Make smartwatches great again

Finding product/market-fit in the Danish smartwatch industry

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Authors:
Mads Plet-Hansen
cand. merc. Management in Innovation and Business Development
Copenhagen Business School

Frederik Huusfeldt Korshøj
MA International Business Communcation (Intercultural Marketing)
Copenhagen Business School

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Supervisor:
Lars Bo Jeppesen

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Abstract

In late 2016, the global smartwatch market experienced a near-stagnation in sales growth. Furthermore, market research institutes reported that the abandonment rate of smartwatches had hit almost 30%, primarily because of misaligned value propositions. We argue that this is because of lacking product/market-fit, and research how this can be improved – focusing on Danish early adopters.

To do this, we structured our own methodological framework and utilized recent literature on Value Proposition Design by Osterwalder et al. (2014). The research on smartwatches' value propositions was conducted using conjoint analysis, in which we tested different attributes to examine their respective importance in relations to each other, and to create a so-called *value map*. To identify these attributes, we used big data analytics, extracting large datasets from smartwatch-focused discussions on Reddit using a modified webscraper. The data was then processed using text analytics software, and we identified the three most discussed attributes to be used as input into the conjoint analysis experiment. To discuss the ''fit'' between value propositions and the consumer's needs, we conducted interviews to create so-called customer profiles, a sort of clustering of different types of needs. With both a value map and customer profile, we could discuss possible improvements of product/market-fit.

The text analysis findings showed that the attributes *battery*, *design* and *fitness tracking* was the most mentioned in the discussions on Reddit, why these were used as input into the conjoint analysis, together with two other attributes retrieved from our desk research: *price* and *cellular connectivity*. The conjoint analysis findings showed that the top three attributes, which could explain most preference of a smartwatch over any other in Danish early adopters are in order from the top; *price, battery* and *fitness tracking*. The interview research findings showed that consumer's needs are determined by two *use cases*, smartwatches as replacements or extensions of one's smartphone. From these two use cases we created one combined customer profile.

With the complete customer profile and our value propositions we created problem/solution-fits. These problem/solution-fits showed that even in the case of the creation of a smartwatch, which should improve the product/market-fit, based on our data, it will come down to whether the individual situationally finds more value in mobility and convenience, health quantification and easy music and navigation control than they do in being entertained and having easy communication through the phone.

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Contents

Abbreviations

CBS	Copenhagen Business School
cbsBDA	Center for Business Data Analytics at the Copenhagen Business School
VPD	Value Proposition Design
VPC	Value Proposition Canvas
VP	Value Proposition
PMF	Product/market-fit
PGJ	Pains, Gains and Jobs to be done
EA	Early Adopters
SW	Smartwatch
CA	Conjoint Analysis
ACA	Adaptive Conjoint Analysis
CBC	Choice-based Conjoint Analysis
ACBC	Adaptive Choice-Based Conjoint Analysis
HTTP	Hypertext Transfer Protocol
MUTATO	The Multi-Dimensional Text Analytics Tool
SoM	Share of Mentions
MBC	Menu-Based Conjoint Analysis

Figures

1. Introduction

Powered by the technological development and an increased focus on personal health in developed nations, the market for wearable devices has surged in recent years. The worldwide wearables market reached a new all-time high, as shipments reached 33.9 million units in the fourth quarter of 2016, growing nearly 17% year over year[1].

Scoping in on the wearables market, we see two dominant product categories: smartwatches and fitness trackers. However, the first-generation smartwatches have had a rough start compared to the closely related fitness trackers. The smartwatch market, largely led by Apple and their Apple Watch, experienced a major deceleration in sales growth in the last two quarters of 2016[2], despite the record fourth quarter in the total wearables market. In addition, 30% of consumers are abandoning their smartwatches, adding to the low adoption rate seen thus far in the market[3].

In the light of the above, this thesis seeks to examine how better product/market-fit can be achieved by identifying customer needs and examining and testing different value propositions.

1.1.1. Problem area

The smartwatch market saw a significant deceleration in sales growth in 2016, putting an end to the continuous growth since the introduction of the first Apple Watch in the early 2015.

Before continuing, we must briefly comment on the conflicting numbers and reports that has been published by various market research firms since the dawn of smartwatches. Different firms and institutions are using different definitions of smartwatches and fitness trackers, which has resulted in little agreement in whether the market is trending downwards, upwards or sideways. However, in this thesis we have rigidly tried to only include reports and data by acknowledged institutions and publishers, who clearly distinguish between smartwatches and fitness trackers in their research reports. Those being primarily IDC[4] and Gartner[5].

In Q3 2016, the worldwide smartwatch market declined by 51,6% compared to the number of shipments in Q3 2015[6].

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[1] Reference: Wearables Aren't Dead by IDC, 03/2017, link: http://www.idc.com/getdoc.jsp?containerId=prUS42342317 [Visited 13-08-2017]
[2] Reference: Smartwatch Market Declines 51.6% in the Third Quarter as Platforms and Vendors Realign by IDC, 24-10-2016, Link: http://www.idc.com/getdoc.jsp?containerId=prUS41875116 [Visited 13-08-2017]
[3] Reference: Wearable Devices Need to Be More Useful by Gartner, 07-12-2016, Link: http://www.gartner.com/newsroom/id/3537117 [Visited 13-08-2017]
[4] Reference: International Data Corporation (IDC), Link: https://www.idc.com
[5] Reference: Gartner Inc., Link: http://www.gartner.com
[6] Reference: Smartwatch Market Declines 51.6% in the Third Quarter as Platforms and Vendors Realign, by IDC, 08-2017, Link: http://www.idc.com/getdoc.jsp?containerId=prUS41875116 [visited 27-08-2017]

However, with a strong Q4 in 2016, global smartwatch shipments eventually hit a total of 21.1 million units, a small increase from 20.8 million in 2015[7]. Although we did see marginal growth in 2016, the near growth stagnation was not satisfactory compared to what analysts seemed to have expected, indicating that some adoption challenges might indeed have hit the global smartwatch market in 2016.

In addition to the near stagnating growth, the abandonment rate of smartwatches is no less than 29%. According to a survey by Gartner[8], consumers do not find smartwatches useful, they get bored with them or they break, indicating need for more compelling value propositions to drive greater adoption[9]. In the survey report, the Research Director, Angela McIntyre, commented on the high abandonment rate:

''Dropout from device usage is a serious problem for the industry. The abandonment rate is quite high relative to the usage rate.''... ''The greatest hurdle for smartwatch providers to overcome is the consumer perception that the devices do not offer a compelling enough value proposition."

Also, in 2016, Ericsson ConsumerLab conducted a similar consumer research study on consumer preferences and behavior surrounding wearables. The study showed similar findings as the Gartner survey, that consumers high abandonment rate of smartwatches is a result of lacking value and functionality, further indicating that the near stagnation in the market is a result of poor product/market-fit. The Ericsson study will be further discussed in 1.2.1.

Lastly, it has not been possible to locate any data related to the smartwatch market in Denmark. However, we are confident that the global problem of near stagnation is also true in Denmark, as the interview research conducted in this thesis, strongly indicated a mismatch between the products and the consumers.

1.1.2. Problem statement and research questions

The problem formulation process is of course an iterative process, and we have adjusted the problem statement and research questions several times to align with newly acquired knowledge as well as changing circumstances.

[7] Reference: Smartwatch market hits record 21.1 million sales in 2016, as Apple pulls ahead of Samsung, Chinese brands by SCMP (report by Strategy Analytics), 02-2017 Link: http://www.scmp.com/tech/article/2067481/smartwatch-market-hits-record-211-million-sales-2016-apple-pulls-ahead-samsung [Visited 27-08-2017]
[8] Reference: The 2016 Gartner Personal Technologies Study surveyed 9,592 online respondents from Australia, the U.S. and the U.K. between June and August 2016, to gain a better understanding of consumers' attitudes toward wearables, particularly their buying behavior for smartwatches, fitness trackers and virtual reality (VR) glasses. Link: http://www.gartner.com/newsroom/id/3537117 [Visited 27-08-2017]
[9] Reference: Gartner Survey Shows Wearable Devices Need to Be More Useful by Gartner, 12-2016, link: http://www.gartner.com/newsroom/id/3537117 [Visited 27-08-2017]

The premise of the statement below, was that we ultimately wanted to create valuable and actionable insight into the chosen target group's preferences in relation to smartwatches. In doing so, we would have to locate the attributes to be tested and explorer the relative importance of these attributes through experiments. Finally, we would have to identify a so-called customer profile to examine the fit between the value propositions and the customer profile.

These objectives have been formulated into the following problem statement and research questions:

Problem statement:

How can the product/market-fit between Danish early adopters and smartwatches be improved?

Research questions:

1. What attributes of smartwatches does Danish early adopters show preference to?
    a. Do Danish early adopters have homogeneous preferences?
2. What relevant *pains*, *gains* and *jobs to be done* does Danish early adopters have?
    a. What are the importances of these *pains, gains* and *jobs to be done?*

In summary, we wish to examine what manufactures should focus on to develop products better aligned with consumer's needs and wants. This could potentially be beneficial for actors in the smartwatch industry as well as students and researchers in academia.

1.1.3. Motivation and rationale

For several years, we have both been very interested in wearables and the underlying potential of the technology. This interest culminated in 2016, when we established an e-commerce business, retailing Xiaomi's fitness tracker Mi Band 2 as the first provider in Denmark. Through our interactions with customers and peers, we experienced the hype that escalated the wearables trend first-hand, as well as the following frustrations consumers had because of the device's lack of applicability and value. This, in combination with the sudden stagnation in the smartwatch market, spiked an interest in both of us to examine this phenomenon further. Additionally, we saw a great opportunity in a cross-program thesis, in which we could combine Frederik's knowledge of marketing and big data from MA.IBC (minor in Data in Business) and Mads' knowledge of product innovation and development from cand.merc.MIB.

1.2. The smartwatch industry

To ensure that the reader has the necessary knowledge of the smartwatch industry to follow the arguments presented in this thesis, we will present a short and concise description and analysis of the industry. Before we unravel the smartwatch market, an understanding of how we define smartwatches is essential. As mentioned, some confusion exists in the market as to what distinguishes a smartwatch from a fitness tracker. Some of the major market research firms are still struggling in their categorization of the different types of wrist-worn wearables. The manufactures on the other hand, seem to have found a common terminology and definition of the products they produce and market. In this thesis, we will follow the definition largely adopted by wearables manufactures[10].

The primary difference between smartwatches and fitness trackers, is that smartwatches allows for third-party app installation, thus allowing for a wider range of use cases. On the contrary, fitness trackers are fitness-focused devices that comes with a fixed number of pre-installed applications, mainly centered around fitness tracking and wellness monitoring. Example of third-party apps could be weather forecasts apps, news apps, Apple pay (non-contact payment using your watch), image viewer, social media apps etc.

Having presented the definition of smartwatches, we will take a closer look at the main competitors in the market. Apple and Samsung are the two dominating players in the global smartwatch industry. Between the two, Apple's Apple Watch accounts for over 60% of the total market share, whereas Samsung's Gear 2+3 accounts for approximately 11%[11]. The remaining percentages are shared amongst other smaller actors in the market. Companies such as Garmin and Fitbit also offers their versions of watches, but since these devices do not have an operating system that allows for third-party apps, they are categorized as sports watches and not smartwatches. Apple is of course considered the market leader, and when you control 60% of the market share in an industry, one must assume that the adoption rate on industry level is very much connected to the adoption and sales of Apple Watch.
The market is categorized as an early adopter's market (less than 10% adoption), meaning that smartwatches must *cross the chasm* to become a mainstream product adopted by the early and late majority[12].

[10] Manufactures: Apple, Samsung, LG, Xiaomi, Fitbit, Garmin and more.
[11] Reference: Apple Watch Returns Global Smartwatch Shipments to 1 Percent Growth in Q4 2016 by Strategy Analytics, 02-2017, Link: https://www.strategyanalytics.com/strategy-analytics/news/strategy-analytics-press-releases/strategy-analytics-press-release/2017/02/01/strategy-analytics-apple-watch-returns-global-smartwatch-shipments-to-1-percent-growth-in-q4-2016 [Visited 27-08-2017]
[12] Reference: Gartner Survey Shows Wearable Devices Need to Be More Useful by Gartner, 12-2016, link: http://www.gartner.com/newsroom/id/3537117 [27-08-2017]

According to the Gartner survey, smartwatch usage is clearly higher among people 44 years old and younger. Also, more than half of people who use a smartwatch (58%) use it every day, and those who don't (33%) use it at least several times a week.

According to various industry reports, the future look promising for smartwatches. Analysts are predicting that the market will have doubled in value by 2020 and continue to grow substantially as smartwatches becomes mainstream[13].

Note that this thesis will be focusing on the Danish industry, since it was only possible to examine the behaviour and preferences of Danish respondents. However, the problem investigated is based on global market data and not just national data, since it was not possible to locate data on the smartwatch market in Denmark let alone its development over the years. As mentioned earlier, there is no reason to believe that this *problem* of near stagnation should not be relevant to the Danish market as well.

1.2.1. The Ericsson study of smartwatch usage

In 2016, Ericsson ConsumerLab carried out a large consumer research study to create insight into consumers views on wearables[14]. Telephone interviews were held with 10 experts on wearable technology, and focused on discussions around existing wearable devices, as well as concepts being worked on in the industry. In March 2016, they conducted an online survey of 5,000 smartphone users based in Brazil, China, South Korea, the UK and the US, aged between 15 and 65, of whom 2,500 were existing wearable technology owners. The aim of the survey was to gain insight into consumer preferences and behavior surrounding wearables. We have applied the consumer report findings throughout our thesis.

Some key findings in the consumer report are:

• Two in five users of wearables say they feel naked when not wearing their device, with a quarter even sleeping with it on. Despite this, a quarter of those who have bought wearables in the past three months say their expectations have not been met.

• 43% of those surveyed believe smartphones will be replaced by wearables, while 40% of smartwatch users already interact less with smartphones today. As wearables get smarter, the smartphone may become a secondary screen.

[13] Reference: Wearable Tech Market To Be Worth $34 Billion By 2020 by Forbes, 02-2016, Link: https://www.forbes.com/sites/paullamkin/2016/02/17/wearable-tech-market-to-be-worth-34-billion-by-2020/#706ce8c93cb5 [visited 26-08-2017]
[14] Wearable Technology and the Internet of Things, Ericsson ConsumerLab, June 2016, Link: https://www.ericsson.com/res/docs/2016/consumerlab/wearable-technology-and-the-internet-of-things-ericsson-consumerLab-2016.pdf (Visited 09-09-2017)

• 83% of all smartphone users surveyed expect wearables to have some form of standalone connectivity.

We will apply the Ericsson findings in combination with our own research findings, to support our claims and argumentations. the Ericsson study provide valuable indications as to why the stagnation is happening. First, the study showed that 44% of previous owners of smartwatches abandoned their smartwatch based on either lacking functionality or lacking standalone connectivity. Secondly, a quarter of new users of wearables indicate that wearables today fail to meet their expectations. It is clear, that there are significant opportunities for wearables manufactures to improve functionality, and hence customer satisfaction, by looking at the product/market-fit in relation to functionality preferences.

1.3. Scope and delimitations

Although we acknowledge the significance of Apple's position in the smartwatch market, we were not interested in solely taking the perspective of Apple's Apple Watch. Instead, we wanted to examine smartwatches in general, not taking the party of one manufacturer. Therefore, we chose a wider scope, not focusing on a single organization such as Apple.

Due to pure resource limitations, and our aim of high validity, we chose to narrow down the target group to only include Danish men aged 25-34, which in addition to being within the segment that is likely to be early adopters of technology (more thoroughly explained in 3.3), is a sample group that we had wide access to. Therefore, by narrowing down our sample group, we should able to achieve better and more valid findings when conducting our research.

In terms of technology, we are focusing solely on smartwatches. We could have included other product categories such as fitness trackers. However, since the *problem* of adoption was most significant in the smartwatch market, and less existing research existed on smartwatches compared to e.g. fitness trackers, we delimited our thesis to only focus on this product category.

Regarding the discussion and conclusion, we will be answering *how* to achieve better product/market-fit, but we will *not* be discussing whether it would be beneficial to do so from a perspective of cost. More precisely, we will not be looking at the value chain to examine if the improvements that we have located would even be feasible (or possible) to implement.

Lastly, although we have presented evidence that the slowing market growth is likely be a result of poor product/market-fit (lack of value), we must acknowledge that other factors, such as categorization, could have contributed to this *problem.* In its most basic form, categorization is explained as the cognitive operation by which the human brain classifies objects, people and events (Lefebvre, 2005).

Consumers might classify a new smartwatch as either a (smart)watch or a fitness tracker, based on prior knowledge about design or functionality of smartwatches and fitness trackers. For example, a fitness tracker is useful for measuring your daily activity level, can be connected to your phone and can display notifications. Once a new fitness tracker or a similar product such as a smartwatch is introduced, prior categorical information about such products may be used to make inferences about unknown attributes or features of the new product, or to form an evaluation of the new product (Loken et al, 2008). This process of categorization could potentially also have been a reason for the slowing market growth in the smartwatch market, if consumers have been increasingly in doubt about the differences between the two product categories. However, we will leave it to other researchers to conduct a study on categorization of smartwatches, and focus on product/market-fit in this thesis.

1.4. Significance of the study

As briefly mentioned in the introduction, we believe that both commercial actors as well as academia could potentially benefit from the learnings from this study. In the quest of answering our problem statement, we have structured a framework of examining and testing consumer preferences, by applying big data analytics and conjoint analysis in combination with interviews. Note, that we do now take any credit for the creations of the methods applied, merely the framework and scope in which these methods has been utilized. We initially wanted to challenge the traditional way of examining consumer preferences, both from a methodological and theoretical perspective, applying modern methods (big data analytics and conjoint analysis experiments) with innovative value proposition theory (Value Proposition Design). The objective, apart from the problem statement, was to see if such a framework could deduce valid results similar to that of the traditional framework of applying e.g. large surveys and time-consuming focus-groups and interviews, to provide a resource-efficient alternative. Even if it did not prove to be as effective/valid, it might encourage other students and/or researchers to pick up where we have left and continue to develop on this framework.

Besides the framework, the results of this thesis will be valuable to most actors in the smartwatch industry, from manufactures to retailers. Manufactures, especially in R&D and marketing departments, could use the insight to develop products more aligned with consumers preferences (product/market-fit), as well as market them more effectively. This is also true for retailers, in fact we have been in dialogue with Denmark's largest electronic retailer, Elgiganten, who have expressed their immediate interest in our results, as it could provide them with actionable insight into what attributes (functionality) they should display to the customers in their product descriptions and in their marketing material.

