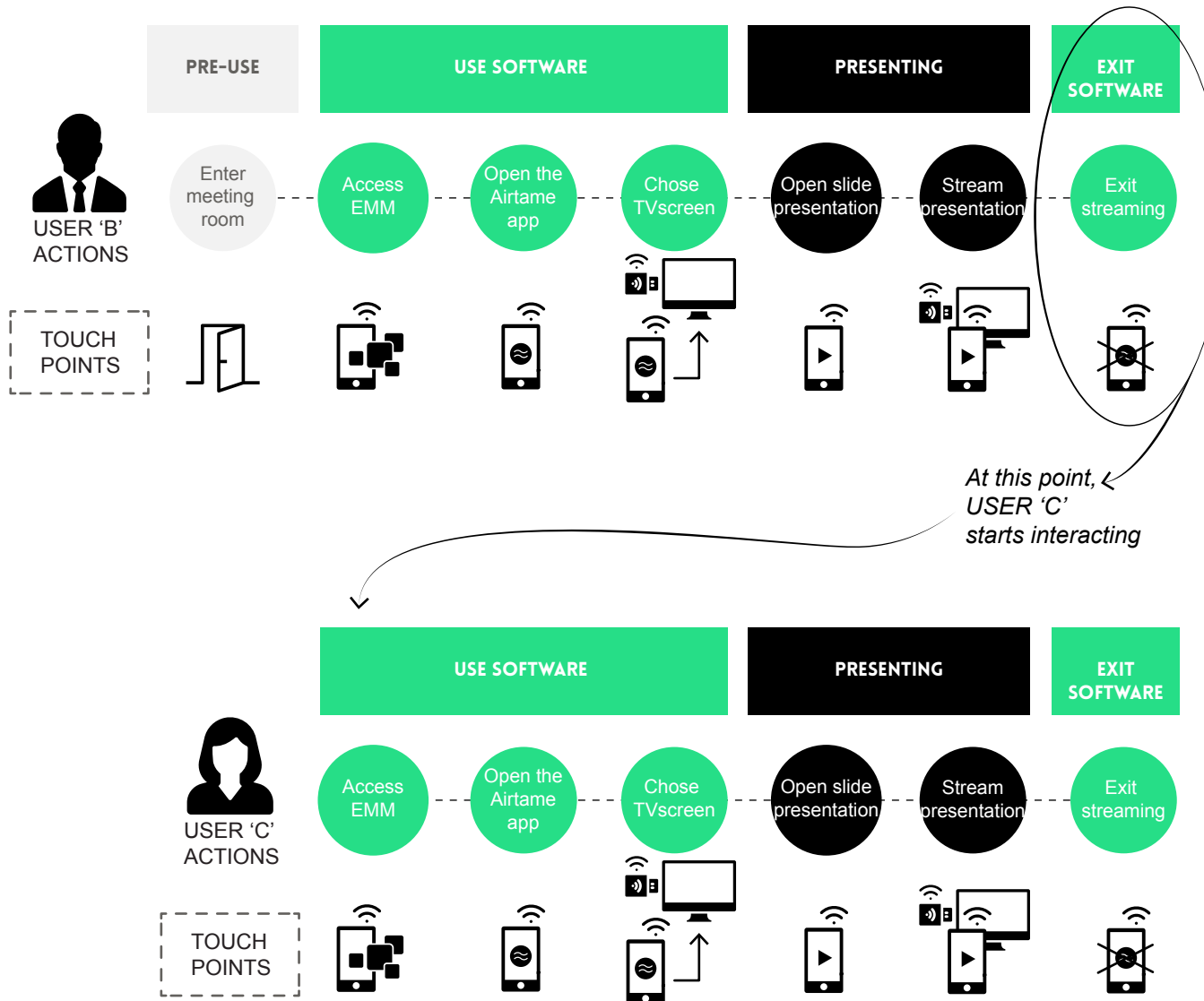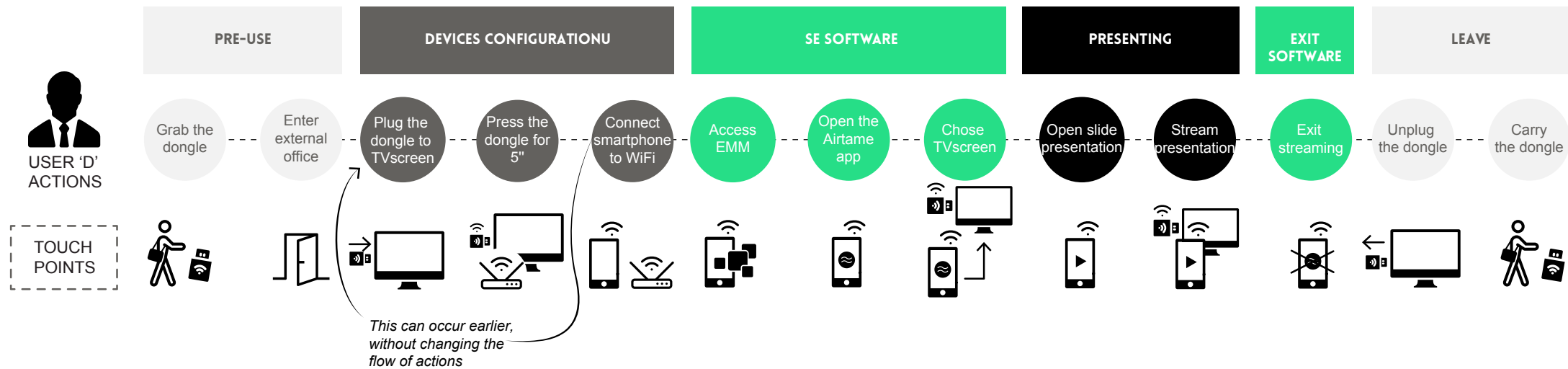

Fig.53 Use case #2User 'B' and 'C' streaming on the same TV screen

USE CASE #3

It shows how a user should interact with Airtame when streaming a presentation via smartphone on an external network (out of the office).