1.5. Schematic outline of thesis

Below we have included a schematic outline of the thesis, illustrating the structure and how the different sections and elements are connected and affect each other.

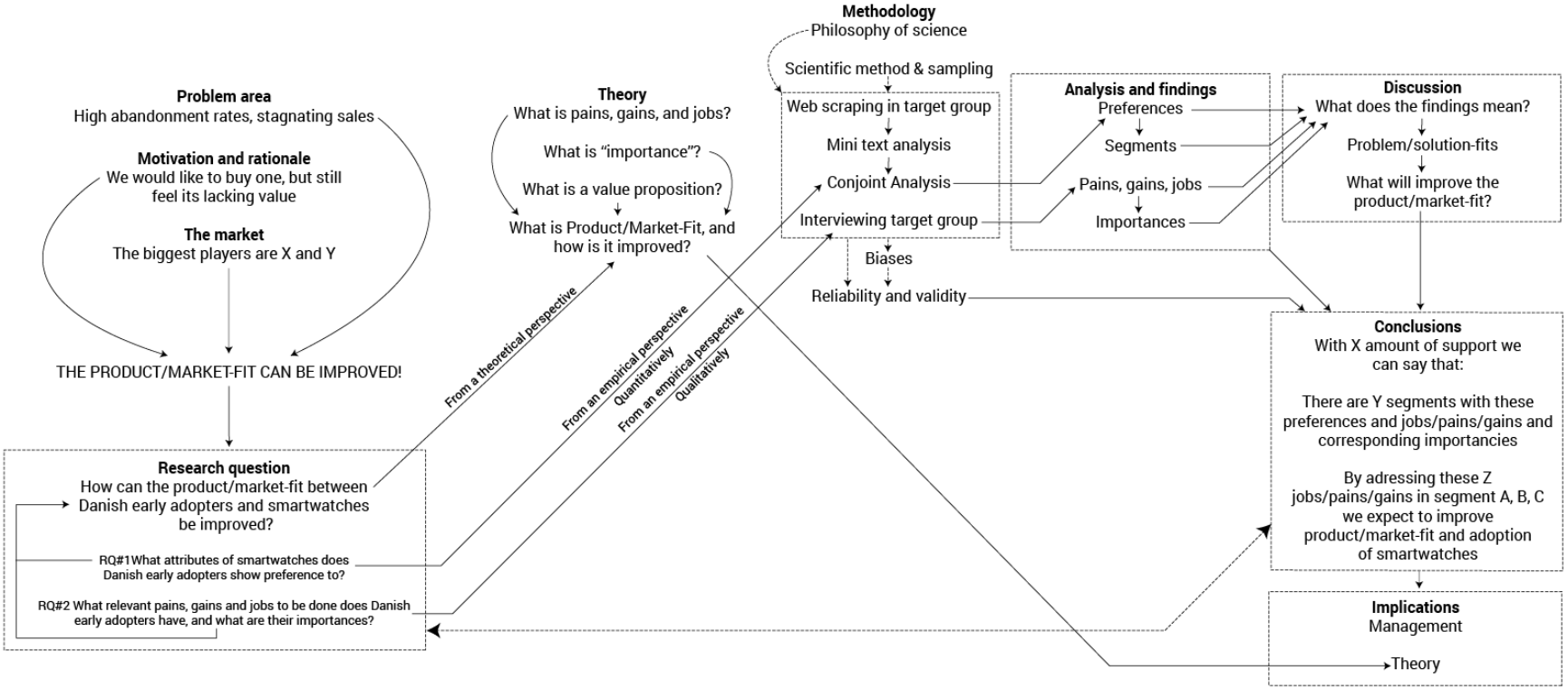


Figure 1-1: Schematic outline of thesis

2. Theory

2.1. Product/market-fit

A term most often used in entrepreneurship, "Product/Market-Fit" is a theoretical phenomenon accredited to either Marc Andreessen's article of 2007 "The only thing that matters is product/market-fit"[15] or Andy Rachleff on Marc Andreesen and Ben Horowitz's blog (a16z.com[16]). Marc Andreesen defines the term as *"Product/market-fit is being in a good market with a product that can satisfy that market"* (Andreesen, 2017). Ibid. states that one can always feel, when their company does not have product/market-fit (PMF), because growth is very slow and press reviews are stale. On the other side, when you have PMF, customers are buying your product as fast as you can make it, you are hiring support staff and sales staff as fast as you can, and you *"start getting entrepreneur of the year awards from Harvard Business School"* (ibid.). In a lecture on Stanford named "How to find product market fit", it is again talked about as a "feeling"[17]. Andy Rachleff defines PMF as: *"A value hypothesis is an attempt to articulate the key assumption that underlies why a customer is likely to use your product. Identifying a compelling value hypothesis is what I call finding product/market-fit. A value hypothesis identifies the features you need to build, the audience that's likely to care, and the business model required to entice a customer to buy your product"* and also adds *"Companies often go through many iterations before they find product/market-fit, if they ever do."* (Griffin, 2017). On Quora (a website for posing and answering questions), the answers to the question "How do you define Product Market fit?"[18], the top answer is that *"Everyone you talk to keep throwing around the term "PMF" like it came out of a Pez dispenser"*, followed by definitions ranging from "*when 40% of your customers would swear their allegiance with blood"* to "*Product/market-fit is sufficient demand in a defined marketplace to allow the efficient expenditure of capital (human or financial) to scale company processes such as marketing"*. "The 40% rule", which Sean Ellis (CEO of Qualaroo[19]) is noted for popularizing, states that *product/market-fit is achieved when 40% of surveyed customers would be "very disappointed" if they no longer had access to a particular product or service*[20].

"The only thing that matters is product/market-fit", Standford EDU, Link: https://web.stanford.edu/class/ee204/ProductMarketFit.html [Visited 10-09-2017]
[16] "12 things about product/market-fit", A16Z, Link: https://a16z.com/2017/02/18/12-things-about-product/market-fit/ [Visited 10-09-2017]
[17] https://www.youtube.com/watch?v=_6pl5GG8RQ4 [Visited 10-09-2017]
[18] "How do you define product market fit?", Quora, Link: https://www.quora.com/How-do-you-define-Product/market-Fit [Visited 10-09-2017]
[19] Qualroo, Link: https://qualaroo.com/
[20] Sean Ellis Interview, VentureHacks, Link: http://venturehacks.com/articles/sean-ellis-interview

It is used in literature with no clear definition (Cooper, 1994) (Edgett, 1994) (Diamantoupoulos, et al., 1995). It was seldom used as innovativeness terminology (Garcia & Calantone, 2001), based on that ibid.'s literature review only cites Cooper & Brentani (1991) as an article, which uses the terminology of PMF as a term of product innovativeness. Of later additions to the definition of PMF we find Osterwalder & Pigneur (2010), which proposes that PMF should be defined as the state when a business models value proposition, customer segment, relationships and channels are fixed without requiring any additional pivots. Later, in Osterwalder et al. (2014), ibid. redefines it under their paradigm "Value Proposition Design/Canvas".

Before introducing ibid.'s definition, we find it necessary to introduce the concepts from the Value Proposition Canvas. In the Value Proposition Canvas, ibid. creates a paradigm, which rests on two parts: The "Customer Profile", and the "Value Map". The customer profile is essentially a needs-based segmentation, which defines segment needs based on their pains, gains and jobs to be done (the following are all definitions from ibid. unless otherwise stated):

Customer job(s) are the problems customers want to solve, tasks they need to complete or the needs they are trying to satisfy. These are separated into *functional, social, personal/emotional* and *supporting jobs*. *Functional jobs* are when customers are trying to solve specific problems. *Social jobs* are when customers are trying to influence how they are perceived, for status or power purposes, or to look good. *Personal/emotional jobs* are when customers want to feel good, secure or have peace of mind. *Supporting jobs* arise in purchasing or consuming value, like comparing offers or cancelling a subscription. *Customer Jobs* are ranked from insignificant to important. The concept of Customer Job(s) was developed independently by multiple experts, but was popularized by Clayton Christensen and Anthony Ulwick through their consulting firms *Innosight* and *Strategyn* respectively (ibid.). The concept of "jobs to be done" is also established in Christensen et al. (2016), which follows roughly the same separation of jobs.

Pains arise before, during, and/or after jobs are being performed, and present themselves as *annoyances*, *undesired outcomes*, *problems*, *obstacles* and *risks*. When a solution doesn't work, when a customer has to go to the store outside town that's too far away, or a customer has to call customer service and wait for an hour to talk to an employee, these situations becomes *pains*. How much it "pains" the customer determines the severity of the pain. *Pains* are ranked from *Moderate* to *Extreme*. A priori, the term "pain point" is wide and well used, and bears some resemblance to this definition.

Gains are the outcomes and benefits customers are looking to achieve. These are separated into *required gains*, *expected gains*, *desired gains* and *unexpected gains*. The example ibid. uses is that in an Apple iPhone, the *required gain* could be that you can call others, the *expected gain* was that it was beautifully designed, the *desired gain* could be that it integrated seamlessly with other devices, and an *unexpected gain* could access to nice apps from the AppStore. Gain relevance is ranked from from *Nice to have* to *Essential*.

The value map is a summation of how the focal company's products and services are meeting those pains, gains and jobs to be done, through their products & services, gain creators, and pain relievers (the following are all definitions from Osterwalder et al. (2014) unless otherwise stated):

Products & Services are what a company offers. These help your customers complete their jobs, whether they are *functional, social, personal/emotional* or *supporting*. The products & services within your value proposition is everything around your company, which helps customers get jobs done. For example, a webpage which is easy to navigate and precisely describes what you are offering, will help customers in solving the supporting job of "choosing between alternatives", whilst the product they are buying can help in something else. It is the entire buying experience, from pre-purchase and consumption to post-purchase and post-consumption. *Products & Services* are ranked from *Nice to have* to *Essential*.

Pain relievers are how this product/service relieves a customer pain. It is an exact description of how a product or service relieves this *pain*. This can be that a large electronics retailer has started opening shops in malls in cities, instead of only having shops outside large cities. If a customer was annoyed that they had to drive for twenty minutes to buy electronic hardware, a local shop would relieve that pain, since they now only have to bike for three minutes. Pain relievers are ranked from *Nice to have to Essential*.

Gain creators are how the product/service creates gains for the customer. As with the pain relievers, this is an exact description of how it creates a gain for the customer. Continuing the example from before, opening smaller electronics stores in the city could create an unexpected gain: A customer is about to make a presentation in half an hour, but suddenly their computer breaks down. They can get a computer from their new local shop, and have them help set up the computer – it suddenly creates the gain of "safety if electronics break down". *Gain creators* are ranked from *Nice to have* to *Essential*.

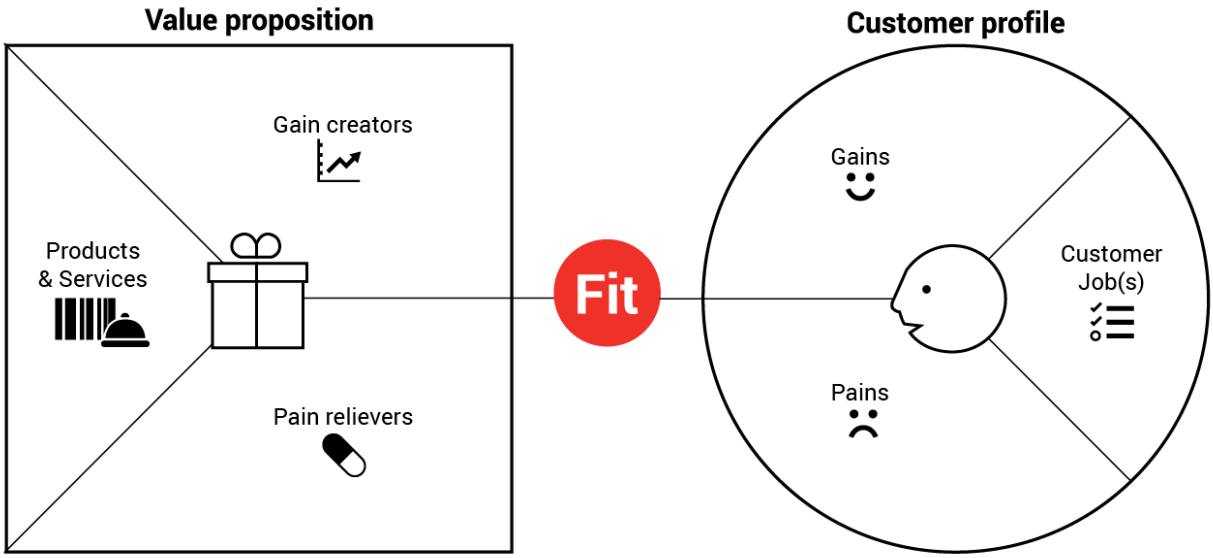


Figure 2-1: The Value Proposition Canvas form Osterwalder et al. (2014)

Having established the concepts, ibid. defines three different types of fit: "Problem-solution fit", "Product/market-fit", and "Business Model fit". Their exact definitions are:

"Problem-solution fit takes place when you have evidence that customers care about certain jobs, pains, and gains, and have designed a value proposition that addresses those pains, gains and jobs."

"Product/market-fit takes place when you have evidence that your products and services, pain relievers, and gain creators are actually creating customer value and getting traction in the market".

"Business Model fit takes place when you have evidence that your value proposition can be embedded in a profitable and scalable business model"
- From page 49 in Osterwalder et al. (2014)

The definition from ibid. is therefore a more elaborate definition of Rachleff's definition (Griffin, 2017): *"Identifying a compelling value hypothesis is what I call finding product/market-fit. A value hypothesis identifies the features you need to build, the audience that's likely to care, and the business model required to entice a customer to buy your product"*. The customer profile is "the audience that is likely to care", "a compelling value hypothesis" is the value map, together they are PMF, and with the right business model, the focal company has Business Model fit. Whilst the Value Proposition Canvas is not without its faults (which we comment upon in "Critique of Value Proposition Design"), it is the only definition which offers elaborate enough theory surrounding it, that it can meaningfully be applied in our study. It is much less arbitrary than the "you know you have PMF when you feel it", and "when 40% or more would be very disappointed without your product or service", even though these may function well as heuristics for practice.

Whilst Osterwalder et al. (2014) offers the most applicable definition of PMF in our study, we find it necessary to break the model down into its subcomponents, to both understand and assess whether these are optimal for answering our problem statement, and to define PMF on a theoretical foundation, which makes it applicable outside the framework itself.

As stated above, the first component of the framework is the customer profile. The customer profile is essentially a segmentation based on needs (Kotler, et al., 2012), with a needs definition tied to pains, gains and jobs. The second component is the value map. It is how the products and services create value for the customer – which could as easily be assessed with framework like "The Buyer's Utility Map" (Chan Kim & Mauborgne, 2000) or understood within the confines of technological utility, installed base and complementary goods (Schilling, 2013) or even by assessing value based on "The Elements of Value" (Almquist, et al., 2016). Therefore, the definitions from Osterwalder et al. (2014) of product/market-fit could be rephrased in a more classical manner:

"*Problem-solution fit takes place when you have evidence about a homogenous segment's needs and the benefits they seek, and have created theoretical products and services which address these needs and benefits"*

"Product/market-fit takes place when you have evidence that these products and services are in fact addressing the segments needs and benefits, and is creating value for the customer resulting in adoption of your product and services in the market".

This definition encapsulates the aspects from Osterwalder, Rachleff and Andreesen, since it is essentially a rewording of both Rachleff and Osterwalders definition, and though it lacks an analysis of whether the market is good, it also includes elements of *"Product/market-fit is being in a good market with a product that can satisfy that market"* by Andreesen (Griffin, 2017) (Osterwalder, et al., 2014) (Andreesen, 2017).

Using the value proposition canvas (VPC) over any other segmentation and value assessment, will fall on an argument that this framework would aid in answering our problem statement better or equally as good as any other theory. What we have is that it serves as a tool for bringing a vast amount of theory together. The customer-centric element of Osterwalder et al. (2014), is aligned with the views from Almquist et al. (2016) and Christensen (2016). Whilst the Buyer's Utility Map could essentially be argued to contain the same elements as VPC, because of its utility levers, what it lacks is the customer-centric utility approach that both VPC, Jobs to be done and The Elements of Value has (Chan Kim & Mauborgne, 2000) (Almquist, et al., 2016) (Christensen, et al., 2016). Since we are nesting our problem statement within a segment we call "Danish early adopter", Buyer's Utility Map would not aid us in answering this question.

There is another theoretical argument for using Osterwalder et al. (2014). It is inherently a utilitarian customer-centric approach to customer value creation. Whilst not explicitly stated in Osterwalder et al. (2014), their core argument is a utilitarian argument. Any product which solves jobs, relieves pains and creates gains that matter the most to the customer, better than its competing substitutes of any matter, will be an objectively better product (which can only be empirically supported by market data). Everything can essentially be broken down into pains, gains, and jobs. Taking one of the elements of value from Almquist et al. (2016): "Connects", and adding it to our specific scenario, this element of value would be rephrased as "being connected", if it was identified as a job on a customer profile. If this job is hypothetically of high importance (*Essential* according to Osterwalder et al. (2014) semantics), the utility derived from a product solving this job would be high. "*Products should address the most important gains, pains and jobs*", is essentially a rephrasing of "*products should address the most important needs of the customer, thusly creating the highest possible utility*". Also, Almquist et al. (2016) states that some value elements are more important than others. The theories are commensurable, and whether the customer needs are separated into pains, gains or jobs, and measured in importance, or finding out which of the elements of value in Almquist et al. (2016) are most important to the customer, is essentially answering the same question: *"How can we address a segment's needs, create the benefits they seek, and create value?"*, and using either to answer the question, would arguably only create semantically different results.

The last theoretical challenge is a challenge of semantics. PMF is phrased as a state of being, less than an object of improvement. Arguably, and according to Almquist et al. (2016), Osterwalder et al. (2014), Christensen (2016), Chan Kim & Mauborgne (2000), by creating products which address more needs and creates more benefits, you create a better product. We therefore use the terminology of "improving the PMF", in the sense, that our problem statement is asking "How can the needs and sought benefits better be addressed, and more value be created for the segment we call Danish early adopters within the product group we define as smartwatches."

In closing this chapter, we would like to emphasize that our chosen methodology bears resemblance to the methodology used in Bain & Company, based on their use of discrete choice models (conjoint analysis) and interviews to identify what would create most value for customers (Almquist, et al., 2016).