Fig.54 Use case #3. User 'D' using Airtame out of the office

PRE-TOTYPING AND TESTING

We took advantage of the use cases to pre-totype the service. Pre-totyping is roughly described as 'faking it, before making it'. Savoia (2011) describes it as 'Make sure – as quickly and as cheaply as you can – that you are building the right 'it' before you build 'it' right'. Due to the fact that streaming from a smartphone is not yet an Airtame reality and the software is not installed in any EMM, it was not possible to prototype the concept idea. Therefore, we produced 3 video-sketchings - based on the 3 use-cases - with the purpose of demonstrating how the presenter interacts with the service from a smartphone (Stickdorn and Schneider, 2011, p179). Instead of using storyboards for making the videos, we based them on the use-cases. We showed the video-sketchings (i.e. the pre-totypes) to a few potential users, in order to receive some credible feedback on the concept idea.

The potential users selected to test the pre-totype were people working in enterprises and large corporates having an EMM:

- 2 Novo Nordisk employees
- 2 Deloitte employee
- 1 SimCorp employee
- 1 Home employee
- 1 AAU employee
- 1 KU Ph.D. student

It is relevant to point out that the last two testers belong to the academic world, therefore it could seem out of scope to collect their feedback on a solution targeting enterprises. Yet, it was important to hear their feedback in order to get a diverse perspective on the scenario and also to actually validate whether or not the solution would have been relevant for them as well.

Fig.55 Testing session with Deloitte employee

VIDEO LINK – USE CASE #1
VIDEO LINK – USE CASE #2
VIDEO LINK – USE CASE #3

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FEEDBACK DEBRIEF

In order to collect a systemic overview of the feedback obtained from testing the use-cases, we used a design thinking tool developed by Stanford's d.school called Feedback Debrief. The illustration is a summary of all the relevant feedback gathered.

As a result from the 8 feedback cases (interviews), some findings came up:
- 87.5% are familiar with the EMM technology
- All respondents use their mobile for working context and perceive the concept beneficial
- A 30-day trial period is crucial to prove the efficacy of any new technology implementation
- The link between the slide presentation and the smartphone was a concern: "Once I open the Airtame app and connected to the screen, how and where can I open my slide presentation?", Natasha Munhoes, Project Manager, Novo Nordisk

We took the findings from the Feedback Debrief session as meaningful insights to start designing the new value proposition canvas and consequently the new business model canvas of the service concept.

KEY QUOTES FROM THE CONVERSATIONS:

It seems very flexible!
- Wei Wei, Book-keeper at Home

Can we share a document?
It would be very useful.
- Rasmus Kruse, Business Analyst at Deloitte

I just trust the apps that I find in the company app store. I always find useful tools there.
- Aditi Valecha, PM at Novo Nordisk

Where can I find my presentation?
- Natasha Munhoes, PM at Novo Nordisk

INITIAL THOUGHTS:

Necessity of the customers to familiarize with the new technology and offer. Including a trial period of the product would be ideal, in order to enhance their experience with the offer.

BEHAVIOURS NOTICED:

- Users are familiar with EMM technology
- Users require flexibility on everyday tasks
- People using a work phone are skeptical to download any app that is not available in the EMM
- General unfamiliarity with presenting from phone instead of using the pc

REFLECTIONS ROSE FROM THE CONVERSATIONS:

Link betweeen streaming the presentation on the phone (using the Airtame app) and the slide presentation itself:

- Which format should it be?
- How should it be created?
- Where and how could it be saved?
- Is there a specific app for that?

Need to educate users to the new way of presenting wirelessly via their smartphone.

CONSIDERATIONS TO FURTHER INVESTIGATE:

(3 months from now)

Review of the new Business Model Canvas to evaluate new opportunities, such as:

- Worthiness of including Key Partners
(e.g. slide presentation programs)

- Conveniece of adding Key Activities like extra features or accesssory apps developed by Airtame
(e.g. slide-builder or cloud-storage to save presentations)