2.1.1. Critique of Value Proposition Design

Our main critique of Osterwalder et al. (2014), is that the needs-based segmentation becomes hard in practice, without anchoring these needs in a product. We experienced throughout our study, that locating the needs that extend a specific product use was nigh impossible. Reading through the theory, we got the impression that the customer profiles should be built around the customer's needs, and it was then the researchers task to find out what these were. However, finding all these relevant needs was hard without anchoring these needs in a use case. For example, how would a researcher find out the pains of a customer, with regards to smartwatches, without anchoring the pain around smartwatches? How can one understand the needs surrounding communication with others, without to some extent anchoring the pains, gains and jobs-to-be-done in a use case of a smartphone?

Inconsistent with what we believe is meant with the Value Proposition Canvas, Alexander Osterwalder uses an example of Value Proposition Design in a lecture[21]. In that lecture he centers pains, gains and jobs around the use case of owning a Tesla car (electric car)[22]. One of the pains he emphasizes in this lecture is the pain of "geeky perception", i.e. being perceived as a geek. Getting access to this knowledge without centering it around owning an electric car, is almost impossible in our best estimation. This poses a logical problem – either we understand the customers' needs outside a value proposition, and figure out those needs by observing what the customer does and says, without asking about their current pains, gains and jobs from other products. Or, we anchor it around specific use cases to provide insights as what jobs are currently being solved by other products, and what pains and gains these are creating.

[21] Alexander Osterwalder – Value Proposition Design presentation, YouTube, Link: https://www.youtube.com/watch?v=b_X18bmpHaw [Visited 30-08-2017]
[22] Tesla models, Tesla, Link: https://www.tesla.com/da_DK/models [Visited 30-08-2017]

Whilst we do accept, that we may be wrong in our perceptions about the model, or that the model has later been changed, we found it more usable and understandable, by adding multiple layers of a customer. These "extra" layers, are technically different levels of analysis:

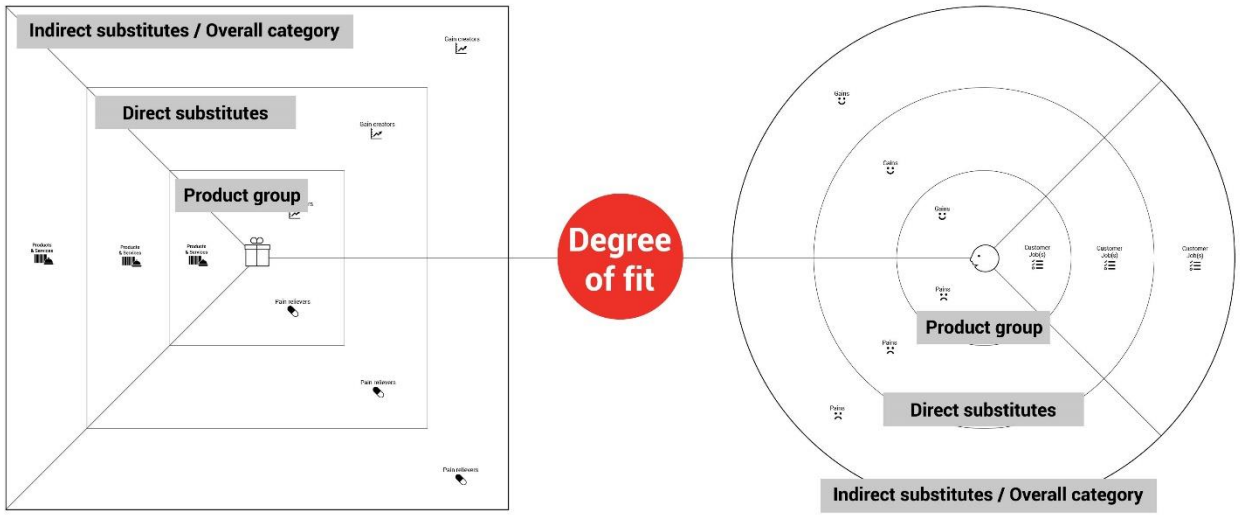


Figure 2-2: Extension of the customer profile

These new layers serve two purposes. Firstly, they function as a categorization tool. Pains, gains and jobs, which are centered around a specific product group are made clear, to make a distinction between these. For example, with electric cars, these are not only competing on creating gains or relieving pains and solving jobs surrounding the specific product group "electric cars" (product group), which Osterwalder talks about in his lecture. These are also competing against pains, gains and jobs from regular internal combustion engine cars (direct substitute). The last level could be "transport" in general (overall category). Arguably, in most cases, the jobs would remain the same, but the pains and gains might differ across layers. In his lecture, Osterwalder mentions the pain "lack of space" surrounding electric cars. That pain would arguably also be a pain with the regular cars. A gain associated not with electric cars, but regular cars would be, that it "takes a short time to refill it". Whilst there may be a pain of recharging taking a long time for electric cars, this would only be a pain compared to direct substitutes. What Tesla a priori has been trying, is to create a car which is quickly recharged and has a long battery life, to both mitigate the pain of having to recharge often and by addressing the gain the customer gets from a regular car – it takes a short time to recharge it, which we believe has had some influence on Tesla's success.

The second purpose of understanding customers on different levels of analysis, is that by understanding all three layers of the customers, you understand their relevant needs.

If you understand what jobs, pains and gains are surrounded not only by the product group, which you are selling, but also what direct and indirect substitutes are creating as pains, you can create products that address multiple layers of needs, and thusly, as Tesla have, create products which people actually want. Our point is that, trying to understand a customer's needs outside specific product uses, whether they are substitutes to your product group, or are products within the product group, is unnecessarily hard. Instead, by understanding multiple layers of a customer, you can achieve the same in an easier way, in our best estimation.

We found this to be relevant in the case of smartwatches as well. Since smartwatches can function as both an extension of a phone, or as the replacement of a phone with standalone connectivity, the pains, gains and jobs surrounding a customer were the same but at different levels of analysis. The job of "being connected" to the world, would only be mentioned if we talked about the smartwatch as a replacement to the smartphone. However, this need is arguably also there with or without the smartwatch as a replacement. By approaching it as an understanding of customers in multiple layers, instead of trying to apply every need they might possible have as customer, we believe that we obtain the same results with less difficulty. By understanding what pains, gains and jobs customers are trying to solve both in the overall category, with direct substitutes and within the product group itself, we believe that we obtain what Osterwalder et al. (2014) was aiming for – understanding customer pains, gains and jobs outside a specific value proposition, however not so far outside that relevancy becomes an issue. Whilst we only apply "product group" analysis in "4.2 Interviews: Findings and analysis", we take into account the smartphone as a direct substitute in our discussion around the findings in "5. Discussion". For scope purposes, we do not extend the analysis to the overall category, which in this case could be called "The Internet of Things".

2.2. Finding Product/market-fit

Firstly, we present a description of Conjoint Analysis, accompanied by a brief history its origin, to make it obvious for the reader, what the method is capable of. This is followed by a short discussion of the interplays with the theory of product/market-fit.

2.2.1. Conjoint analysis

Conjoint Analysis (CA) is a popular method of analysis for determining customer preferences. It has its roots in psychometrics and mathematical psychology (Luce & Tukey, 1964), and has later been established as a tool for marketers and innovators (Green & Wind, 1975). One of the reasons for its popularity is its ability to mimic the real buying situation very closely, as it focuses on the complex tradeoffs individual consumers do in picking which product they would most like to buy.

Typically, a conjoint analysis stimulus consists of product profiles with product attributes. An often-used example is the television. Televisions have different screen sizes, resolutions, reaction times, Hz, color depth etc. When consumers look for televisions it is reasonable to assume that the attributes have a considerable influence on which television they decide to buy. With many variants of televisions in the marketplace, the consumer will have to screen the available products, if they want to find a television which fits their needs. “Do I want to trade a 4K resolution for Full HD, but get better color depth on a larger screen?”, the consumer might ask themselves. Or any other amalgam of different specific attribute tradeoffs within the product they are buying. A simplified example of a marketplace could be:

A marketplace for televisions

Choice 1	*Choice 2*	*Choice 3*
50 inch screen	45 inch screen	42 inch screen
High contrast color	Medium contrast color	High contrast color
Full HD	4K Resolution	Full HD
€1.000	€1.100	€800

Figure 2-3: “Choice-Based Conjoint Analysis with televisions”

“If these were the only available televisions, which one would you choose?”, is a question a consumer could be asked in a choice-based conjoint analysis. The method of picking what you would like to buy has a great strength – it is exactly what consumers do in the marketplace. An addition of a possibility not-to-buy, could make it resemble a marketplace even more, however with statistical drawbacks as a researcher would get less information. More on that later.

If a consumer is asked the aforementioned question, what they are really doing is assessing a lot of variables simultaneous, that together comprise their willingness to pay for specific attribute, and the utility they consciously or subconsciously assign the attributes. If a consumer finds most utility in size and contrast color, but do not care whether its 4K or Full HD, the choice would fall on #1. If price is assumed to have negative utility, and a consumer deems resolution to have a relatively higher utility that the negative effect of price, the choice could easily fall on #2.

A brief history of Conjoint Analysis

The statistical method Conjoint Analysis did not start in marketing research. As stated above, the mathematical foundation originated in mathematical psychology and psychometrics (Luce & Tukey, 1964). Seven years after Paul E. Green and Vithala R. Rao wrote the first journal article proposing its use in marketing research (Green & Rao, 1971) (Orme, 2014).

In the early years (1970's) of conjoint analysis, researchers created orthogonal research designs of product profiles and their attributes, and from that constructed decks of cards for use in interviews (Orme, 2014). From there, respondents were asked to sort these cards by desirability, from which the researchers could deduce the individuals' preferences for specific attributes. This evolved into a rating system, where respondents were asked to rate specific profiles (cards) like the following on a scale of 1 to 10 based on the desirability of the product:

Figure 2-4: Choice 2 from Figure 2-3 (these are also called cards)

This method was first presented in a *Harvard Business Review* article by Paul E. Green & Yoram Wind (Green & Wind, 1975). The method was quickly brought in use by business leaders.

In the 1980's the growing use of software tools in businesses aided in providing new possibilities for conjoint analysis. The limitations of having physical cards present in an interview was removed, and so a new type of Conjoint Analysis (CA) emerged – the Adaptive Conjoint Analysis (ACA). By asking users first about specific preferences within attributes, the software was able to compute which attributes to show respondents afterwards, so that only the most important tradeoffs were presented.

This was needed, since one of the challenges of CA was that the number of presented product attributes were limited – respondents would simply be overwhelmed by the number of attributes they had to consider (Orme, 2014).

The 1980's were also the decade for the conception of discrete choice models. The groundwork for discrete choice models were made by McFadden in the 70's (McFadden, 1974). Prior to 1985, Jordan Louviere was working on adapting multinomial logit models to qualitative choice problems (Orme, 2014). This exact research aided in establishing the mathematical foundation for applying experiments like "Figure 2-3" from above.

Discrete choice models (also called Choice Based Conjoint Analysis), were a welcomed approach to conjoint analysis, since consumers are not ranking products from one to eighteen, or assigning specific desirability ranks to products in the market – they choose products. Namely, they choose the product they would most like to buy, and then they buy it (or choose not to buy it). This evolution to conjoint analysis brought it one step closer to reality.

These multinomial logit models made it possible to create market share estimates for different product offerings. That meant, that marketing researches could create "what-if"-scenarios based on the calculated utility coefficients from the multinomial logit models, where they could adjust their product offerings, and see how that would influence the expected market shares with the press of a button (ibid.). The usefulness of these "what-if"-scenarios were apparent. It meant that marketing researchers and product developers could create market-like scenarios, tweak their own product in levels among attributes, and from there get predicted estimates of market share of a new product offering or a refurbished product offering. Validity and reliability concerns were raised, but multiple studies showed that the market share estimates created based on aggregated utility showed some promise in validity, and a .75 correlation in utilities (Green & Srinivasan, 1990). A mentioned example in ibid. is (Benbenisty, 1983), where a conjoint study for AT&T predicted 8% market share on a new product, and four years after the market share was just under 8%. Further comments on validity and reliability can be found under Validity and Reliability.

The multinomial logit models did have an issue. The models required the assumptions of Irrelevance of Independent Alternatives (IIA), which means that the ratio preference for one type of product should be held constant at new arising alternatives. To the contrary, newly added products would compete more directly with products that were similar to this product. An often-used example is "blue bus/red bus"-problem in modes of transportation. Imagine a market where you can only go to work by either taking a red bus, or driving in your car. The ratio of preference is 50% to either.

Now, with IIA and the addition of a new bus – the blue bus, IIA assumes that the market share would tilt to 67% on either blue-bus or red-bus and 33% to cars, whereas in reality, the blue bus would most likely only take market shares from the red bus, leaving the ratio at 50% bus and 50% car – assuming rational buying behavior.

In most of the 1990's the most used conjoint analysis method was Adaptive Conjoint Analysis (Vriens, et al., 1997), but by the end of the decade, the most used type of conjoint analysis was discrete choice models/CBC (Orme, 2014). According to ibid., this was in part due to two factors. The first factor was the conception of the application of Hierarchical Bayes Estimation (HB) to estimate individual preferences, which mostly solved the problems of IIA and allow for better market share estimates. The second factor was the evolution of computers, since HB is computationally intensive, and more accurate estimates needed more computing power.

Another addition in the 90's was the introduction to latent class models for CBC. This meant that consumers with mostly homogenous preferences could be grouped into segments, allowing for better needs-based segmentation and market share estimations (Orme, 2014).

Additions in the 2000's count among them, the more widespread use of partial-profile analysis. One of the challenges of conducting large scale conjoint analyses, are the speed at which complexity grows. An example could be the used television example with 4 different attributes with 3 levels in each:

> *Screen size: 50 inch, 45 inch, 42 inch*
> *Contrast: High contrast color, medium contrast color, low contrast color*
> *Resolution: 4K, Full HD, HD*
> *Price: $1.100, $1.000, $800*

Which results in 81 different full profiles (3^4). With the addition of two more attributes like a screen thickness of 3 cm, 2 cm or 1 cm and a screen type of LED, LCD or Plasma, this would result in 3^6 = 729 different product alternatives. For products with more attributes, this growth can entail exponentially more complexity with 10 attributes producing 3^10 = 59.049 different full profile alternatives.

The problems from increasing complexity can be in some mitigated by the applying orthogonal and factorial fractional research design. Yet, with the limitations of respondents' attention span causing market standards of showing these 8-20 different screens, with 3-5 different choices of products with a maximum of 6 different attributes (Green & Srinivasan, 1990), the quickly growing complexity of experimental designs called for partial profile analysis. In partial profile analysis, the respondents are only shown parts of a profile, so for example only 6 out of 10 attributes at a time, with interchanging attributes per screen.

Using research optimizing software, research designs can be created to maximize the amount of inter-attribute tradeoffs, to allow for more attributes tested (Orme, 2014).

2.2.2. Summary

There are currently five preferred traditional full-profile conjoint analysis methods (Orme, 2014):

1. Conjoint Analysis (CA), which consists of either presenting respondents with an array of full-profile cards and having them rank these in order of preferences. Otherwise, respondents are presented with full-profiles, and rank these according to desirability.
2. Adaptive Conjoint Analysis (ACA), in which respondents are asked questions beforehand to adapt the following experiment according to their acceptable and unacceptable intra-attribute levels.
3. Choice-Based Conjoint Analysis (CBC), where respondents are presented with multiple full-profiles, and asked to choose from these, which product they are most likely to buy.
4. Adaptive Choice-Based Conjoint Analysis (ACBC), which is an adaptation of ACA to CBC.
5. Menu-Based Conjoint Analysis (scoped out).

Within these, there a large amount of different variations. CBC questions can contain a “none” choice, i. e. “If these were my alternatives, I would not buy one”. Adaptive Conjoint Analysis can also be prefaced by the tradeoff-matrices of Johnson (1974).

Each of the above methods of CA have their own strengths and weaknesses. With the recent addition of Hierarchical Bayes Estimates and latent class models, Choice-Based Conjoint Analysis has become more and more popular, and is currently the most popular method of CA (Orme, 2014). The primary strength of CBC is that it mimics the buying behavior so closely, since customers have to select a product, as they do in the marketplace. With Hierarchical Bayes Estimation, it’s predictive properties on market share sizes based on individual preferences also proves a strong model for marketing and product development researchers/managers, when these are tasked with determining how to extend a product line, or if research should be conducted into improving specific attributes of products. With latent class models, CBC can be used for determining unmet needs-based segments, where potential above average returns can be obtained, if product developers create product to fit these needs. The addition of partial-profile research design opens a wide range of methodological possibilities, depending on specific needs. Our choice of research design can be found under “3.5 Research Design and Conjoint Analysis”.

2.2.3. Conjoint Analysis' interplay with Product/Market-Fit

What Conjoint Analysis provides is the relative interrelated importances and utilities of a subset of attributes that together comprise a product, as a part of Products and Services in a Value Proposition from Osterwalder et al. (2014). Also, under specific resource constraints, it offers a way of putting together a product, which offers the maximum utility at a specific constraint, which in turn allows a producer of smartwatches to create the optimum product in the category with which the most best Product/Market-Fit can be achieved.

This rests on the argument, that if any specific attribute bears high importance over other attributes, it must be true that this attribute is creating a gain, relieving a pain or solving a job for the customer. If no clear preference for an attribute is achieved, it must hold true that neither of the attributes that comprise the product are creating a gain, relieving a pain or solving a job for the customer. I. e., if a Bayesian Estimation of individual preferences can produce a model, with which it can be predicted with higher likelihood than random which product an individual would prefer, it must be true that there is an underlying pain, gain or job, otherwise no preference would be. For there to be a preference, a job, pain or gain must be existent if the theory of ibid. should hold true.

In short, Conjoint Analysis offers a very specific tool for estimation of both utilities and importances of attributes to a product – a product which neatly fits into the Products and Services part of the Value Proposition in Osterwalder et al. (2014), and since there must be an underlying pain, gain or job for any preference to surface, we can then say that we are testing how a product can be put together, to improve the Product/Market-Fit of smartwatches, following our extension of ibid. definition of Product/Market-Fit.

3. Methodology

3.1. Philosophy of science

For this thesis, we apply *pragmatism* as our philosophy of science, in our research of finding out how the Product/Market-Fit of smartwatches can be improved. That means, that by looking at signs or clues in the world, we expect to put forward likely hypotheses surrounding events we expect to happen, based on our observations.

"It appears, then, that the rule for attaining the third grade of clearness of apprehension is as follows: Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object."
The pragmatic maxim, by Charles Sanders Pierce (1879)

Truth in pragmatism is based on what is most useful, and not necessarily about being able to directly explain the world around us (Egholm, 2014). Truth is not defined as being final and absolute, it is rather nested in creating results which are useful, plausible and reliable, given the amount of information we have access to at a given point in time (ibid.). This definition of truth comes to fruition through our studies, since we cannot determine an objective reality based on our number of respondents, our research can however offer us useful and plausible information as to how the world might be, and from that we can infer practical conclusions. Therefore, the truth to be found in our studies are not nested in an epistemology, within which we believe we are able to perceive reality as is, but rather we can obtain clues about what reality might be. So long as these clues provide us with more plausible theories as how the unknown future will unfold, it has an essence of truth to it.

Pragmatism shares the ontological belief with realism that the worlds exists outside the human experience (ibid.). As an opposition to *naïve* realism in which it is believed that the researcher can obtain absolute truth about the world as is, pragmatists believe that even though the world exists outside the researcher, we can never be sure as to whether we have observed the world as is. What is important to the pragmatist is that what has been observed is useful, and can be usefully used in the world. In our case, we look at the preferences of respondents towards smartwatches, combined with the analysis of customers Pains, Gains and Jobs in Osterwalder et al. (2014). We take the ontological stance, that yes there might be preferences and pains, gains and jobs residing within our respondents, however these are both situational and relational (Egholm, 2014).

We are not interested in whether the preferences or pains, gains or jobs are truths of the world, our interest lies in the belief that we can put their responses into use in the world to improve the Product/Market-Fit. We expect their responses to aid us in abducing what can be done to improve the Product/Market-Fit, by creating new products or services for them. We see their responses as clues about what the real world is, and do not expect them to be the real world, but so long as these clues help us in providing hypotheses about how products and services could improve the product market fit, they are true enough from a pragmatic perspective – especially if no other, more well-founded theory is present. This in turn also answers the epistemological considerations in pragmatism. We do not believe that we can observe the world as it is, and do not care to do so. As long as we can provide useful conclusions based on the observed, our observations are true.

Pragmatism does contain an element of process, which we cannot address. Normally to assess a pragmatically proposed conclusion, it must later be researched if the world behaved as it was expected to, based on the observations. That in itself poses a criticism of pragmatism, since pragmatism grandiosely asserts that truth is when something useful can be said about the world (Egholm, 2014), but it would be easily argued that the usefulness, or the truth of any conclusion is only as valuable as its ability to predict the unknown future.

To make it thoroughly clear, we are not inferring that the results of our research are true in the traditional matter. The results of our research will rather represent our interpretation of the clues we find about the world, and the practical bearings that these interpretations will have as consequence, thusly approaching conception of the object at hand (following the pragmatic maxim by Charles Sanders Pierce (1879).

3.2. Outline of methods applied

The following paragraphs will introduce you to the methodology applied in this thesis.

This thesis consists of two primary study objectives: 1) to create value maps in accordance with the literature and 2) to create customer profiles based on the sampling group's pains, gains and jobs to be done. Each objective has its own methodological requirements.

In creation of value maps, we have chosen a quantitative approach, since we are taking a product-centric approach, where conjoint analysis is an excellent tool for optimization according to customer preferences. As primary input for the conjoint analysis we also chose a quantitative approach, applying big data extracted from Reddit in a textual analysis, identifying the most mentioned features/attributes in two of Reddit's largest smartwatch-focused subreddits.

For the creation of customer profiles, we took a qualitative approach conducting semi-structured interviews with respondents in our sampling group. Since the objective was to identify pains, gains and jobs to be done in relation to smartwatches, we deemed a qualitative approach more suitable for obtaining aspects of behavior and to collect detailed information about the respondent's preferences and needs.

Finally, following the interpretation of the findings, the value maps and customer profiles were discussed in combination with each other to examine the product/market-fit using Osterwalder et al.'s (2014) theory on value proposition canvas.

Below is an illustration of the two methodological approaches utilized in this thesis.

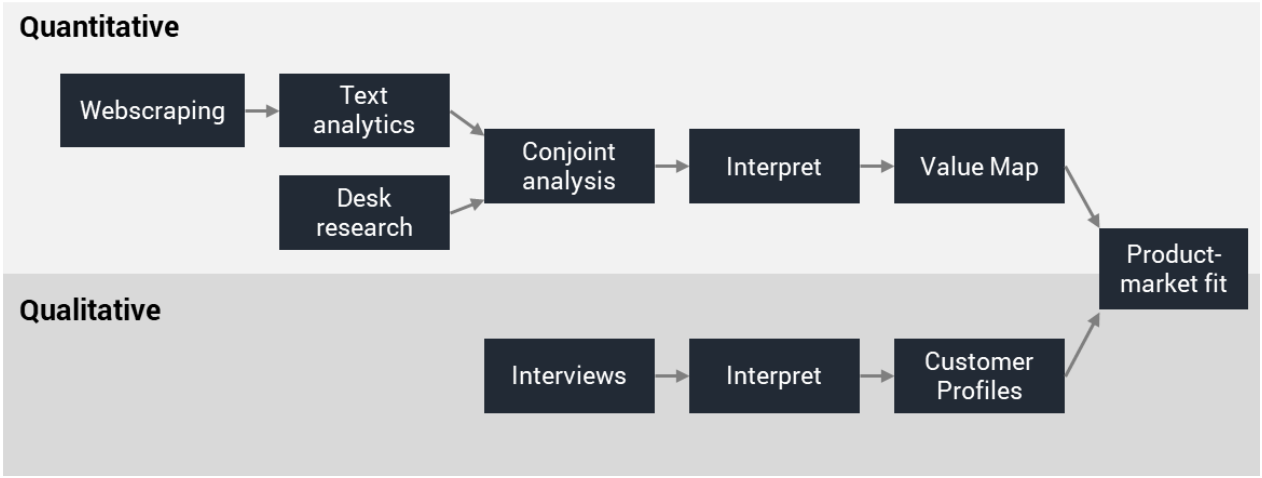


Figure 3-1: Outline of methods applied

3.3. Sampling

The primary objective for our sampling was to find potential Danish early adopters of technology, in hopes of achieving the maximum amount of representability given our available resources. With no readily available data on whom are the first adopters of new technologies in Denmark, we had to use data from the U. S. In the U. S., the primary first adopters of technology are males of ages 18-49 in high income households[23]. There are cultural similarities between the U. S. and Denmark, however we cannot say without assumption that the case would be the same for Denmark. Furthermore, if we were to find the best representative group for early adoption of technologies, we would be forced not to divide people by gender or income, to instead divide them by personality traits. In the Pew Research Center study (ibid.), they show that extraversion and openness to experiences are larger markers for new technology adoption, which falls within reason. Obviously, it is outside our scope and resources to perform a personality trait study before sampling our respondents, which meant we had to use what we classified as our "next best alternative".

In our best estimation, our next best alternative was to experiment on and interview college educated males of the ages 25-34. Firstly, because we both believe and have some support, that these are within a representative group of early adopters. Secondly because these were more readily available to us than any other age group.

For our web scraping and text analysis the group was users of the website Reddit (see more under section "Web Scraping"). 85% of Reddits users are between the ages 18-49, whereof 59% are male, and upwards of 80% of the users have at least some college education[24]. This means that our samples from the experiment and interviews compared to our text analysis have large similarities, but are not fully representative of each other.

3.3.1. Sampling biases

For the text analysis, we scraped data from two sub forums called "Smartwatch" and "Apple Watch". "Smartwatch" is the most general discussion thread on Reddit concerning smartwatches (see "Web Scraping").

[23] 28% of Americans are 'strong' early adopters of technology, Pew Research Center, Link: http://www.pewresearch.org/fact-tank/2016/07/12/28-of-americans-are-strong-early-adopters-of-technology/ [Visited 29-06-2017]
[24] Reddit news users more likely to be male, young and digital in their news preferences, Pew Research Center, Link: http://www.journalism.org/2016/02/25/reddit-news-users-more-likely-to-be-male-young-and-digital-in-their-news-preferences/ [Visited 25-05-2017]

Assuming homogeneity among sub forums on Reddit, the users within the “Smartwatch” sub-forum are representative of what is expected to be early adopters, with the lowest bias towards any specific brand or product preference within the smartwatch market. From initial reading of the discussion threads on the subforum, we do however expect an aversion towards Apple Watches, since Apple Watch has its own subforum, and any discussions hereof is presumably mostly done in its own subforum. The text analysis for the subforum “Smartwatch” was done based on 3,295 data points.

There is an obvious selection bias within the subforum “Apple Watch”, since what is discussed in this subforum will center around Apple Watch and its functionalities. This expectedly skewed the text analysis of this subforum towards preferences in Apple Watch users. The text analysis for the subforum “Apple Watch” was done based on 110,575 data points.

Both subforums are a mix of nationalities, meaning that the text analysis will not be completely representative of Danish early adopters. This might increase differences between the results of the text analysis and the experiment, and the interviews.

The sampling for our conjoint analysis experiment also suffer from selection biases, since the respondents were chosen amongst our personal friends. The respondents were separated into groups of 10 in Facebook Messenger threads, and were messaged the experiment. Within these groups, approximately 90% are attending college or have finished college. Assuming most of our friends share some similarity to us, and we ourselves are early adopters of technology, this might be a positive bias towards early adopter validity, it however means negative bias towards the general population of males of the ages of 25-34 with college degrees. However, as our aim for the experiment was to test on expected Danish early adopters of technology, we expect a positive bias towards the validity of our result. We performed the experiment on 47 respondents.

The sampling for the interviews had the same limitations as the sampling for the conjoint analysis, since the respondents were selected from our respective social circles. However, the familiarity between the interviewer and the respondent did have its advantages since we only had to spent limited time on initial comfort-building. However, the same potential biases exist in the interview as mentioned above. We conducted 9 interviews.

3.4. Textual analytics

Identifying attributes using big (social) data

In the following paragraphs, we will present the methodology and technical aspect of collecting, processing and analyzing the data used in our textual analysis, to identify attributes for the conjoint analysis.

3.4.1. Data analysis process

Firstly, we wish to briefly elaborate and illustrate the data analysis process conducted, outlining both the practical data handling process and the content analysis.

Initially, after identifying the material (data) we needed, we collected it (the data) from Reddit.com using a modified web scraper. Following the extraction of the data, we pre-processed the raw data files in excel, before conducting a keywords analysis using text analytics software. We then used the website Wordle.net for data visualization, and lastly, by applying our coding schema, we categorized and analyzed the keywords, resulting in sufficient findings to formulate three attributes needed for the conjoint analysis.

The data analysis consisted of an automated (computational) and non-automated (manual/human-driven) keyword analysis, to examine the most mentioned smartwatch-related features in two of the largest smartwatch-focused fora on Reddit[25]. By accumulating the most mentioned keywords in both fora on Reddit and categorizing these in *feature categories*, we had sufficient findings to formulate three attributes (input) to be tested in the conjoint analysis.

The information and methodological insight on how attributes are identified for conjoint analyses are extremely sparse. Most of the research papers we have examined has limited explanations of the underlying methodology of identifying attributes/input, why we had to develop or own method, and doing so with limited resources. Since we had the technical expertise to apply both web scraping and big data analytics, as well as access to the necessary software for such an analysis, we created a simple framework that should in theory deliver attributes using existing big (social) data online[26].

[25] The two fora are ''Apple Watch'' and ''Smartwatch'' – why we chose these will be further explained in section 3.4.3.
[26] Note: A more elaborate argumentation on our choice and use of input in the conjoint analysis is presented in section 3.5.1

To give the readers a better understanding of the correlation between the data handling process and how we have approached the content analysis, we have created the illustration below.

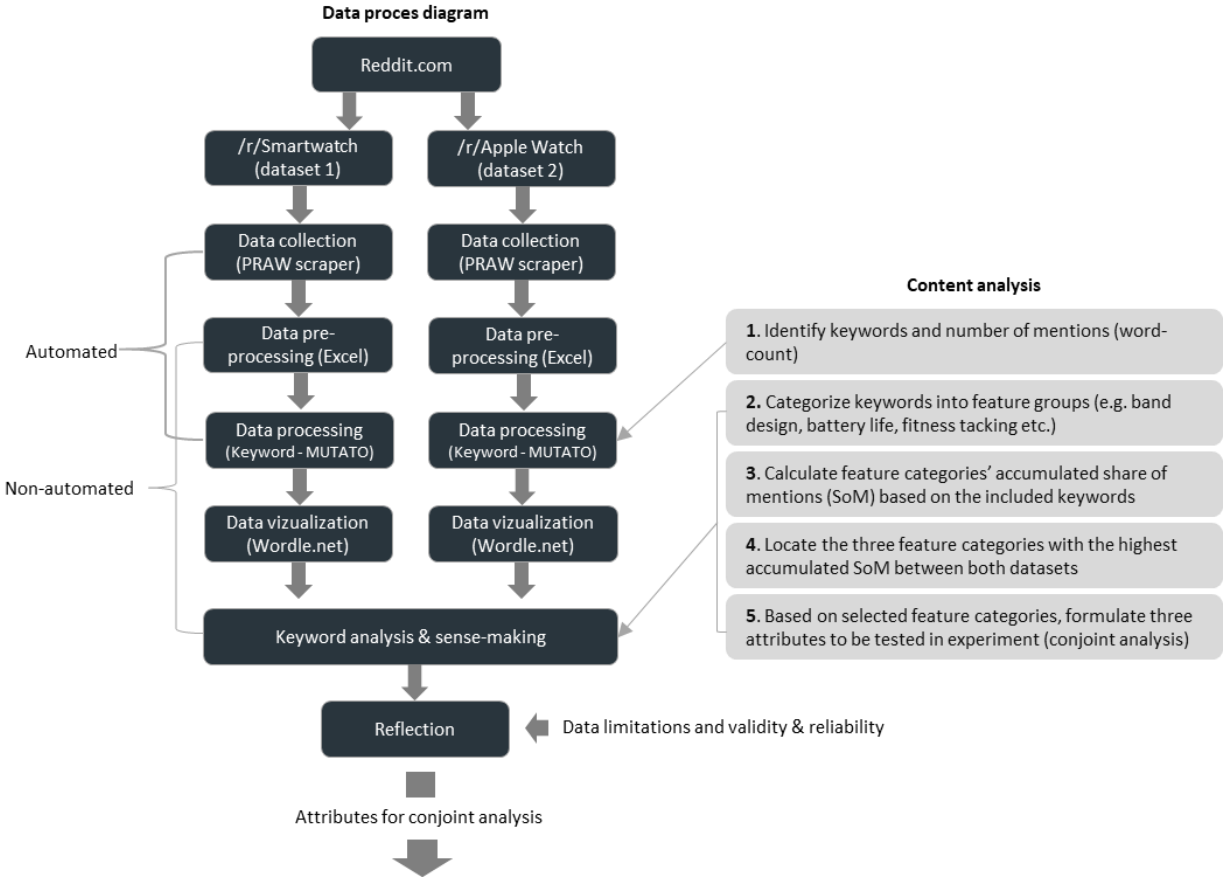


Figure 3-2: "Illustration of the correlation between the data process diagram and content analysis"

The illustration shows *how* we have processed the data from initial collection to reflection, and what/*where* content analysis was applied in correlation to the data process diagram.

Please note, we initially planned for the textual analysis to include both a keyword analysis and a sentiment analysis. Our intention was to identify attributes with the keyword analysis and examine the overall sentiment (attitude) of the data points (comments, replies etc.) on Reddit, to see if users were generally negative, positive or neutral when discussing smartwatches on Reddit. Although we did conduct both analyses, we have chosen not to include the sentiment analysis in this thesis. Formulating research questions is an iterative process, and after much consideration, we have chosen to exclude the research questions concerned with sentiment analysis, mainly because the findings contributed insignificantly in answering the overall problem statement.

In addition, sentiment analysis is often intended for comparative studies, and since we had only conducted a sentiment analysis on Reddit, we could only compare sentiment between the Reddit datasets, which serves little academic purpose and has weak validity.

3.4.2. Quantitative content analysis method

Inspired by other researchers such as Lewis et al. (2013) and Rose et al. (2015), we have adopted a hybrid approach to content analysis, blending computational (automated) and manual (non-automated) method (Ibid.; Gebauer et al., 2008).

Since massive datasets can be rather challenging to sort, structure and condense manually, computational tools can be combined with a human-driven approach to achieve greater analytical validity and replicability, and last but not least, depth.

Rose et al. (2015) describes content analysis as *"a classification of parts of a text through the application of a structured, systematic coding schema from which conclusions can be drawn about the message content."*, a definition that resonates well with the original definition on quantitative content analysis by Barelson (1952): *"a research technique for the objective, systematic, and quantitative description of the manifest content of communication"* (Berelson, 1952, p. 18).

Content analysis provided us with a more structured way of analyzing the text-based data from Reddit, which is typically open-ended and unstructured. As previously described, we applied computational software to obtain, prepare and analyze the datasets. However, as more thoroughly explained in the following paragraphs, the interpretation and categorization of the results of the computational analysis was done manually, since we did not have access to natural language processing software sophisticated enough to categorize keywords based on their possible meaning (sense-making) in the content analysis. Therefore, we chose a hybrid method of content analysis, combining a computerized method for locating keywords and conducting word-count, and a human-coded schema to classify the keywords and assign them to categories (Gebauer et al., 2008). We do, however, acknowledge the fact that a computerized method for both coding processes could have resulted in higher stability and reliability, but by clearly specifying our procedures, the content analysis should be sufficiently replicable (Ibid.; Rose et al., 2015).

In addition to the data process diagram in the previous paragraph, which provides a practical overview of how we have processed the data, we have also created an illustration of the key steps in the quantitative content analysis which describes the method of analysis. The illustration is inspired by Rose et al. (2015).