RESULTS

NEW BUSINESS DESIGN

We collected all the findings and insights that we gathered all throughout the ideation phase and we designed a new value proposition canvas targeting those enterprises having an EMM. We noticed that many were the elements still in common with the current value proposition canvas, although, some relevant new values emerged from the analysis (highlighted in green in the canvas).
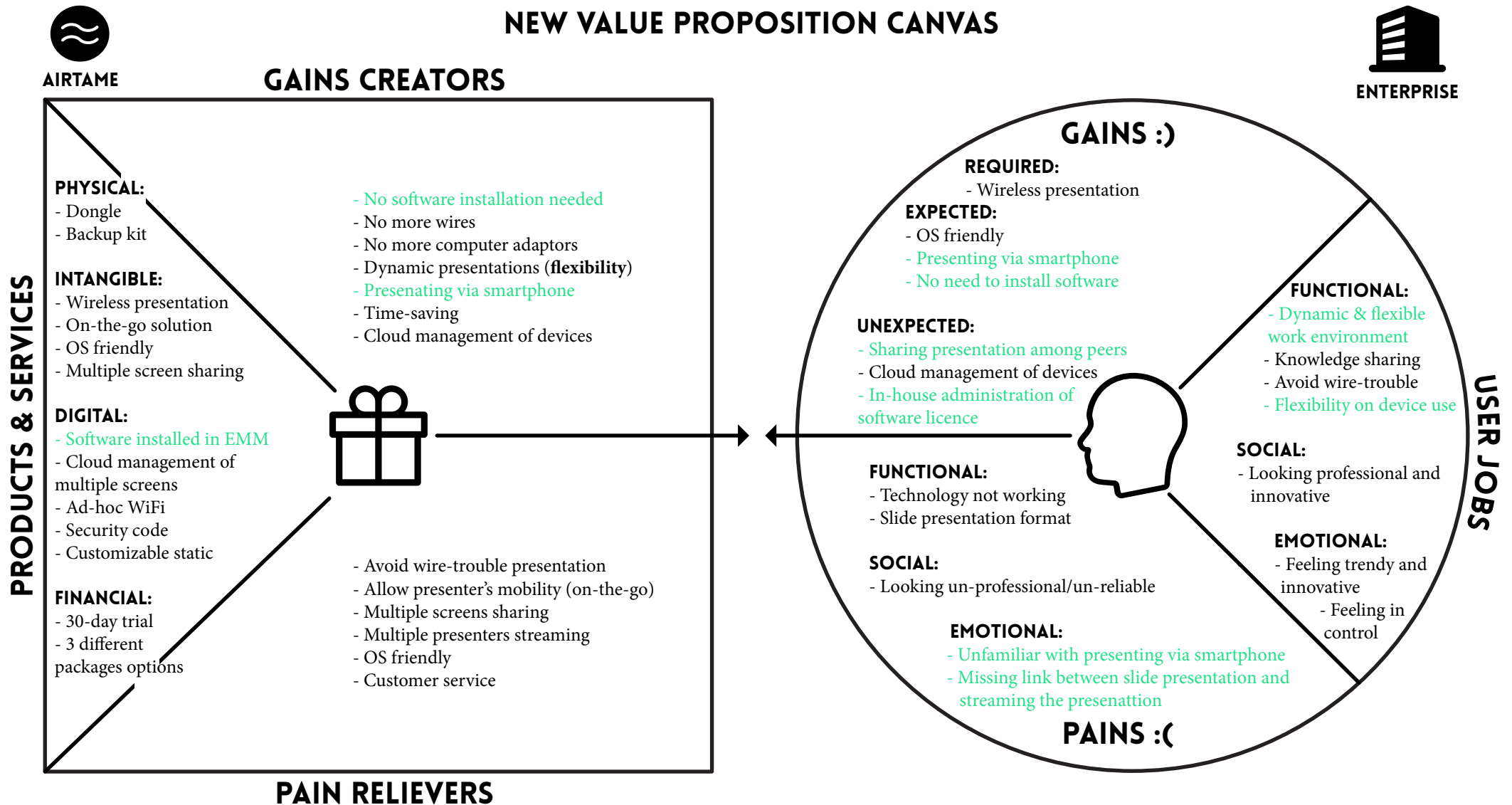
NEW VALUE PROPOSITION CANVAS

AIRTAME

ENTERPRISE

GAINS CREATORS

GAINS :)

- No software installation needed
- No more wires
- No more computer adaptors
- Dynamic presentations (**flexibility**)
- Presenating via smartphone
- Time-saving
- Cloud management of devices

PRODUCTS & SERVICES

PHYSICAL:
- Dongle
- Backup kit

INTANGIBLE:
- Wireless presentation
- On-the-go solution
- OS friendly
- Multiple screen sharing

DIGITAL:
- Software installed in EMM
- Cloud management of multiple screens
- Ad-hoc WiFi
- Security code
- Customizable static

FINANCIAL:
- 30-day trial
- 3 different packages options

- Avoid wire-trouble presentation
- Allow presenter's mobility (on-the-go)
- Multiple screens sharing
- Multiple presenters streaming
- OS friendly
- Customer service

REQUIRED:
- Wireless presentation

EXPECTED:
- OS friendly
- Presenting via smartphone
- No need to install software

UNEXPECTED:
- Sharing presentation among peers
- Cloud management of devices
- In-house administration of software licence

FUNCTIONAL:
- Technology not working
- Slide presentation format

SOCIAL:
- Looking un-professional/un-reliable

EMOTIONAL:
- Unfamiliar with presenting via smartphone
- Missing link between slide presentation and streaming the presenattion

FUNCTIONAL:
- Dynamic & flexible work environment
- Knowledge sharing
- Avoid wire-trouble
- Flexibility on device use

SOCIAL:
- Looking professional and innovative

EMOTIONAL:
- Feeling trendy and innovative
- Feeling in control

USER JOBS

PAINS :(

PAIN RELIEVERS

Fig.56 New Value Proposition Canvas

NEW BUSINESS MODEL CANVAS

Moving forward, we mapped out the new business model canvas according to the concept idea, in order to have a systemic overview of how the operating business system would look like and what the requirements would be. The customer segment of the canvas are enterprises (i.e. larger SMEs and corporates) using the EMM.

It was of relevance to verify the likelihood of the business model canvas - before validating it with Airtame. Therefore, a Skype session with associate professor Poul Henrik Kyvsgaard Hansen (23 May 2017) was held. The purpose was to obtain an external professional review of the canvas to move forward in the execution. To point out some critiques and learnings that emerged from the supervision with professor Kyvsgaard:

CRITIQUES
- Not having any or only a few key partners is often perceived a weakness because they are regarded active promoters. Indeed, they would help the business thrive from diverse experts knowledge, which could lead to innovative solutions
- The cost structure should be solely based on the resources needed when the business is 'in operation'

LEARNINGS
- A Business Model Canvas is always based on the business being 'in operations'. This means that key resources such as 'hardware development' already occurred, hence not relevant any longer
- The cost structure is based on what is eventually needed from the business to be sustainable. It is related to the costs it will take to create the service promised in the value proposition

VALUE PROPOSITION

The value proposition was 'empowered' in a sense. The focus is definitely on the flexibility that streaming from a smartphone allows.

CHANNELS

Amazon is no longer a channel of interest due to the new business design. Currently, Airtame is distributed through Amazon for selling to B2C (if any) and smaller enterprises (<50 persons employed). The new canvas is targeting bigger enterprises, thus a B2B interaction for which Amazon would not be the appropriate channel.

CUSTOMER RELATIONSHIPS

In terms of building customer relationships, Airtame is currently offering physical hardware installation when a customer purchases 20+ dongles. In an email from M. Saavedra (31 March 2017), we learned that all large enterprises served by Airtame are buying that specific package. Additional customer relationships are based on the 30-day trial and related account management.

REVENUE STREAMS

Nothing has changed in terms of the revenue streams. The price of the wireless dongle depends on the number of items purchased. It could be argued that including another revenue stream could make a positive impact. Although, the user research that we performed early on in the process taught us that the price of the Airtame product was not a concern or a pain point for the customer.

KEY ACTIVITIES

As the title suggests, these are the most important elements that Airtame should have internally, in order to fulfill its value proposition. These elements, belonging to Airtame, are related to the hardware and the software.

KEY RESOURCES

These resources are the main external inputs needed in order to sustain the value proposition. Of greater importance is the EMM technology.
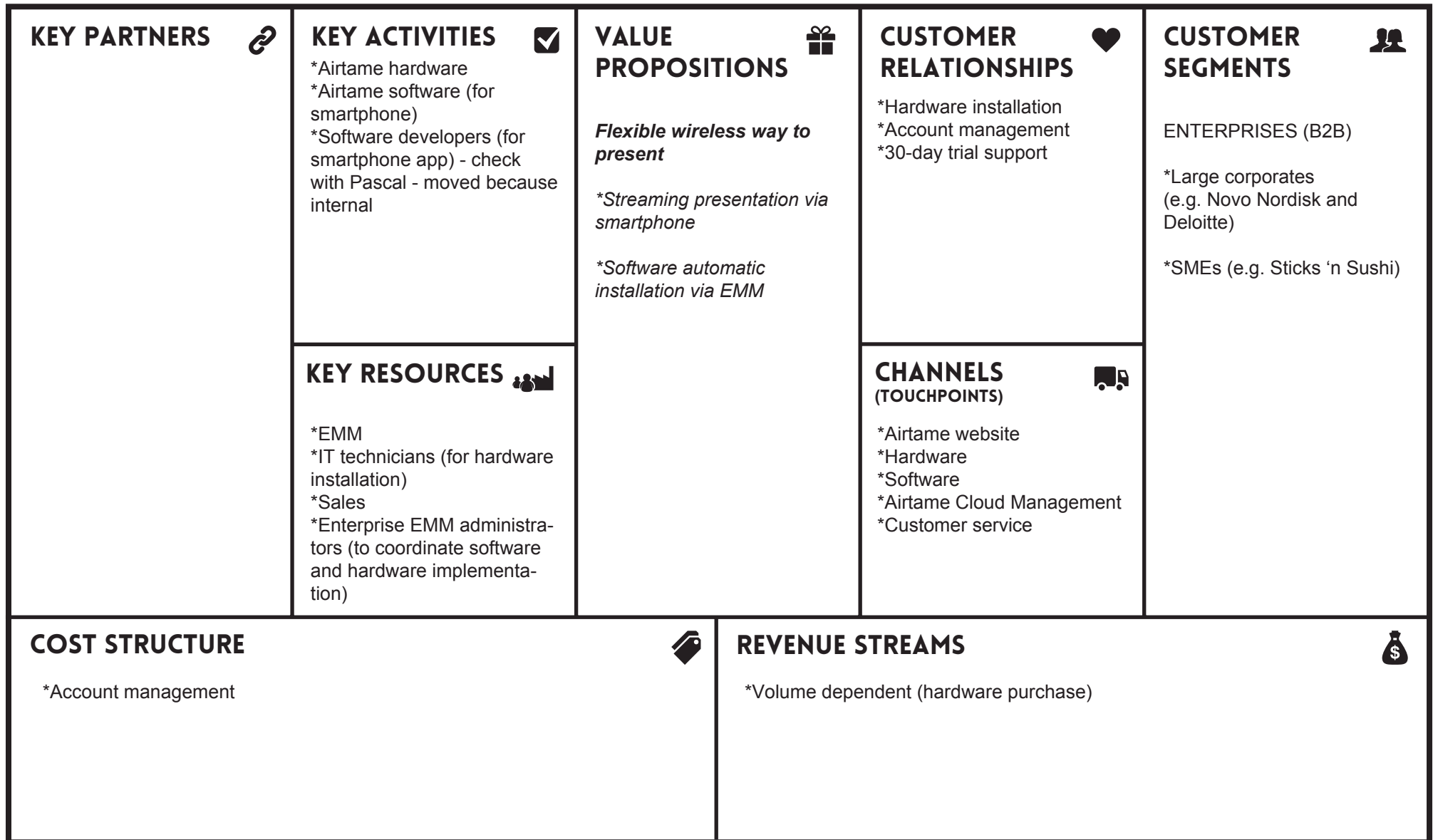
KEY PARTNERSHIPS

It could be argued that key partners can potentially strengthen a business as active promoter. At this point Airtame does not have any key partners. However, testing the use-cases made us realize that more testers were concerned about the link: streaming a presentation and how to access the slide presentation from the smartphone.

COST STRUCTURE

The cost structure of a business is either value-driven or cost-driven (BMC, 2017, online). In this case, it is the value-driven cost structure that we take into consideration, due to the enhanced customer experience. One of the most significant expenses would be related to the software development. However, according to the interview with professor Kyvsgaard (23 May 2017), the canvas should represent 'the business in operations'. For this reason, the value-driven cost is related to the account management only, including administered processes and support for hardware and software.

Fig.57 New Business Model Canvas

KEY PARTNERS 🔗	KEY ACTIVITIES ☑	VALUE PROPOSITIONS 🎁	CUSTOMER RELATIONSHIPS ♥	CUSTOMER SEGMENTS 👥
	*Airtame hardware *Airtame software (for smartphone) *Software developers (for smartphone app) - check with Pascal - moved because internal	***Flexible wireless way to present*** *Streaming presentation via smartphone* *Software automatic installation via EMM*	*Hardware installation *Account management *30-day trial support	ENTERPRISES (B2B) *Large corporates (e.g. Novo Nordisk and Deloitte) *SMEs (e.g. Sticks 'n Sushi)
	KEY RESOURCES 🏭 *EMM *IT technicians (for hardware installation) *Sales *Enterprise EMM administrators (to coordinate software and hardware implementation)		**CHANNELS** **(TOUCHPOINTS)** 🚚 *Airtame website *Hardware *Software *Airtame Cloud Management *Customer service	

COST STRUCTURE 🏷	REVENUE STREAMS 💰
*Account management	*Volume dependent (hardware purchase)

FUTURE CONSIDERATIONS OF BUSINESS MODEL CANVAS

We used the Business Model Canvas as a living board, that underwent several changes, mainly influenced by considerations raised by professor Kyvsgaard (23 May 2017), Airtame, and reflections from our research with the users.