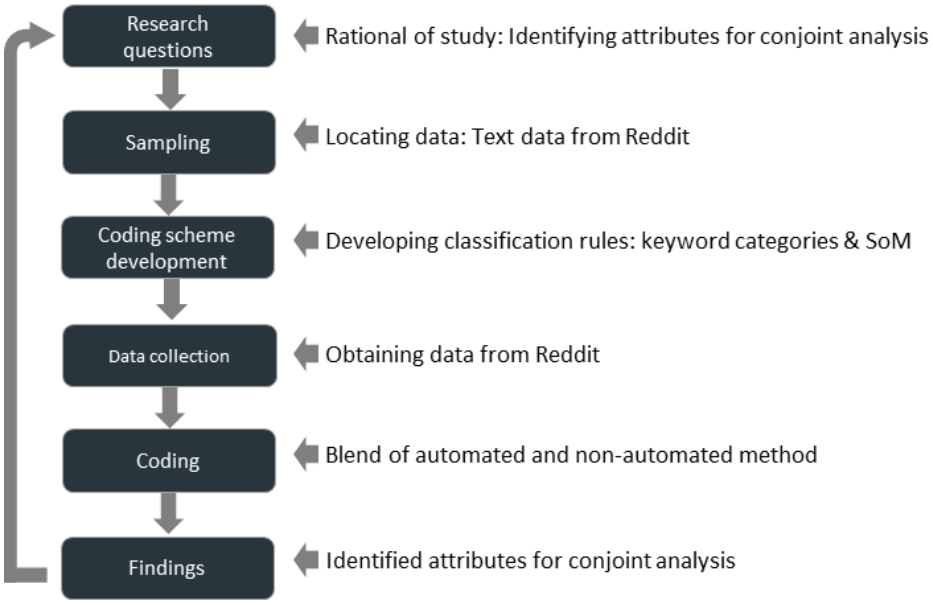


Figure 3-3: "Key steps in quantitative content analysis"

The research question should be interpreted as the formulated aim or rational of the research, in this case, to identify attributes for the conjoint analysis (Rose et al., 2015). Sampling involves locating and selecting the data that we intended to analyze. Creating the coding schema is arguably the most important step, as it defines *what* and *how* to code the data, ensuring systematic and replicable coding. We could have drawn on existing researchers work, however, since we have not been able to locate a study applying similar methodology for a similar purpose, we chose to develop our own coding schema, which will be presented in 3.4.6. The data collection and coding followed as briefly described above, with a blend of computational and manual method (automated and non-automated). Finally, following the coding phase of the content analysis, we could present the findings and identified attributes for the conjoint analysis.

3.4.3. Data collection: Reddit.com and web scraping

Reddit.com

Also called “the frontpage of the internet” (reddit.com) Reddit is an online social/entertainment network, which is comprised of sharing links, video, and text in a discussion forum.

The total number of unique visitors on reddit.com in March 2017 was 1,2 billion[27]. Apps that access Reddit had ~600.000 users on the 13th of May 2016.

[27] Statista, Link: https://www.statista.com/statistics/443332/reddit-monthly-visitors/ [Visited 24.05.2017]

The demographics of users are "*young, male, and educated*", with users between the ages 18-29 comprising 45%, and users between the age of 30-49 representing 40% of the users, whereof 59% are male[28]. Upwards of 80% of the users have at least some college education[29].

Reddit is architecturally comprised of its frontpage and subreddits. The frontpage consists of "hot", "new", "rising", "controversial", "top", "gilded", "wiki", and "promoted". The "hot" section consists of threads that has often been recently published, and has received a large amount of engagement from the users. The frontpage looks as follows:

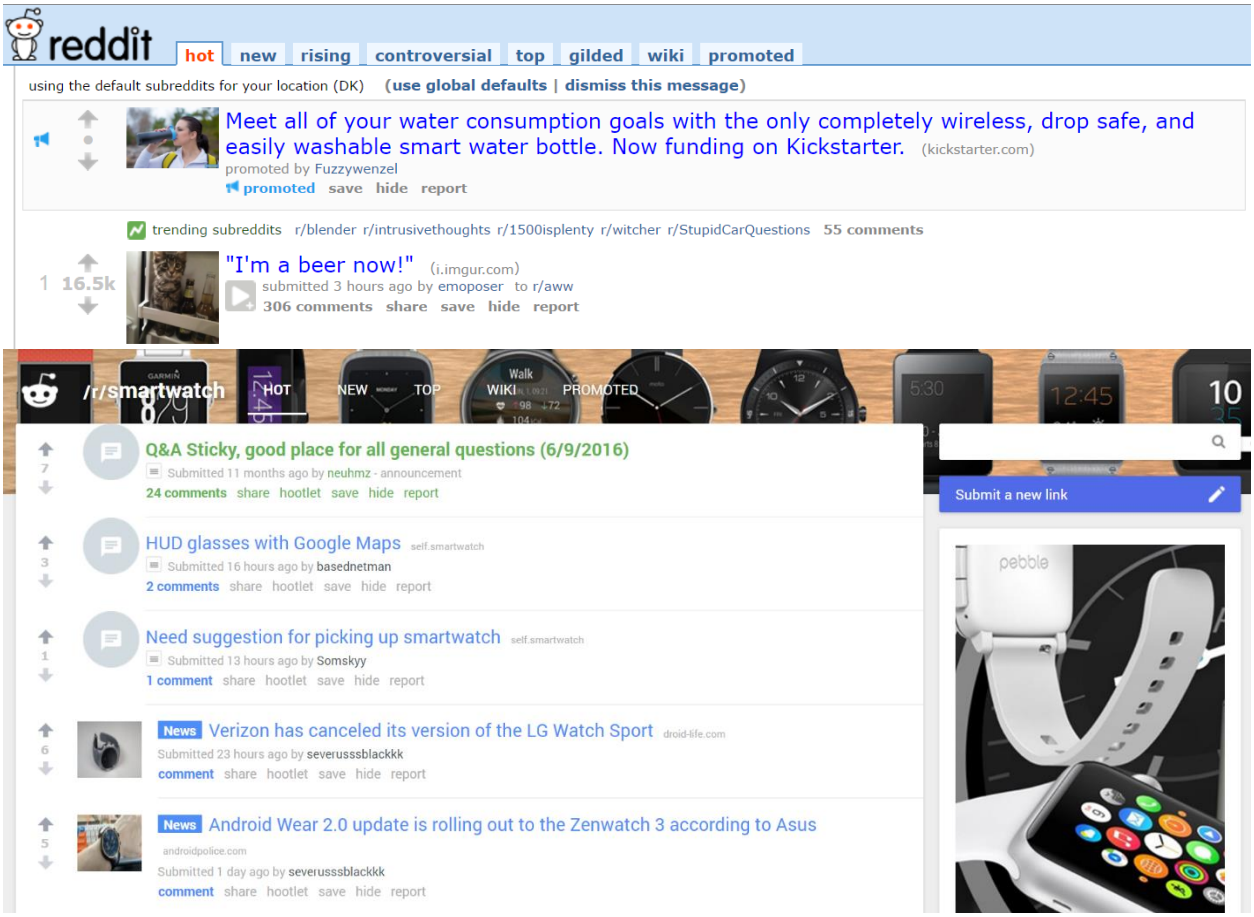


Figure 3-5: "Screen dump from /r/smartwatch on 18th of May 2017"

The subreddits could as easily be called sub-forums. These are user-generated topical subjects, under which all subscribing users can comment and add threads of discussion to.

28 The user demographics of Reddit: The Official App, Statista, link: https://medium.com/@sm_app_intel/the-user-demographics-of-reddit-the-official-app-7e2e18b1e0e1/ [Visited 24.05.2017}
29 Reddit news users more likely to be male, young and digital in their news preferences, Journalism, link: http://www.journalism.org/2016/02/25/reddit-news-users-more-likely-to-be-male-young-and-digital-in-their-news-preferences/ [Visited 25.05.2017]

These are often presented as /r/smartwatch or /r/Apple Watch, with the /r/ representing subreddit, and the /r/* representing what the subreddit discussions are about. The subreddits typically have their own rules for what the discussion threads started by users can contain. Often there are multiple redditors (users of reddit), who are assigned the task of moderating these subreddits, to make sure that every discussion thread lives up to the rules.

An extract from their rules are for example "*1. GUIDELINES: Submissions can be news, or discussion. Support threads will be allowed, however it is best to post in the dedicated subreddit for your smartwatch. Self posts must contribute positively to /r/smartwatch and foster reasonable discussion.*"[30] (reddit.com/r/smarwatch).

With users being able to comment on every thread (for example the "Q&A Sticky…"), there is a vast amount of data being created every day by the users – and all of it is publicly accessible. This present possibilites both for netnographical studies, and in our case, Big Data Analytics based on a web scraping of this data.

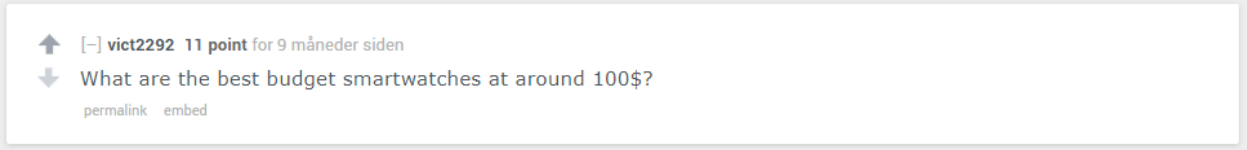


Figure 3-6: "Screen dump of a comment in /r/smartwatch thread on 27th of July 2017"

Web scraping

Web scraping is a data scraping method performed primarily on websites using the Hypertext Transfer Protocol (HTTP). Getting data from websites can be done in a multitude of ways. For example, if the researcher only has a few pages to scrape data from, they can simply go through the webpages and copy the data. For a faster, automated approach, the researcher can use software, which looks at the data's classes and copies the content of specific classes. An example would be the comment from Figure 3-6, which has the class "comment":

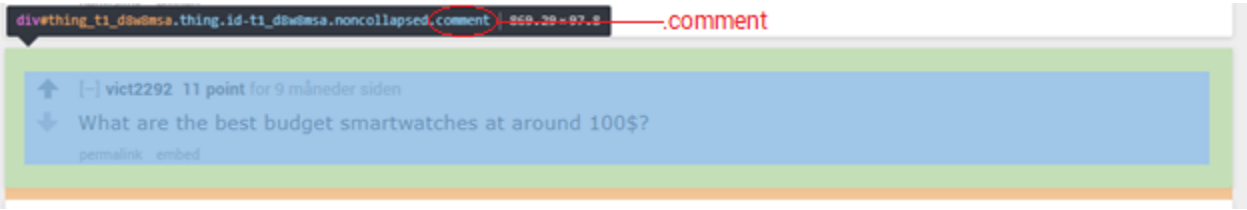


Figure 3-7: "Comment class "

An even faster, automated approach would be to connect to the Application Programming Interface. An Application Programming Interface is an interface for facilitating information between two different pieces of software.

[30] Reddit.com, subreddit /r/smartwatch, (reddit.com/r/smartwatch, 2017)

In a broader sense, it is subroutines, protocols and tools for connecting to a specific software through their endpoints. For example, this allows for the vast number of social media analytics tools like HootSuite (hootsuite.com) and FalconSocial (falconsocial.io) to connect to Facebooks API end-points. With authentication tokens, this allows these companies to gather analytical data, post on behalf of a Facebook profile, and in some instances, create their own, better user interfaces.

This also allows for fast access to vast amounts of data at very high speeds with almost no data loss. And since the program is asking the server for data directly, it is less prone to provide data errors. This makes it possible to write a small program in for example "Python" (see python.org for more information), as we have done, and have this program connect to the API of a website.

This is what we did with Reddit. The challenge with Reddit, and many other web apps, is that they throttle the maximum number of requests for data per request and per minute (reddit.com/dev/api). At the time of our data gathering, we could only get 25 threads per request, and make a request every two seconds. This has since changed to allow for 100 threads every 1 second, which will make replication of our data gathering quicker.

Extracting raw data from /r/smartwatch and /r/Apple Watch

We extracted data from the two subreddits /r/smartwatch and /r/Apple Watch.

/r/smartwatch is the largest subreddit on reddit, with discussions regarding smartwatches in general, new releases, comments on these etc. The subreddit has 4,091 subscribers and has been active for 5 years (reddit.com/r/smartwatch[31], extracted 24th of May 2017).

We also extracted data from /r/Apple Watch to see if there were any differences in what the subscribers were discussing in this subreddit. It seems that Apple Watch users are more active on the topic-specific subreddit, since the subreddit has 46,377 subscribers. It has been a community for 4 years (reddit.com/r/Apple Watch, extracted 24th of May 2017)[32].

The data for the specific demographics in these subreddits is not available for public access. As mentioned before, the demographic of reddit is 59% male, with the largest age group being 18-29 years of age representing 45%, and a second largest group of 40% between the ages of 30-49. Assuming a generally homogenous spread of the user-base within reddit and its subreddits, these subreddits would be most representative for males in the age of 18-49.

[31] Reddit, Link: https://www.reddit.com/search?q=smartwatch/ [Visited 24-05-217]
[32] Reddit, Link: https://www.reddit.com/search?q=Apple Watch [Visited 24-05-217]

Connecting to the API

For connecting to API we used Python 2.7.13[33] and PRAW 3.6.0[34]. The scraper we used is called searchandarchive.py, which has been developed by reddit users /u/peoplma and /u/healdb[35]. The scraper requests all the data from one UNIX timestamp to another UNIX timestamp[36], in configurable steps:

```
#Config Details-
r = praw.Reddit('searchandarchive by Spotzr')
folderName="AppleWatch"
startStamp=1467331200
endStamp=1490962880
#Seconds
step=21600
subName = "AppleWatch"
```

```
#Config Details-
r = praw.Reddit('searchandarchive by Spotzr')
folderName="smartwatch"
startStamp=1454284800
endStamp=1490962880
#Seconds
step=86400
subName = "smartwatch"
```

Figure 3-8: "Snippets of configurable code"

The important configurations here are startStamp, endStamp, step, and subName. startStamp is the UNIX/epoch time, of the start of the time period that needs to be scrapped. endStamp is the UNIX/epoch time for when it should stop scraping. Step is time between extraction in seconds. subName is the name of the subreddit to be scraped.

For /r/smartwatch we used the timestamps from Figure 3-8 which represent the 1st of February 2016 at 00:00:00 GMT to the 31st of March 2017 at 12:21:20 GMT. For /r/Apple Watch we used the other timestamps from Figure 3-8, which represents the 1st of July 2016 at 00:00:00 GMT to the 31st of March 2017 at 12:21:20 GMT. The reason for the difference in timestamps can be explained by the different steps and the previously explained maximum threads per request. Since one can only get 25 threads per request, if more than 25 threads are in a time-window of step, only the first 25 threads within this time-period will be extracted. /r/Apple Watch has much more activity than /r/smartwatch, which means that to get all the data, the time-period for each step had to be reduced, which meant it took four times longer (steps of 21.600 seconds/6 hours, versus steps of 84.600 seconds/24 hours). The extraction of data from /r/smartwatch took the program approximately 2 hours, whilst the extraction of data from /r/Apple Watch took 5½ hours, even though the time-period was 36% smaller.

To ensure we got the right data, we sampled 10 different random files in either, checking if the extracted data matched the comment on the subreddit. There were no discrepancies found.

[33] For documentation go to https://docs.python.org/2/ [Visited 24-05-2017]
[34] For documentation go to https://praw.readthedocs.io/en/v3.6.0/ [Visited 24-05-2017]
[35] For user profiles go to https://reddit.com/u/peoplma and https://reddit.com/u/healdb.
[36] For more information on UNIX go to https://en.wikipedia.org/wiki/Unix_time. [Visited 24-05-2017]

The only limitation to the obtained data was found in /r/Apple Watch since 6-hour periods with more than 25 threads being opened and commented upon, any thread opened after the first 25 in time periods of high activity have not been extracted. We do not expect this to have any significant influence.

The extracted data was in .json format, which was then converted to .csv, to import into Excel. The data consists of everything in a thread, i.e. usernames, timestamps, internal HTML, links etc. The imported .csv file was therefore cleaned from non-relevant data, leaving only the user generated text in comments and comment titles (for the keyword analysis).

The two datasets gathered from /r/smartwatch and /r/Apple Watch consisted of 3,295 text strings (data points) containing a total of 104,378 words, and 110,575 text strings (data points) containing a total of 3,579,335 words, respectively.

These text strings (data points) and their contained words comprised the input for the keyword analysis (and sentiment analysis) in the text analytics software used.

3.4.4. Data pre-processing

The pre-processing of the Reddit raw data was done in Microsoft Excel, and consisted of cleaning empty fields and columns and removing ''deleted'' comments and duplicates. In addition, we had to align and classify the data for the text analytics software to correctly process the data.

A database was not required as the raw files were below the 4GB size limit recommended for optimal performance. There was no need for filtering non-essential parameters/measurements, since the scraping tool allowed us to only extract the parameters relevant to our research, in this case, ''text value'' (comments, replies etc.). ''Id'' was also necessary for the text analytics software to accept and process the data correctly.

	A	B
1	data__children__data__title	data__children__data__replies__data__child
2	Need watch face	
3		
4		
5		
6	Bluboo xWatch.. Real?	
7		
8		
9		
10		
11		
12	No Stupid Questions Monday - (February 01, 2016)	
13		
14	Do I get the Moto 360 2 or the Pebble Time Round?	
15		
16	tell your Samsung gear s2 watch to set a timer for >2 hours, it sets it for only 1hr 39 min	
17		
18		
19	News Wednesday (February 03, 2016)	
20		
21	Interested in a smartwatch... does this exist?	
22		
23		

	A	B
1	Id	textvalue
2	1	No the Watch wouldn't show under Messages settings. Based on what you told me, you are se
3	2	and yet they still downvote, lol.
4	3	I have. Clearly you haven't.
5	4	Your welcome
6	5	I tried the first time on my phone, then went to my Mac to reset the security questions, on Mac
7	6	Nike sells shoes??
8	7	I wouldn't advocate for products that could potentially out you. :(But if it's something you fee
9	8	If you allow any continually dynamic content (animations, etc.). It isn't possible. There isn't a
10	9	It will be next to useless without an iPhone. You have to tether it to your iPhone to use most of
11	10	Yup.
12	11	I'm hoping it's more watch is 3 beta related than not still. But we'll see.
13	12	No problem man, glad I could help. Is it running on your watch?
14	13	Oh man... Condolences
15	14	I wouldn't be surprised if GPS were available in the next watch refresh. I hope so.
16	15	There's a place where I live called the Alpine Loop. My favorite place to ride in the Fall. I just t
17	16	You actually asked why we wouldn't be using it. I know it is popular in some places but it's al
18	17	It's M; may I ask what you're trying to determine?

Figure 3-9: "Snippets of raw file in Excel before and after clean"

3.4.5. Data processing

Following the extraction and pre-processing of the Reddit data, we conducted a keyword analysis to identify the most mentioned keywords. In the following paragraph, we will present and discuss the methodology related to this analysis.

Keyword analysis in MUTATO

The Multi-Dimensional Text Analytics Tool (MUTATO) is a text analytics software developed and provided by Center for Business Data Analytics at Copenhagen Business School (cbsBDA). As students of Copenhagen Business School (CBS), we had unrestricted access to the tool, why we did not have to require any third-party software for the keyword analysis. The keyword analysis was conducted locally at cbsBDA in Frederiksberg[37]. The collaboration with cbsBDA was necessary, since the processing would have otherwise taken significantly longer and additional time would have had to be spent on file compression. Furthermore, at the time of conducting the analysis, cbsBDA had restricted the remote/online access to MUTATO due to maintenance.