We decided to include our latest reflections in the new business model canvas, being aware that they can all open up further discussion and investigation. The critical reflections are included with green in the latest canvas.

KEY PARTNERSHIP
Key partners are a strength for the business (Professor Kyvsgaard, 23 May 2017)
The link between the Airtame app and the slide presentation itself is not obvious to users (Feedback debrief, page 71)
These considerations led toward the idea of including partners such as slide presentation programs (e.g. Prezi, SlideDog).

KEY ACTIVITIES
As an alternative to the Key Partnership described previously, Airtame could think of developing accessory apps or extra features, such as a slide builder or a presentation storage, that could complement their streaming offering.

REVENUE STREAMS
So far Airtame revenue stream is volume dependent. Although, it could be argued that purchasing the software licence - for new customers - could be a different source of revenue. It could be the case that the licence would need to be renewed yearly, for instance. Finally, if Airtame would include accessory features, the software licence could be provided in the form of different offers, e.g. Premium vs Standard. This option would raise the opportunity to investigate the possibility of designing a 'Freemium' business model for the purchasing of the software licence (Kumar, 2014).
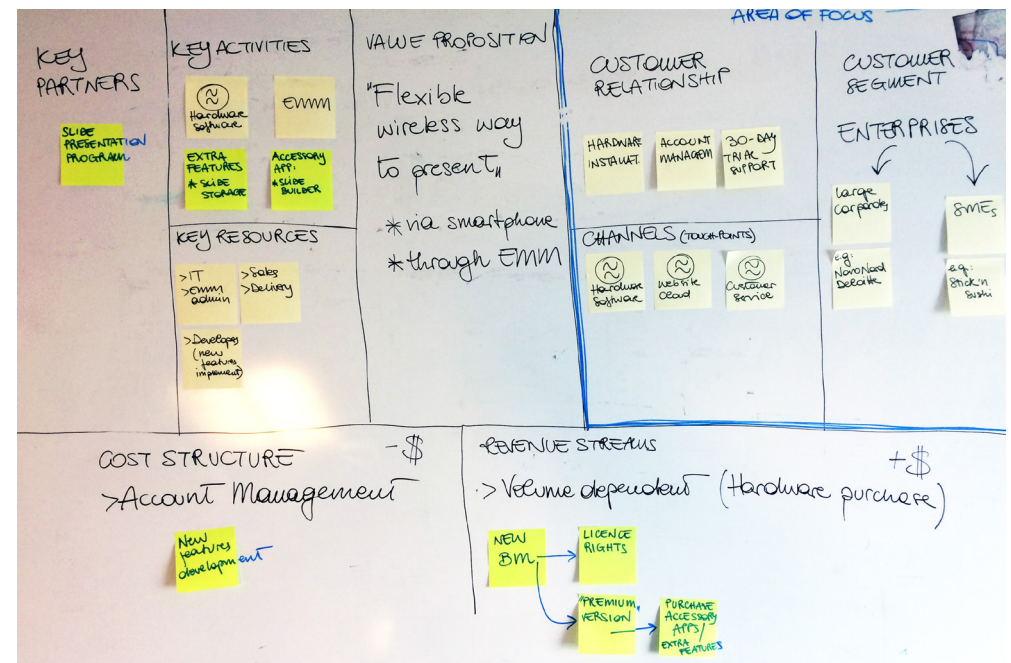
Fig.58 Study board to map the new Business Model Canvas. The green post-its marks the future reflections on it

77

Fig.59 Future considerations on new Business Model Canvas. The green text marks the future reflections developed

KEY PARTNERS 🔗

Partners that could provide complementary products to support main functionalities:

*Slide-based presentation programs (e.g. Prezi, SlideDog)

KEY ACTIVITIES ☑

*Airtame hardware
*Airtame software (for smartphone)
*Software developers (for smartphone app) - check with Pascal - moved because internal

* Accessory apps (e.g. slide builder)
*Accessory features (e.g. document storage)

KEY RESOURCES 🏭

*EMM
*IT technicians (for hardware installation)
*Sales
*Enterprise EMM administrators (to coordinate software and hardware implementation)

VALUE PROPOSITIONS 🎁

Flexible wireless way to present

Streaming presentation via smartphone

Software automatic installation via EMM

CUSTOMER RELATIONSHIPS ❤

*Hardware installation
*Account management
*30-day trial support

CHANNELS 🚚
(TOUCHPOINTS)

*Airtame website
*Hardware
*Software
*Airtame Cloud Management
*Customer service

CUSTOMER SEGMENTS 👥

ENTERPRISES (B2B)

*Large corporates (e.g. Novo Nordisk and Deloitte)

*SMEs (e.g. Sticks 'n Sushi)

COST STRUCTURE 🏷

*Account management

*New features development
*New app implementation outsourcing

REVENUE STREAMS 💰

*Volume dependent (hardware purchase)

*Software licence rights
*Supplementary services (e.g. accessory apps/extre features)

VALIDATION OF BUSINESS MODEL CANVAS

Since the purpose of this thesis has been to investigate the significance of implementing a service systems design approach when developing an overall business design, it is by all means significant to receive feedback from the business owner (Airtame). Although, we are well aware that the most meaningful and valuable feedback must come from the users interacting with the Airtame service.

At this stage, the Airtame software for smartphone is underdevelopment and we do not have any strategic direction from Airtame. Both elements due to the lack of time and resources from the company side. The software itself is crucial if we want to test the new service and aim to obtain credible and reliable reactions from the customers. A strategic direction on how the software implementation should be performed must be provided as well.

At least, we acknowledge the fact that our reflections could contribute to areas of actions. In conclusion, we have learned and experienced the high relevance of receiving user feedback, in order to get the right design.