37cbsBDA: Center for Business Data Analytics at the Department of Information Technology Management of the Copenhagen Business School, Link: http://bda.cbs.dk/ [Visited: 12-04-2017]

The processing took approximately two hours to complete at cbsBDA and was assisted by Mr. Dharanidaran, a research assistant at the Department of Information Technology Management.

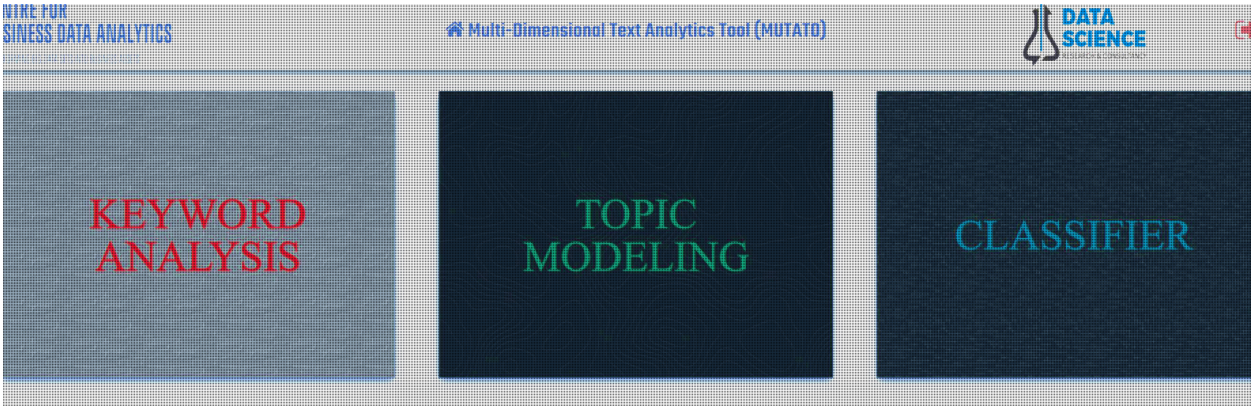


Figure 3-10: "Snippet of MUTATO by Center for Business Data Analytics at CBS"

MUTATO was used to conduct a keyword analysis to examine the most frequently mentioned keywords in the comments and replies on /r/smartwatch and /r/Apple Watch. This process was completed for both subreddits, which produced two lists of keywords, one for each subreddit.

Following the (automated) data processing, we had to manually (non-automated) remove keywords not relevant to the study, since it was not possible to limit MUTATO's data processing to examine a predefined wordlist. The aim of the analysis was to identify smartwatch attributes/features to use as input into the conjoint analysis, therefore, we removed all non-feature related keywords from the two lists of keywords.

To further facilitate and improve the analysis, we only included keywords with a minimum of 45 mentions in the /r/smartwatch dataset and 600 mentions in the /r/Apple Watch dataset. The required minimum of mentions was determined by the total number of data points in each dataset – explaining the significant difference in the minimum number of mentions.

Keywords identified after data processing in MUTATO + number of mentions:

(Note, the format is ''keyword'':''# of mentions'' e.g. look(keyword):288(mentions):

/r/smartwatch:
look:288, battery:231, work:226, apps:162, life:157, notification:155, price:134, screen:121, cheap:104, fitness:91, heart:89, bluetooth:87, music:79, sport:77, call:75, monitor:72, text:71, sleep:69, news:69, display:66, message:64, tracking:64, waterproof:50, running:48.

/r/Apple Watch:
band:10724, look:7849, sport:4288, black:3895, screen:3869, battery:3773, wrist:3153, apps:3145,

update:3074, workout:2961, notification:2512, activity:2224, life:2186, leather:2160, price:1990, running:1972, option:1971, data:1844, stainless:1842, steel:1713, color:1674, water:1649, heart:1631, nylon:1629, gold:1598, night:1593, strap:1575, working:1573, rate:1563, music:1554, charge:1550, tracking:1492, support:1488, sleep:1463, call:1438, exercise:1375, message:1349, weather:1305, sound:1289, track:1286, aluminum:1286, read:1273, quality:1251, siri:1203, silver:1111, grey:1106, picture:1094, health:1087, blue:1068, walk:1038, charger:1007, text:1006, white:997, playing:997, display:974, fitness:965, bluetooth:958, photo:939, size:904, play:878, charging:803, light:799, bracelet:778, email:773, personally:773, applecare:753, touch:686, reading:678, game:665, active:663, spotify:640, lock:619, protector:614, shower:610, comfortable:607, glass:606.

Visualizing keywords using Wordle.net

We have used the online data visualizing tool, Wordle.net, to present the keywords and their importance relative to each other. Data visualization is a practical tool that can assist the reader in assessing the (big) data more easily (Munzner, 2009).

Data visualization is a major application area in big data analytics. Whether the data is spartial or non-spartial, visualization is used to assist people in better comprehending the data (Ibid.). Our choice of visualization design was determined by the data type. Keywords are *categorical,* while their number of mentions is *quantitative*. We can distinguish one keyword from another (categorical) while also counting the number of times it has been mentioned (quantitative) (Ibid.). One type of visualization design that embraces both dimensions (categorical and quantitative) is *word clouds* (Ibid.). Although word clouds have limited applicability in data science, it has been widely used as a tool of communicating keywords in various non-academic and academic contexts. We have included both lists of keywords as word clouds, so that the reader can quickly asses the importance of the different keywords relative to each to other, before moving on to the categorization of keywords in the next paragraph.

/r/smartwatch:

look:288, battery:231, work:226, apps:162, life:157, notification:155, price:134, screen:121, cheap:104, fitness:91, heart:89, bluetooth:87, music:79, sport:77, call:75, monitor:72, text:71, sleep:69, news:69, display:66, message:64, tracking:64, waterproof:50, running:48.

Figure 3-11: "Comparison of /r/smartwatch keywords in text and word cloud"

/r/Apple Watch:

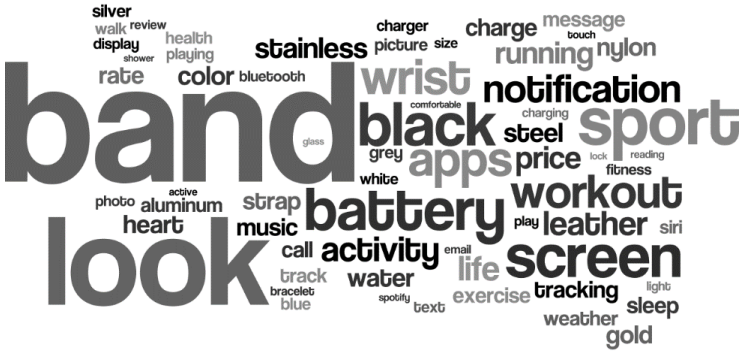


Figure 3-12: "/r/apple watch keywords visualized as word cloud"

3.4.6. Sense-making and analysis

In this paragraph, we will present and apply the coding schema for analyzing the processed data in MUTATO. Ultimately, this analysis should give us the necessary basis for formulating three attributes to be tested in the conjoint analysis.

Following the data processing and as part of the coding schema, we had to manually screen both lists to locate the top mentioned keywords. To do this, we calculated each keyword's *share of mention* (SoM) in percentage, relative to the total number of mentions in each dataset. In addition, since several of the keywords related to the same overall *feature category* or theme (e.g. design, battery life, fitness tracking etc.), we categorized the keywords (using a numerical system - 1-8), which in addition to SoM, would make the selection process more manageable when choosing three feature categories to be focused on in the conjoint analysis. After applying this coding schema, we ended up with a total of eight *feature categories*, consisting of the categorized keywords and their accumulated share of mention:

	A	B	C	D	E	F	G	H
1	CONTENT ANALYSIS							
2	Keywords /r/ smartwatch	Category	Keywords /r/ apple watch	Category		Category		No.
3	look:288	1	band:10724	1		Esthetics / design		1
4	battery:231	2	look:7849	1		Battery life		2
5	work:226	8	sport:4288	8		Fitness (tracking)		3
6	apps:162	8	black:3895	3		Price		4
7	life:157	2	screen:3869	1		Display		5
8	notification:155	7	battery:3773	5		Connectivity		6
9	price:134	4	wrist:3153	2		Notifications		7
10	screen:121	5	apps:3145	8		Utility (in general)		8
11	cheap:104	4	workout:2961	3				
12	fitness:91	3	notification:2512	7				
13	heart:89	3	activity:2224	3				
14	bluetooth:87	6	life:2186	2				
15	music:79	8	leather:2160	1				
16	sport:77	3	price:1990	4				
17	call:75	8	running:1972	3				
18	monitor:72	5	stainless:1842	1				
19	text:71	8	steel:1713	1				
20	sleep:69	8	color:1674	1				

	A	B	C	D	E	F	G
1	CONTENT ANALYSIS						
2	Keywords	# of mentions	Percentage		Keywords	# of mentions	Percentage
3	look:288	288	11%		band:10724	10724	9,6%
4	battery:231	231	9%		look:7849	7849	7,0%
5	work:226	226	9%		sport:4288	4288	3,8%
6	apps:162	162	6%		black:3895	3895	3,5%
7	life:157	157	6%		screen:3869	3869	3,5%
8	notification:155	155	6%		battery:3773	3773	3,4%
9	price:134	134	5%		wrist:3153	3153	2,8%
10	screen:121	121	5%		apps:3145	3145	2,8%
11	cheap:104	104	4%		workout:2961	2961	2,6%
12	fitness:91	91	3%		notification:2512	2512	2,2%
13	heart:89	89	3%		activity:2224	2224	2,0%
14	bluetooth:87	87	3%		life:2186	2186	2,0%
15	music:79	79	3%		leather:2160	2160	1,9%
16	sport:77	77	3%		price:1990	1990	1,8%
17	call:75	75	3%		running:1972	1972	1,8%
18	monitor:72	72	3%		stainless:1842	1842	1,6%
19	text:71	71	3%		steel:1713	1713	1,5%
20	sleep:69	69	3%		color:1674	1674	1.5%

Figure 3-13: "Coding (categorizing) and coding (share of mentions) in Excel"

Feature category	Category no.	Keywords included	Accumulated SoM /r/Smartwatch	Accumulated SoM /r/Apple Watch
Band design	1	Look, design, band, colors*, materials**	11%	~38,9%***
Battery life	2	Battery, life (battery "life"), charging, charger	15%	~8,3%
Fitness (tracking)	3	Fitness, trackers, tracking, workout, sports, sweatproof, running	13%	18,6%
Price	4	Price, cheap, discount	9%	~1,3%
Display	5	Display, screen, monitor	7%	~5,3%
Connectivity	6	Bluetooth, connectivity, range	3%	1%
Notifications	7	Notifications	6%	2,2%
		*Colors includes: blue, black, gold, silver etc.		
		**Materials includes: aluminium, steel, leather etc.		
		*** Some of the percentages are approximations since the keywords included could have double entendre.		

Figure 3-14: "Keywords categorized and share of mentions (SoM)"

When examining the categories, we can deduce that three categories had significantly more relative mentions in both datasets (highlighted in green).

This is a result of 1) the categories consisting of more keywords and 2) the consisting keywords are mentioned more frequently compared to keywords in the other feature categories. It is worth mentioning again, that one dataset (/r/Apple Watch) had a relative higher statistical significance, as the subreddit had more than ten times the number of subscribers compared to /r/smartwatch. On the contrary, /r/smartwatch is arguably more relevant since it focuses on not a single smartwatch model, but the product category in general.

The three feature categories we will use as attributes for the experiment is: design (1), battery life (2) and fitness tracking (3). These three categories constitute the basis for the three attributes. However, due to the construct of the conjoint analysis, which will be explain in section 3.5, limitations exist concerning the number of attributes that can be presented to the respondent of the experiment. This is relevant, since *design* is quite a broad category that can be formulated into several different attributes (e.g. kinds of color, material, shape, thickness etc.), therefore, we had to formulate an attribute that could potentially embrace design in general. Being aware of this, we ultimately formulated the following three attributes to be tested:

- *Design* = Has interchangeable strap (yes/no)
- *Battery life* = X days of battery life
- *Fitness tracking* = Has fitness tracking (yes/no)

We deemed ''interchangeable strap'' as the most adequate attribute to aggregate all keywords included in *design,* since it is consumers only way of customizing their smartwatch to achieve the personal look/design they are interested in. However, we must comment on the subjectivity that exists in this part of the interpretation, since we as researchers might be biased.

3.4.7. Validity and reliability

In this final paragraph of the methodology concerning text analytics, we will comment on data limitations of the Reddit data and discuss validity and reliability.

Data limitations

Firstly, we would like to comment on the limitations of the data collected for this study. As previously mentioned, it is noteworthy that the two datasets collected differ very much in size and purpose/relevance. Although both datasets are essentially about smartwatches, /r/smartwatches is a lot more *general* whereas /r/Apple Watch is focused on a specific product from a specific brand. In addition, the extracted number of data points had an enormous spread (3,295 vs. 110,575), making the statistical significance of the /r/smartwatch data much lower compared to /r/Apple Watch. However, the content analysis did show consensus between the top mentioned keywords in both datasets.

We had two primary focuses when choosing our data source: *topical relevant* (the discussions had to be centered around smartwatches) and *user representatives*. Since the user demographic of both subreddits seems to match that of *early adopters* (the sampling group this thesis focuses on), we concluded and the two subreddits would be sufficient in size and relevance, despite of limitations. In relation to Reddit users having similar demographics as early adopters, we know that ~60% of Reddit users fall into the same category as early adopters; however, it is impossible for us to know is these statistics are also valid for users of the two chosen subreddits. Therefore, some misrepresentation must be accounted for in the text analysis.

Furthermore, we must comment on the quality of the data points collected. Since we were seeking to identify keywords, there are linguistic considerations that need to be highlighted. The language processing software used was not sophisticated enough to selectively choose keywords based on predetermined syntaxes, that would in theory allow us to only extract keywords that related to e.g. functionality. Instead, the software gave us *all* (key)words and we manually had to remove non-essential word (classes) like adverbs, pronouns etc. Furthermore, a lot of English words has double meaning, and since it was impossible for us to manually examine the context of each keyword to put them in the correct category, some keywords might have been misplaced them being both, why the share of mentions might not be completely accurate.

Validity

Validity is about whether the method or experiment is measuring what it says it is measuring (Golafshani, 2003). You can have a method that is very reliable, but that does not necessarily convey validity - it may be testing a completely different pattern/relationship than intended.

Three overall factors need to be addressed to ensure the validity of a research: randomization, sample size and bias (Ibid.). Randomization was easily achieved in the text analysis, since we had limited interference in the selection of the group studied. We had little interest in the individuals producing the data points beyond the fact that they had similar demographics as early adopters, which we knew ~60% of Reddit users have. In addition, it is evident to think that users of smartwatch subreddits are even more prone to be early adopters, as early adopters are often interested in new technology and smartwatches is indeed a new technology. However, from a higher perspective, we did choose the two subreddits from which the data was to be extracted, however, this was necessary to achieve topical relevance (data points being about smartwatches).

In relations to sample size, the aim is to have a sample that is representative of early adopters in Denmark. This it necessary to achieve reliable results and high statistical power. Again, one should also consider the objective of the research when discussing sample size. The text analysis' purpose is to identify attributes for the conjoint analysis, why the statistical significance is quite important as it will indirectly affect the result of the conjoint analysis as well. By utilizing big data and extracting large datasets from Reddit, we had access to a larger sample size than what we would have had, had we alternatively conducted questionnaires or other quantitative methods. However, returning to the initial description of validity of measuring the intended, we should mention that a survey presumably would have resulted in more accurate measurements of the most popular smartwatch attributes amongst Danish early adopters, since the extracted data from Reddit does not have the same face validity. However, what the research lacks in face validity is constitutes for in sample size.

Lastly, the notion of bias should also be mentioned in relation to our text analysis. Selection and intervention biases was not a concern in the text analytics research. However, as more thoroughly explained in reliability, this research is subject to some measurement bias, since we as researchers decided what keywords to include and how to categorize them.

In summary, we are confident in the validity of the text analysis, although we do see some apparent limitations compared to what we could have achieved using alternative methods like surveys. We do, however, believe that we have measured what we intended – the most popular smartwatch attributes amongst the sample group.

Reliability

In short, reliability requires replicability (Ibid.). Since we *structured* our own method of extracting and locating attributes using big data and text analytics, it was especially important to maintain a high level of reliability, to ensure that a) the research was replicable by others and b) would produce the same results.

Therefore, from the research design of the technical aspect of the analysis to the procedure of the content analysis coding and categorization of the keywords, we have aimed to create a detailed procedure of *how* we have conducted the research.

Since we as researchers conducted the categorization/thematization of the keywords ourselves, we should address the potential risk of bias and lack of objectivity. In terms of reliability, this part of the research could also be viewed as the least replicable, as other researchers might have categorized the keywords differently. We did, however, discuss each keywords categorization and tried to remain objectively throughout the entire process. Alternatively, we could have had a focus group categorize the keywords for us or acquired more sophisticated natural language processing (machine learning) software, however, we did not have the necessary resources to do so.

Lastly, the content analysis is a data driven process, in which the data will determine our codes or labels. To ensure validity and reliability in our coding process (coding schema), we could have applied procedures as "external audit" also referred to as "peer checking" (Creswell, 2012). However, since we were two researchers and therefore had the possibility to discuss the coding schema, we did not deem it necessary to involve external forces.

Triangulation

This research could have benefited from triangulation, in the form that two or more methods had been used to identify attributes for the conjoint analysis. Had we applied both big data/text analytics and surveys, and had both methods produced the same results (attributes), we would have facilitated a validation of the data through cross verification from two sources. However, since the identification of attributes constituted only a small part of the entire research, we decided to allocate resources elsewhere.

3.5. Research Design and Conjoint Analysis

As addressed in the foregoing sections, Conjoint Analysis can arguably serve as a powerful tool for creating in depth understanding PGJ importances in consumers, wherefrom its raison d'être in this thesis. Green & Srinivasan (1990) offers a six-step approach to determining which kind of CA to apply:

1. Preference model
2. Data collection method
3. Stimulus set construction
4. Stimulus presentation
5. Measurement scale for the dependent variable
6. Estimation method

While this approach is still be tenable to an extent, it was largely conceived in a time where CA was not as established as it is today, and contains a large amount of statistical and mathematical considerations which are beyond the scope of this thesis. Furthermore, the approach seems illogical, since choices later (measurement scales) would define the possibilities within a preference model. For these reasons, we have chosen to approach it like so:

1. Find relevant attributes and attribute levels
2. Choose Conjoint Analysis type (CA, ACA, CBC, ACBC or MBC)
3. Data collection method
4. Stimulus set construction
5. Stimulus presentation
6. Estimation method

The reason for this approach is that the Conjoint Analysis type and Data Collection method is empirically largely determined by what relevant attributes and attribute levels are found, since the number of attributes determine which Conjoint Analysis type is optimal. Furthermore, which data collection method is optimal depends on initial choices within the two previous points. All of this will be discussed in depth in the sections.

3.5.1. Find relevant attributes and attribute levels

Some elements to our approach are of a more heuristic nature than scientific. It does, however, emphasize something we believe has not been emphasized enough in the literature, which is how much of an integral part of choosing a research design for CA is determined by the attributes of the products. To some products, upwards of 20 product-defining attributes can be found, whilst in other products, perhaps only 6 relevant attributes can be found. The implications hereof on the result of the research design is well-established in theory. Both Green & Srinivasan (1990), Orme (2014) and many others present the on-going challenges of full-profile designs, when there are too many attributes – the respondents start applying simplification strategies. I.e., if they are presented with more than about six attributes, they choose 3-5 they find the most important, and only look at these for tradeoffs. Even without a visual aid, it is apparent that it would be an impossible task for anybody to be presented with 15 different products of 20 attributes, and determining within the limits of one attention span, which is number 1, 2, etc., or which is the next choice of 3 products with 20 attributes. If the researcher finds that more than 6 attributes are relevant, the researcher is to some extent forced into later decisions in their research design with regards to either using partial-profile designs or adaptive designs. So even though there might be a scientific argument, that any CA model is better than another model, the empirical evidence shows that it is generally not possible to exceed 6 attributes and create reliable results (Green & Srinivasan (1990) explicitly states that if attributes exceed six, alternative methods to Full Profile must be applied). It must therefore apply that if approximately 7 or more results are found, the researcher must apply adaptive designs or partial-profile designs. These resulting consequence is that these designs create a “thinner” data foundation per respondent, which would then require more respondents, a consequence that must be addressed for research reliability.

Also, there are multiple ways of sourcing product attributes. There are expectedly many pitfalls within finding the relevant attributes, which has also not been addressed much in the literature. The product developer or marketer is tasked with finding out which attributes are relevant to customers, before finding out which attributes are actually most important to their customers. For example, in a scenario where a product developer simply chooses the six most important attributes by their own perceptions, and shows that from within these attributes, two of them have a very high utility, while the rest has close to no utility, then determines that they must only address those two attributes of high importance comes with it large pitfalls. If the product developer or marketer has not included any number of high utility attributes in their research, they are at risk of creating products which are not addressing high importance pains, gains and jobs, which could be detrimental to the products success.

Finding relevant attributes and attribute levels in smartwatches

There are a multitude of ways to source attributes and attributes levels within smartwatches. Osterwalder et al. (2014) present six diverse ways of gaining customer insights, which roughly translated can be separated into desk research, interviewing, ethnography, impersonation, cocreation and experimentation. These methods can be used for sourcing attributes in conjoint analysis as well. However, as this thesis is so exploratory in nature, we decided to apply another method – Text Analysis, in combination with one attribute, which we personally deemed of high importance, and an attribute derived from the Ericsson (2016) study.

The three attributes we derived from Text Analysis, as mentioned above, were battery life, fitness tracking and strap interchangeability. Battery life seems an obvious choice, since there's an expected pain in having to charge an additional device, and knowing how much more utility battery life gives the customer, can help in producing better products. Also, with the allotted space based on current battery sizes, from a production point-of-view, not having to produce larger batteries, or more sophisticated batteries, has economic benefits. Whether or not fitness tracking on smartwatches has utility in the eye of the customer is both important, because it was one of the centers of conversation on the subreddits, but also from a producers point-of-view, not having to make fitness tracking an integral part of the production of smartwatches would allow for more cost-effective production. Lastly, from Text Analysis was the strap interchangeability. Granted, we deduced strap interchangeability from the overall "Design" category, which means that our perception of what design should entail can have an influence, as also mentioned earlier. Nonetheless, the calculated utility from the interpretation of the results will show whether it was of importance to the respondents.

The attribute we ourselves deemed of high importance was the *thickness of the watch*. Granted, it does fall under the "Design" category, so it has some support in the Text Analysis. One of the reasons for our own lacking purchase of a smartwatch is partly because the design of the smartwatches are currently limited by functionality constraints – producers have to both include fitness tracking hardware and large batteries, to be able to maintain performance along those parameters, resulting in big and "clonky" smartwatches. It is of value to know both if others have the same aversion towards smartwatches because of this, secondly to provide producers with the knowledge of, whether they should put in effort to create battery and fitness tracking hardware of much smaller sizes.

Lastly, the Ericsson (2016) study showed that 44% of previous owners of smartwatches abandoned their smartwatch based on either lacking functionality or lacking standalone connectivity.

44% is so significant, that we deemed it of high importance to see, if by adding standalone-connectivity, that it would both produce higher utility, but also influence willingness to pay for the specific product. From our own perception, a smartwatch having stand-alone connectivity was not something we ourselves considered before being presented with it as an abandonment reason in the Ericsson (2016) study. This might apply for our respondents as well – if they had never thought about it being possible, that the smartwatch could function without the phone, the act of going through the experiment will make them aware of this. If no product delivers it currently, their answers will therefore not be representable for current market share ratios and preferences, so that the utility for the users of this research will only become apparent, after the population is aware that stand-alone connectivity is a possibility.

Lastly, we measure everything against price. From Orme (2014) and Green & Srinivasan (1990), prices should be representative of "what's in the market". The prices for smartwatches on Elgiganten.dk[38] is currently within the ranges of DKK 1,499 and DKK 5,799. However, only special edition Apple Watches are priced above DKK 3,500, with "normal" Apple Watches being priced at DKK 3,499. So, for "normal" utility based purchases we expected that a representative price range would be close to the lowest price of DKK 1,499 and a highest price DKK 3,499. The high prices are on branded products like Apple Watch, which a priori increases respondent's willingness to pay for that product based on brand. We believed that for a "utility-only" (since we are not measuring based on prototypical designs and brands of the products), the price range would be too large for our case. We therefore made the lowest price DKK 1,399, mid-price DKK 2,199, with the highest price being DKK 2,999, resulting in a three-level attribute. This is also in accordance with best practice of keeping price intervals constant (Green & Srinivasan, 1990) (Orme, 2014).

The resulting attributes were two 3-level attributes within battery life (1 day vs. 4 days vs. 7 days), and price (1,399 vs. 2,199 vs. 2,999), and four 2-level attributes within fitness tracking (yes, no), stand-alone connectivity (3G/4G built in vs. Internet through smartphone), interchangeable strap (Fixed vs interchangeable) and watch thickness (thicker than normal watches vs. same thickness of a normal watch). The "watch thickness" attributes were the best way we could conceive of to convey it, since adding values of 15mm vs. 30mm or any other heuristic seemed equally hard to understand for respondents.

[38] Smartwatches in Elgigatens webshop, link: https://www.elgiganten.dk/catalog/wearables-sport-og-fitness/dk-smartwatch-wearables/smartwatch [Visited 14-09-2017]

3.5.2. Choose Conjoint Analysis type

Choosing the right type of CA depends on both the number of attributes, the software at the researcher's disposal, if it is important to be as close to reality as possible, and their computing power. As stated above, it has been shown empirically that respondents resort to simplification strategies, when presented with 7 or more attributes. Assuming researchers have access to CA software, the following flowchart can be constructed:

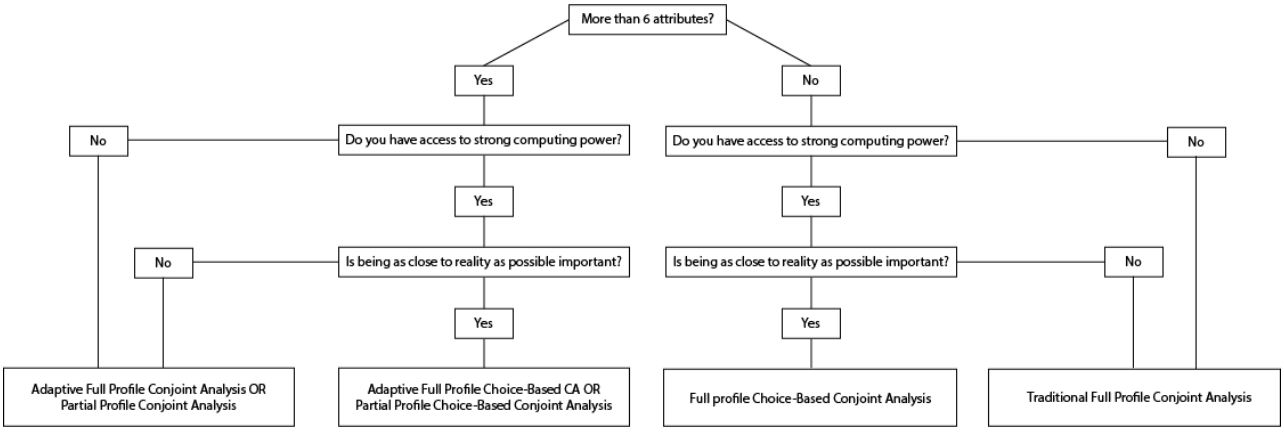


Figure 3-15: Flowchart for choosing Conjoint Analysis type

When constructing experiments for testing with Conjoint Analysis, it is expectedly important for researchers to be as close to reality as possible, for expected higher reliability in real-world cases. Furthermore, most researchers expectedly have access to strong computing power, so that they apply latent class models and Hierarchical Bayes Estimation (which might explain why most researchers choose CBC (Orme, 2014)).

Choosing Conjoint Analysis type for our smartwatch experiment

Since we only seek to test six different attributes, that we have access to strong computing power, and being close reality is at the core of our experiment (further elaborated upon in point 5), the obvious choice for CA type is Choice-Based Conjoint Analysis in our case of analyzing attribute utilitiy and importance in smartwatches, which we in turn apply.

3.5.3. Data collection method

If more than six attributes are used for testing, and adaptive models have not been chosen in the previous point, the obvious choice will be partial profiles. If there are six or less than six attributes, choosing full profile is the obvious choice given that it is the model with the highest reliability (Green & Srinivasan, 1990). Since full profile offers the best reliability of sub-seven attribute testing, we apply full profile.

3.5.4. Stimulus set construction

Since we apply two attributes of three levels depth (price, battery life) and four attributes of two levels depth (connectivity, fitness tracking, interchangeable strap, thickness), the total amount of profiles which can be constructed are 3^2 * 2^4 = 144 different full profiles. The extent of the respondent's attention span is not so wide, that they can be reliably shown 144 different profiles in groups of 3, so many times that it creates reliable results. Therefore, we apply an orthogonal reduced research design, optimized for most interactions on 15 different products. Best practice is 8-20 comparisons per study (Orme 2014, Green & Srinivasan 1990). After testing of initial time to completion, we reached the conclusion for 15 sets of 3 different products, resulting in every product being shown 3 times each (research design can be found in Appendix 8.2.4).

3.5.5. Stimulus presentation

There are many different off-the-shelf software, which can be applied in the case of CBC. Examples are the well-established company Sawtooth Software[39], whom is also cited in Green & Srinivasan (1990), and conjoint.ly. Since we were creating an experiment, which we wanted to mimic reality as closely as possible, we deemed these off-the-shelf software insufficient. Though customers are "picking", it is not mimicking the buying situation:

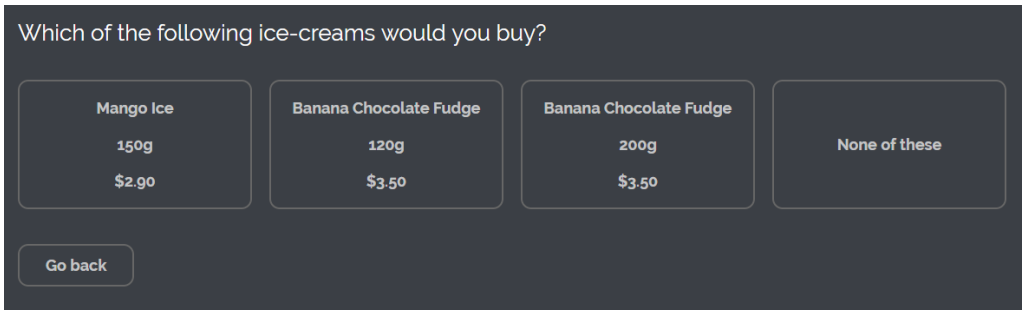


Figure 3-16: "Snippet from conjoint.ly's software"

We therefore developed our own software for the purposes of performing the experiment.

[39] Sawtooth Software, Link: https://www.sawtoothsoftware.com/

Danes at the age of 25-34 regularly shop online, with 36% of their online purchases being electronics[40]. One of the largest and arguably also best known online retailers of electronic devices in Denmark is Elgiganten (elgiganten.dk). To our knowledge, the most common way of purchasing products online is by first "adding it to basket", and then proceeding to checkout to pay for the products. Furthermore, customers are selecting from the available offerings that are on the page, based on both aesthetics and product attributes – as can be seen on Elgigantens site:

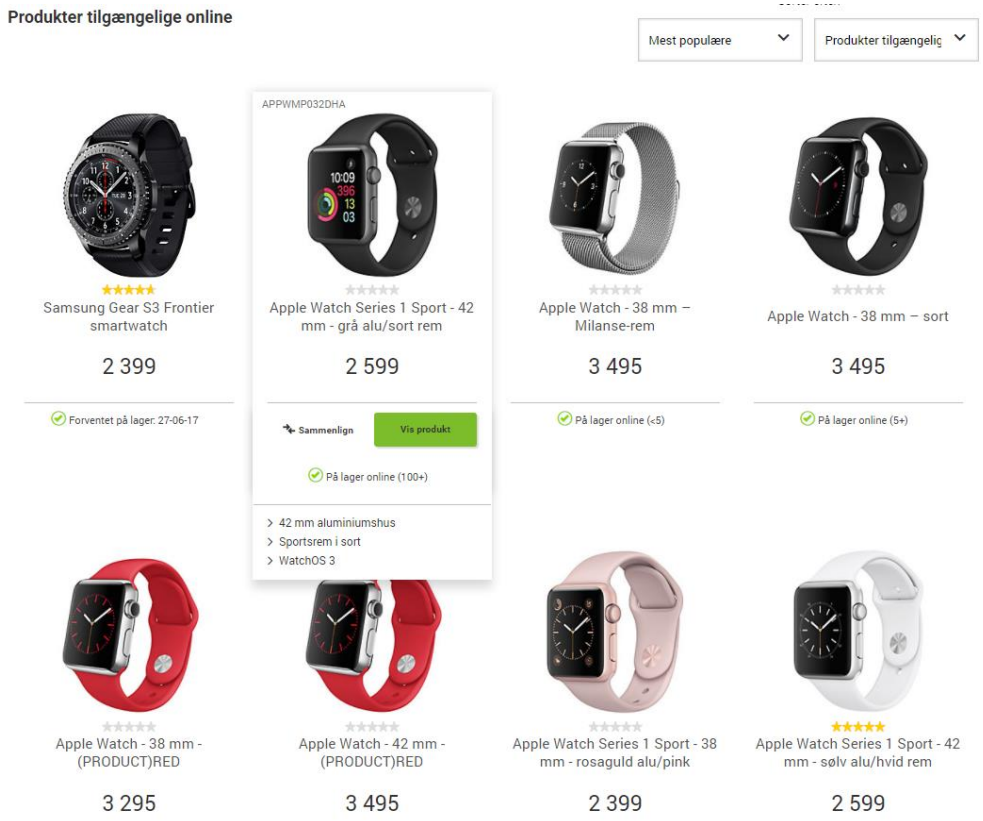


Figure 3-17: "Snippet of Elgiganten's smartwatch offerings"

Our aim was to copy that experience as closely as possible, with 3 additional requirements for creating the experiment for our CA. Firstly, it had to be optimized for comparing products, i. e. the design should make it user friendly to compare specific attributes for respondents. Secondly, we wanted the experience to be as intuitive as possible. Thirdly, we wanted to make the experience as simple as possible, but no simpler than that. As can be seen on the above snippet of Elgigantens site, one product is highlighted, and not before the product is highlighted can the attributes be seen. This was deemed unacceptable. Furthermore, Elgiganten has varying buttons and added functionality to compare products before purchase, or zooming in on the product before purchase (the button "Vis product").

[40] 3,4 mio. Danskere handler på nettet, Danmarks Statistisk, Link: http://www.dst.dk/da/statistik/nyt/NytHtml?cid=19496 [visited 23-07-2017]

We are only testing attributes, so matters of aesthetics were of no concern to us. We reduced the Elgiganten sites functionality, so that only one button could be pressed – "Add to shopping cart", or in Danish "Læg i kurv".

On Elgigantens site, there is a large emphasis on both aesthetics and price (large image, large price). We kept the aesthetic constant at the same size. We did the same with price. The resulting stimuli was the following:

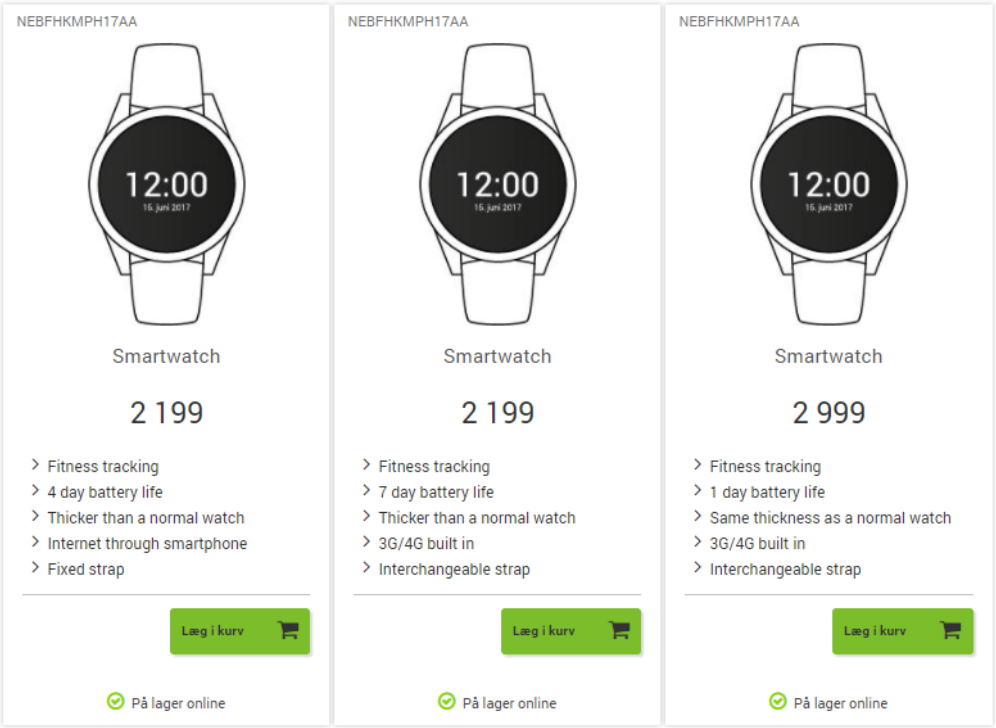


Figure 3-18: "Custom-developed Choice-Based Conjoint Analysis software for thesis based on Elgiganten"

In combination with an introductory text (excerpt):

"When you press the button below, you will be taken to a copy of Elgiganten's website. All links on the page are inactive, which means that you can only press the buttons labeled "Læg i kurv" (Add to shopping cart).