CONCLUSION

This thesis aimed at investigating to which extent an intervention on the service system of a business would impact the overall business design. By combining theoretical frameworks from the field of service systems design with a real life case study, we have gained a decent understanding of the whole service system around the business.

After a benchmarking study, later analysed through a value mapping inspired by Manzini (2004), it became clear that the business case chosen is a small fish in a vast sea of big competitors. The business model canvas by Oster-walder et. al. (2010; 2015) became the groundwork to further investigating the business design of the company. In addition, we adopted a user-driven approach to explore users' unmet needs and frustrations towards the product and service offered by the chosen business case. This opened our research towards new directions that enabled us to re-think the customer experience. Morelli (2006) has argued that the service design process is a result of the interactions and the values exchanged among a network of stakeholders. In order to proceed towards future solutions, this argument was meaningful-ly taken into account and led towards further investigation of stakeholders interactions within the service system.

We combined a trends research together with a context analysis of the cus-tomer segment, in order to identify hidden opportunities. This resulted into a concept idea that aimed to address the paint points. As a result:

The overall user experience was improved
An enhanced business design was developed

In terms of studying these allegations and the processes that lie behind the new scenario, we mapped a service blueprint inspired by Polaine et. al. (2009). It soon became evident that the blueprint was beneficial to under-stand actions flows and flaws, and to define the level of interaction of each business profile involved in the system.

The enhanced business design was pre-totyped and tested with potential users, who received it positively. We can argue that this thesis has proven how business opportunities can be discovered by adopting a user-driven and a service systems design approach.

REFLECTIONS

For this concept to move forward, it is of matter to specify that further research across specific elements of the service system shall be performed. With the intention of encouraging an increased value of the customer experience, back-end software development and front-end interface design are necessary. In addition, engagement and prototype testing with stakeholders are essential factors, in order to contribute to the desired outcome. Below we present some aspects that need some reflections:

SCHOOLS WITH EMM
Our concept idea specifically target the enterprise customer segment. Although, it has been proved that more institutions, e.g. Aalborg University, are subscribing to an EMM solution, which makes the concept efficient for them as well. Further reflections made us realize that educational institutions have more students than teachers, which diminish the relevance of the service, since students do not have access to the EMM

PRESENTING ON-THE-GO
While analysing the interviews, an unexpected fact was brought to our attention by Kasper, General Manager of Founders House. He expressed his doubt about bringing the Airtame dongle to a client's office, due to security reasons. It can be argued that some companies, if not all, would not appreciate hardware installation (dongle configuration) on their tv screens.

MUTE BUTTON
A critical point to note is the fact that some presenters might see the advantage of turning off incoming calls, text messages and online notifications while streaming a presentation on the phone. This reflection arose while building the user journey. We presented this reflection to Airtame, which found an obvious solution in the feature that many smartphones allow, commonly known by 'Do not disturb'. We wanted to test the efficacy of the feature and we experienced that the current option suggested by Airtame is actually not effective. It would be relevant for Airtame, to develop an option - incorporated in the Airtame software - that could actively ask the users whether or not they wish to turn off all their online notification while presenting.

PERSONAL NETWORKS
We have referred to 'our personal networks' several times throughout the project. We are both employed at big corporates which definitely has influenced the process. It definitely has been the most reachable channel, instead of exploring farout areas. It can be argued that the concept idea would have been scoped differently, in the case we have had different professional backgrounds.

RESULT-ORIENTED
The direction that we took for this thesis was heavily shaped by two result-oriented students who are keen to demonstrate not just what are capable of, but also which impact service systems design can have in 'the real world'. This is especially reflected in our constant search for improvements and problem solving.

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APPENDIX

Appendix 1: VIDEOS
The videos were used as pre-totypes in order to test the concept idea and 3 use cases. The videos do not have voice-over because we facilitated and
VIDEO LINK - USE CASE #1
VIDEO LINK - USE CASE #2
VIDEO LINK - USE CASE #3

Appendix 2: Written research and validation with Airtame
This appendix documents some of the written conversations we have had with Airtame company in regards to research and validation.

MS María Angélica Saavedra <maria@airtame.com>
ma 24-04, 14:47
Dig; Alice Manfredi (alice.manfredi6@gmail.com)

↩ Besvar | ∨

Someone gave me a better answer for the questions about the mobile notifications when streaming:

"For a "mute" feature like this you can click the :crescent_moon: icon on iOS in the "popup/control" center.."

Hope that makes it clear!

- You need the clickshare device that works as a modem to screen from your mobile anyway. And now, the device should be connected to the tv to be able to screen the images, pdfs, or google slides form the mobile.
- Since you are developing an Airtame app for sharing a presentation through smartphone, have you considered partnerships with telephone service companies (like TDC or 3)?
- i ma not sure why partnering with this companies (Interesting to know what you are thinking about it). So far no.
- When you are to present from your phone, will there be a message advising (or even allowing) you to turn off your phone notifications and incoming calls?
- Is not a feature present in the mobile app. The mobile app is also a little abandoned since we don´t have enough developers working on it at the moment.
- Do you know how much does it cost to implement a cable system (HDMI and VLG) in a company? Does implementing an Airtame system make a company save money?
- I don't think we have numbers for that. BUt I do know is cheaper in the sense of less re-purchase. I mean, every time a cable breaks it generates high costs for any organization (remember at AAU for example), to re-purchase new cables, etc.
- How do your big company clients use the Airtame? Do you know how many they have purchased? Do they use the Airtame for office meetings or conference presentation or just for communication (customisable static)? Can you provide us with any feedback on the use of Airtame from your clients?
- There are different ways of using the device, depending on how geeky the IT Managers are, some have developed more functions to it. In general: For meeting rooms, for digital signage in screens in lobbies or office entrances, for screens in cafeterias sharing content permanently, for waiting rooms, projecting and Ipad with the schdeule system. There are also some in co-working spaces.

Hope that helped!

--
Wireless Regards,

Maria Angelica Saavedra H.
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MS María Angélica Saavedra <maria@airtame.com>
ma 24-04, 14:07
Dig; Alice Manfredi (alice.manfredi6@gmail.com)

↩ Besvar | ∨

Du videresendte denne meddelelse den 27-04-2017 15:54

Hi guys!

Here the answers to your questions:

- Is the software open source?
- It is initially all the information was taking from ope source softaware, but we have done some improvements. In the future the plan is to be more open with what we have done in the programming of it.

- Where and how did you find out that it was important to develop and implement a feature such as sharing the screen through the mobile phone?
- Due to a lot of school have BYOD (bring your own device) politics, so each student brings what they would like to use for the specific class. We know they use a lot ipads and the students won mobile phones.
- Do you have any data? What kind of customers/users did you find out that would benefit from this implementation? Are they among your current customer segment or did you reach out to a new target?
- Also companies use this feature, plus almost everything nowadays has to work for both desktop and mobile.
- I am not sure if we have data about it since customers purchase it but we can't know how everyone is using it, since the product is cross platform they can use it in multiple ways at the same time (I mean in the same company).

- How would it work with sharing the screen through the smartphone? Would you need to go to the app-store and download the Airtame app? Would that be possible to share the screen from the smartphone to the room screen without the dongle (similar to Clickshare)?
- The use of the mobile feature requires the users to download the mobile app from the app store or google play. And the users can't share the screens since is not supported yet.

Hi guys!

Yeah the day is awesome today, so answers!:

1. If the users are sharing the same VPN then yes they could stream in the same screen. But for conferences is not the best solution

2. I am not sure if I understand what you meant. If you are referring to the first change when you are for first time setting up the airtame, it is because your computer works as a bridge for connecting the airtame to your local wifi. So you need first to connect to the airtame to change its settings and then the device will be connected to the WIFI, so you need to go bakc to the local wifi to then have access to internet, and not to the airtames wifi (hope you check the guide I send at the end to understand what I meant)

3. Around 20% in the first set-up process and a 40% in the rest, optimizing the set-up

4. The IT departments take care of it. They use it for different purposes the most common are meeting rooms and dashboards. We always provide support when needed

5. I joint the image of the customer journey we mapped at the office

6. I can't tell exactly, it depends on your proposal I suggest to talk about this Nicolla and Amalia instead. All the suggestions sound good by me, but again the ones that shoudl decide are you :-)

I recommend you to visit: https://airtame.zendesk.com/hc/en-us/articles/203651711--Enterprise-Deployment-Guide-Advanced-

There you can find all the technical description of the product, please let me know if you find or not what you need

Enjoy this sunny day as well!

On Tue, Mar 21, 2017 at 11:13 AM, María Angélica Saavedra <maria@airtame.com> wrote:

Hi guys,

Hope you find it helpful!

What is the value proposition of Airtame? Is it the wireless presentation? Or is it something else? (We do have an assumption based on SWOT analysis and Value constellation mapping, but we need your critical perspective to validate it?

Not only being a wireless technology is what defines us, but also being a facilitator for meetings or for static content such as branding or dashboard presentations.

We also are human-centered, which means that we try to guide our customers as much as we can through the use and installation process.

What functions does the Cloud satisfy exactly? Can the use of the Cloud allow users to connect to the Airtame and share their screens without installing the app?

The cloud is for managing the devices without connecting individually to each one of them directly. Which means that from the Cloud platform the users are able to update, change backgrounds and check the devices actual status.

If you want to share your screen from your computer to a tv screen you need either the portable or the normal app.

What are the advantages of the Cloud?

Managing large amount of devices. Is for clients that have more than 20 units

You can classify your airtames in groups, by buildings, locations or any type of group that is convenient for the specific environment

You can see the status of your devices without being in the same place as the devices, if they are powered you will be able to see how is their WIFI strenght, if they are on or off, if they are secured or not

And finally you can access to each of your aritames settings, changing the background or PIN code

Do you know for which other purposes your clients use the Airtame outside of meeting rooms and class rooms?

For presenting dashboards and customized backgrounds: Google slides, logos
I got to know a case where the customers use their airtame in a cafeteria for playing videogames (This was in Founders house)

How do you ensure data-protection of sensible information in the streamed presentation? We read from your website that: "Airtame is also optimized to work with enterprise grade networks that are set up for high security and performance, like Eduroam" How does this work?

In this case the network provider will have to permit airtame to be inside the network and the device can be secured by a PIN code to avoid anyone to stream without authorization.

In case the computers are the ones secured, the portable app becomes handy. Users will be able to use the portable app by having it in a USB, in case there is a guest that wants to stream and its computer has a security setting that doesn't give him any admin rights.

How does your Sales department identify new potential customers? How do you reach out to them?

Usually we are in a lot of conferences, so customers reach out to us
We also have a lot of customers reaching through social media or our intercom (the chat in the main website)
In the case of schools they usually plan visits for demonstrations of the device

Once a customer reaches out we offer something called: Democalls, which give the buyer an idea on how the product works and what are the environment needs for it to work properly. After this call we send them the enterprise deployment guide, you can find here: https://airtame.zendesk.com/hc/en-us/articles/203651711--Enterprise-Deployment-Guide-Advanced-

What if you could build a 'virtual space', such as Google Drive, do you think it would be technically possible to implement it in the future? Would you be interested in investing in the development of it as it is basically a 'casting' option?
If by google drive you mean a platform for live sharing content. Yes we are developing as a future project a platform that could permit users of the device post messages in the screen, but that still far in the future, so I can't tell you for sure how it will be done

We read on your website that "Airtame cannot fully mirror from mobile devices". Is this still true even after having implemented Airtame 2.0? If so, what are currently the limitations for mobile-mirroring?

We cannot mirror still mobile phones, because it requires a complex cross platform design process (engineering wise) (Corss platform means that it has to be a huge development of our single device being able to communicate to Iphones, Ipads and android devices at the same time)

Right now our main focus is to polish the actual experience with the computer screening

The mobile device app is in the road map already, but still not highest priority

Is the 'carter' of the Airtame still 3D-printed? If so, isn't it a major factor that adds up to the cost of the product? Are you considering mass production of it?

It is not, it is mass produced already :)

We are planning to do 3 testing of the product with 3 potential new customers, in 3 different settings (Novo Nordisk, Deloitte and Startup Hub. Would it be possible to have the product to demonstrate and test it with these potential new users?

We could borrow you one device that you can use in the three cases..

You can also (for the sake of the research) purchase it. We have a 30 day return policy, so after the 30 days you can send the device back and receive your money back.

Nice souvenir! - Keep up the good work!

--
Wireless Regards,

Maria Angelica Saavedra H.
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Fra: María Angélica Saavedra <maria@airtame.com>
Sendt: 29. maj 2017 10:24
Til: Pascal Byrgesen

Emne: Re: Answers to questions

Hi Pascal,

About the BMC, you can add in Key Partners: (VAR) Value added Re-selleres and Distributors and Shipbox (the main logistics partner), in the cost structure: the development of the hardware, the logistics for delivery and the salaries for the employees who develop the software. In customer segment (in case it is the companies BMC) there should be education organizations as well.

I am unsure, if it is the BMC of the company I would add support as well as a key activity.

About the numbers:

- Do you have some percentages estimate of how many schools are you reaching vs how many companies are you serving? According to the CXO the percetages are: 30% Education and 60% companies
- Do you have the same overview only regarding Denmark? those are the danish numbers
- Do you have an estimate of the size of the companies that you are serving? we don't have a clear overview, since some are large organizations but have only 2 airtames. So between SME and Large enterprises the percentages are 30% 30%

Hope that helps! Sorry for the delay! I also had free from thursday! That's why I wasn't answering ;-)

Let me know about when you need the device!

From: **María Angélica Saavedra** <maria@airtame.com>
Date: Tue, May 23, 2017 at 8:51 AM
Subject: Re: Answers to questions
To: Alice Manfredi <alice.manfredi6@gmail.com>

1. I havent been able to contact the person that takes care of the numbers, so i will keep you updated.

2. I can borrow you a device for the presentation no problem

3. SME stands for Small and Medium Enterprise I know is about the amount of employees I think small from 2 to 20 and medium from 20 to 100, but we don't serve larger organization in a full scale, maybe some specific offices but so far we need a 24h team to fulfill larger corporations needs (100<x employees). In the US the majority of organizations are High schools and in Denmark, SMEs. We are being used for DTU and a university in UK. For the numbers I will contact you soon!

4. I would prefer if it is not called validation, I feel anyway is not the right term.

5. I am glad you can use the feedback! I don't want to stress you either!

Hope yo have a good end of the semester and keep me updated!

Appendix 3: Interviews with users

These recordings represent some of the interviews with former and current users of Airtame. Since not all participants felt comfortable getting recorded, we document indeed some follow up correspondences.

Interview With Kasper (Founders House) - Part I
Interview With Kasper (Founders House) - Part II
Interview with Sillas (Newsio)

•What was the struggle in using it? Why did you stop?
We stopped because the stability wasn't good enough. Everytime we had meetings, there was a lack of signal and it slowed down meetings and presentations

•Did you consider using Airtame when travelling or going to clients?
No - we use it internally only.

•Who took care of installing the Airtame software? Our IT And Digital Department

•How do you share presentations today - what product? Airtame in meeting rooms and Apple TV in our Auditorium. With the new airtame we saw an improvement in software and signal, so we gave it another shot, and it has worked perfect ever since
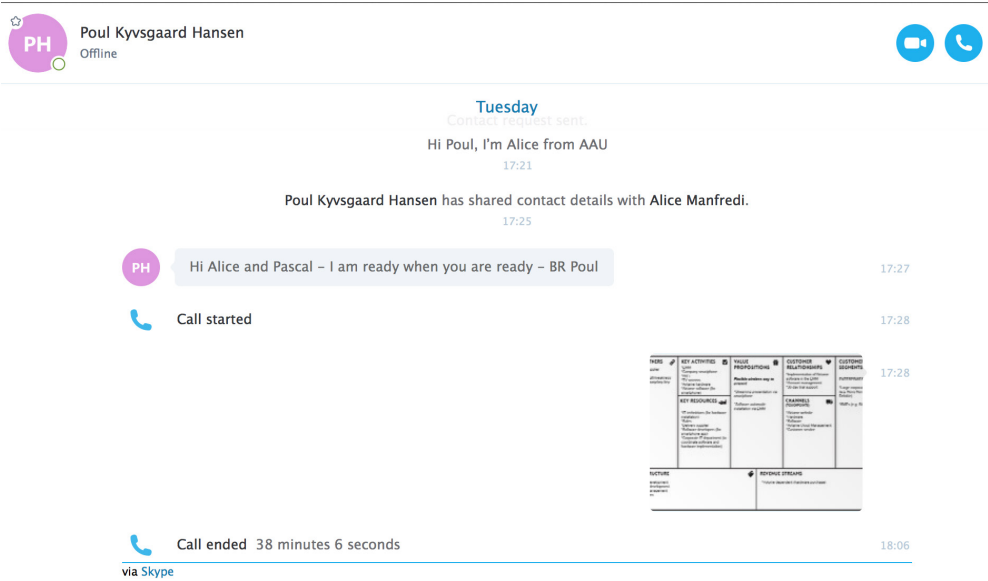
Appendix 4: Demo-call with Airtame

The video call documents the Airtame demo-call we had, with the purpose of purchasing the dongle.

Demo call with Airtame

Appendix 5: Skype-session with Poul Kyvsgaard Hansen

The picture is a proof of the Skype-session held with Poul in regards to the business model canvas.

Appendix 6: Interview with Søren Filtenborg

Documentation of IT employee introducing the EMM system at Aalborg University in Copenhagen.

Appendix 6: Interview with Francesco Grani

Documentation of the Assistant Professor going into details about the EMM back-end system.