You will be presented with 16 different sets of smartwatches.

Each set contains 3 smartwatches with different attributes. You must select the smartwatch you would most likely buy, and thereafter press the button "Læg i kurv"."

This means that by pressing the button "Læg i kurv" on 16 different sets (1 of these was an attention test), respondents are choosing the product they prefer. Respondents choices were saved only when they had completed the entire experiment (i. e. no partial data is saved).

Our first requirement was that it should be easy to compare product profiles, in which we have arguably succeeded. We made sure that contrary to the original Elgiganten design, the attributes we were presenting were always visible, and even though the order of the attributes was random, that the order in which they were presented were similar on every product, as emphasized here:

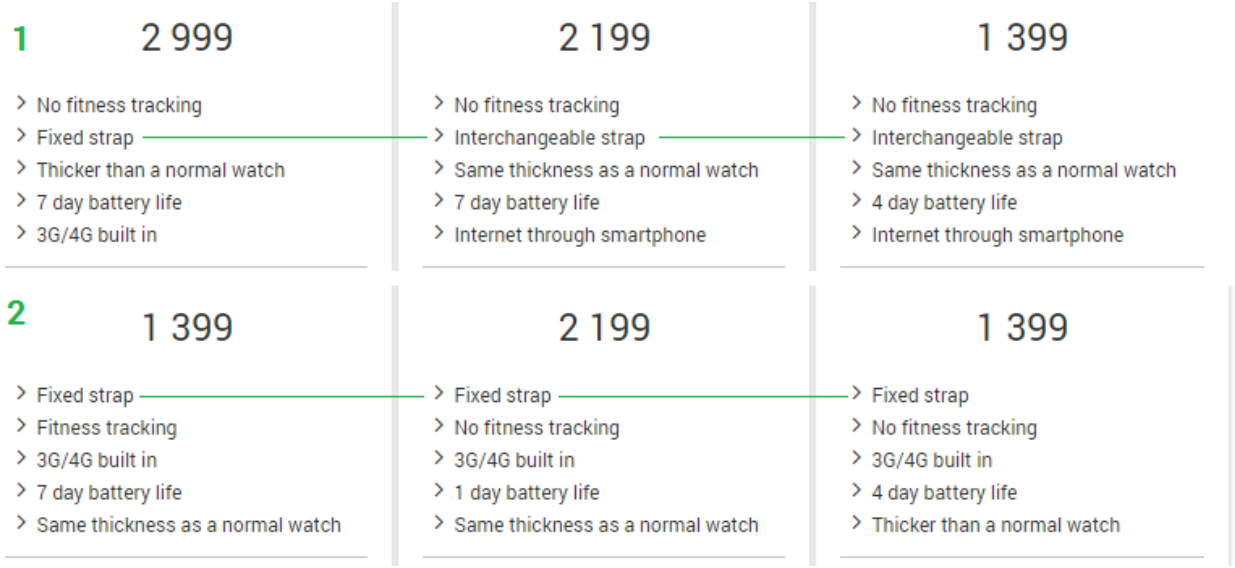


Figure 3-19: "Comparing different attributes (Snippet from experiment) "

It is worth noting, that the above attributes and prices were the only areas of our experiment, which were variable. I. e., everything else on the page was held constant, like product serial number, whether it was in stock ("På lager online"), and the image etc.

On the first three products (marked "1"), the "strap interchangeability"-attribute is #2 in the order of attributes, but it is so on each product, making it easy to compare by following normal left-to-right reading. On the second example, the "strap interchangeability"-attribute has been moved to #1, but still follows the same principle of left-to-right comparing. Since prices were kept at the same spot, these were also easy to compare (price bias will be commented upon under "Bias").

On making the experience as intuitive as possible, the use of the button "Læg i kurv", as the only button the respondent is supposed to press, mimics what these respondents are expectedly used to, which therefore would support an argument for the experiment being intuitive.

On making the experiment as simple as possible, but not simpler was the readaption of the buying sequence of Elgiganten to our needs. On Elgigantens website, you need to press "Show product", to then be able to put it into the shopping cart. We saw this as unnecessary complexity, which is why it has been removed.

We would argue that our experiment, given our requirements, is arguably as close to reality as possible. The experiment was sent to respondents using Facebook Messenger.

They were sitting at their personal computers, as they would, were they themselves in the midst of purchasing online. Elgiganten resembles both a well-known retailer, but also in our best estimation, and archetypical webshop. The users have to press “Add to shopping cart”, as they would in a buying situation. Almost everything regarding the experiment, closely mimics what the respondent could normally do in an everyday life purchase of electronics online.

3.5.6. Estimation method

Hierarchical Bayes Estimation

For finding individual and aggregate utilities we apply a Hierarchical Bayes Estimation. This estimation is performed by applying software from XLSTAT[41]. Hierarchical Bayes Estimation provides conditional probabilities based on a Markov Chain Monte Carlo algorithm set at a specific point of convergence (Sawtooth Software, 2009). For more information on Bayesian Hierarchical Modelling see Allenby et al. (2005).

To measure goodness-of-fit of a Hierarchical Bayes Estimation, XLSTAT provides the root likelihood of the model to predict a choice in a choice task. The root likelihood of a respondent to choose a specific product by chance amongst three products is 33,33%, since we are presenting them with three alternatives. Sawtooth Software provides two alternative ways of measuring goodness of fit in a Bayesian estimation, which is either percentage certainty or root likelihood (Sawtooth Software, 2009), stating that they provide essentially the same result, and that using either is a matter of preference. Since XLSTAT only provides the root likelihood, we determine goodness of fit based hereon. To our knowledge there is no best practice within what levels of root likelihood is acceptable. In essence, anything higher than chance has a value to a user of the research from a pragmatic perspective taking into account measurement errors. For the purposes of this paper, we accept the model if the root likelihood is more than double the likelihood based on chance. We used a convergence level of 0,0001, meaning that if root likelihood does not increase or decrease by more than 0,0001 for each iteration, the model assumes that it has reached the maximum explanatory power, and stops iterating.

As explained in the Theory section, Hierarchical Bayesian modelling does address the blue bus/red bus problem of the assumption of Irrelevance of Independent Alternatives. The two other primary assumptions for HB in CA are, given that HB in CA has a two-level hierarchy, at the higher level that a) individual’s part-worths are described by a multivariate normal distribution, and on the lower level that b) given an individual’s part-worths, the probability of them choosing

[41] See http://xlstat.com/ or https://help.xlstat.com/customer/en/portal/articles/2062399-running-a-choice-based-conjoint-analysis-with-hierarchical-bayes-cbc-hb-with-xlstat-conjoint?b_id=9283 for more information [Visited 17-07-2017]

a specific alternative is governed by a multinomial logit model. I. e. assuming A. and B. provided with the root likelihood, we can determine which product concepts consumers will show preference for based on individual attribute utilities.

Utilities a presented with A = 0.

Agglomerate hierarchical clustering and homogeneity

XLSTAT does not provide latent class estimation for CBC data. Instead we apply an agglomerate hierarchical clustering method based on Euclidian distances, to find homogenous preferences within the data. XLSTAT provides an automatic truncation function, which in our case truncated the segments at 3 segments. The software tries to create homogenous groups based on entropy[42]. In any case, XLSTAT also provides dendrograms, so that it can be discerned how similar or dissimilar observations are across and inside segments.

3.5.7. Addressing expected biases and efforts at mitigation

Trying the experiment first on http://haymakersdev.com/smartwatcheksperiment, will help in understanding the explained biases in this section. The experiment will be publicly accessible for the foreseeable future, closing on 31st of December 2017 the earliest.

Even though the respondent is presented with an introductory text to help them understand the experiment, there is no certainty that they will read this. A priori, few respondents would take the time to read the introduction unless in some way forced to. Therefore, we adapted a 15 second countdown, before the experiment could be accessed, in the hopes that it would lead to more respondents reading the introductory text:

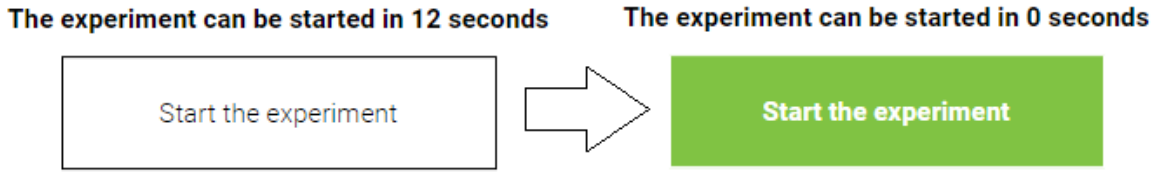


Figure 3-20: "Start button before countdown and after countdown"

As mentioned earlier, Elgiganten has a large emphasis on price in their design. Since price is so much larger than the rest of the attributes, it can provide bias towards respondents being more focused on price than otherwise.

[42] Agglomerative Hierarchical Clustering (AHC) in Excel, 2017-08-23, XLSTAT, Link: https://help.xlstat.com/customer/en/portal/articles/2062226-agglomerative-hierarchical-clustering-ahc-in-excel?b_id=9283 [Visited 12-06-2017]

However, making the price smaller would result in realism biases, since prices are a priori often in focus when shopping online. We therefore do not expect significant effects on reliability.

We expected a potential risk in respondents choosing either the left or middle product. The left because it is first, and the middle, because it is at the center of focus in the experiment. To mitigate this, we randomized the left-right order of the products. The order was randomized by creating an array of orders 1, 2, and 3, then shuffling the array with a Fisher-Yates shuffle[43] for pseudo unbiased randomization, and then giving the first product the order value of the first entry in the array, the second, the second value of the array etc. The array is shuffled every time the "Add to shopping cart" button is pressed.

The attribute order (besides price) could have an influence, by respondents only looking at the first few as a simplification strategy. This was again mitigated by applying an array of order values of 1-5, shuffling the array with a Fisher-Yates shuffle, and assigning orders sequentially.

As stated previously, the best practice is to apply 8-20 different sets of products for respondents to compare because of testing fatigue. Even though the literature states that reliability should not fall from the first to last comparison (Green & Srinivasan, 1990), we have applied a random order of product sets. The order was also here determined by a Fisher-Yates shuffled array.

To test respondent's attention span, an attention test was implemented at a random time of the experiment, where all else was the same besides an attribute being replaced with "Do not choose *this product" or "Choose this product":*

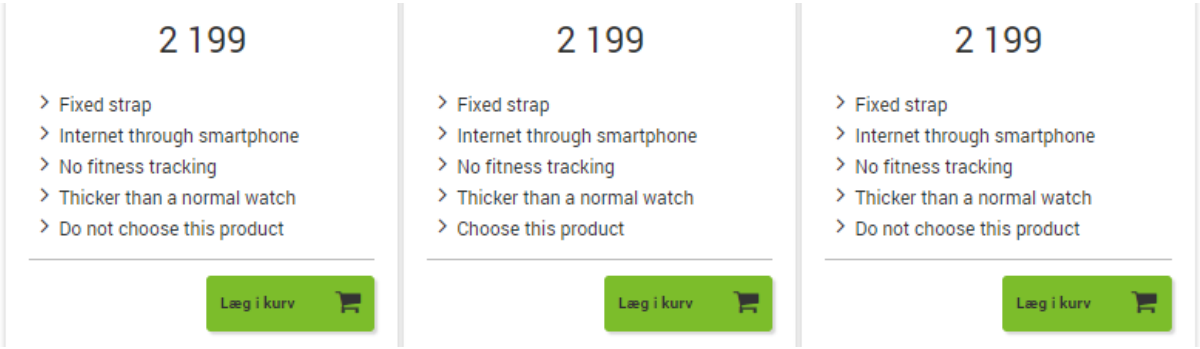


Figure 3-21: "Attention test"

Any respondent whom failed the attention test were not included in the interpretation of the results.

We did not apply a "none" choice for the test. Normally a respondent can just leave the website without purchasing any of the presented products.

[43] See https://en.wikipedia.org/wiki/Fisher–Yates_shuffle for more info.

In this sense, we sacrifice reality for more data, given our scarce number of respondents. A "none" choice offers no data for our interpretation, which is why it is left out.

Since the experiment was written in JavaScript, which means that the experiment is rendered in real-time, without any communication with the server, it would mean that depending on the respondent's CPU power, the next set of products would be presented immediately after the previous was clicked. To avoid the respondent questioning themselves if they pressed the button

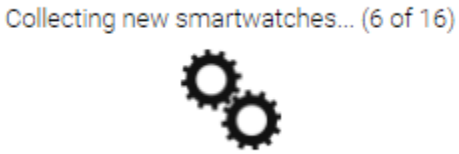


Figure 3-22: "Waiting screen between every choice of smartwatch

correctly, and thus mistakenly pressed the button twice, we implemented a waiting screen between every click on "Add to shopping cart". Furthermore, it also showed the current progress of the survey, to aid in keeping respondents attention. A .gif file of two gears was implemented to create the illusion that the experiment actually was computing, while it was not.
The time the screen was showing was set to 3 seconds. From initial testing, we found that three seconds hit a range where it felt short enough to not become annoying, but also long enough so that the next set was less influenced by the choice on the last set:

With so large emphasis on the ability to easily compare the products, we decided to block the experiment on all device with screens less than 1200 pixels across (e.g. smartphones). This means that the products were always presented in the same manner as in Figure 3-18.

An unaddressed bias from the attribute section is the level-depth of attribute bias. Attributes with more levels are expectedly focused more upon by respondents, which is speculated to be because of it being able to take on more values, it is considered more important by respondents (Green & Srinivasan, 1990). Since we are applying two 3-level attributes ("battery life" and "price"), and four 2-level attributes, we should expect a positive effect on the utility and importance of "battery life" and "price".

3.5.8. Reliability and validity of our Conjoint Analysis

Determining preferences of attributes

Looking at Conjoint Analysis in general, it usually has a correlation of 0,75 across studies (Green & Srinivasan, 1990). We do not expect such a high reliability in our study, both based on the number of respondents and our sampling process. Our sampling process is not random and most likely not representative of a larger demographic since we are surveying from our own social circles, and with 39 respondents passing the attention test, this leaves us with a small respondent pool. However, if the experiment was performed on a randomized sample, with 500 respondents (best practice from Orme (2014)) within a narrowly defined demographic, we see no reason why we should not expect to obtain the same reliability across studies as other analyses in general. If a different software is used for the conjoint analysis instead of a copy of Elgiganten's website, where price is not emphasized to the same extent, this could provide a different emphasis on price, however, this could also hurt validity in turn.

As for validity, we need to make a clear distinction with regards to preferences. In our findings, each attribute will be assigned a percental importance based on the utility derived from our calculations based on the respondent's answers. The importance assigned can only be determined a relative importance, and not an absolute importance, i. e. it is an importance based upon a constructed reality in which the only product attributes that exists are those which are presented. Any conclusion about how to improve the utility of the products will be based on the relative importances. What we are researching with the conjoint analysis is, if only the found attributes existed, which product combinations would provide the highest utility per individual, segment and aggregate. However, we do expect that high utility attributes will have high absolute utility to the respondent, whilst we cannot say that the highest relative utility would manifest in a highest absolute utility of an attribute.

Conjoint Analysis is often used for creating market share estimates based on preferences within specific attributes. In these circumstances, studies have shown that it is able to predict preference in real-life products (Green & Srinivasan, 1990), meaning that what is being researched actualizes itself in reality.

3.6. Interviews

Qualitative research: 7 stages of an interview inquiry

In this paragraph, we will present the qualitative method used to create insight into the segment's *pains, gains and jobs* as described in the Value Proposition Canvas (Osterwalder et al., 2014) (see "2.1 Product/market-fit") to create customer profiles.

The chosen interview design is structured around Kvale's (2007) methodology. As further elaborated below, we have applied his *seven stages of an interview inquiry* (Kvale, 2007). We will go through each stage to give the reader a complete overview and comprehension of *what, how* and *why* the interviews were structured, conducted and analyzed as they were. This should demonstrate the validity of the study and ensure scientific replicability and reliability.

3.6.1. Thematization

In this stage, we explain the *theme* of the interview. The objective is to present and clarify the purpose of the study (why), our pre-knowledge of the subject at hand (what), and lastly, the techniques of interviewing and analyzing we applied to obtain the intended knowledge (how) (Ibid.).

Purpose

1. What relevant *pains*, *gains* and *jobs to be done* does Danish early adopters have?
    a. What are the importances of these *pains, gains* and *jobs to be done?*

By examining the pains, gains and jobs of the segment, we should be able to create an empirical-based customer profile of the segment, which is the first step in the direction of a better product/market-fit.

Pre-knowledge

Thematizing an interview also includes developing a conceptual and theoretical understanding of the subject to be investigated (Kvale, 2007). If we do not take the time to contemplate on our existing knowledge of the subject, it can be difficult to distinguish between newly acquired knowledge and what was already known (Ibid.). Furthermore, outlining pre-knowledge could help ask the right questions.

We have already presented our theoretical understanding and review of the Value Proposition Canvas in section 2.1.

Furthermore, in 1.2 and 1.2.1 we have reviewed two studies concerning *consumer valuations of smartwatches*, these two studies in combination with our own quantitative research findings presented in 4.1.1, represents our existing knowledge on the subject.

Interviewing technique

The type or technique of interview selected for this study is semi-structured interviews (Kvale, 2007), characterized by a list of prewritten questions to provide some structure to the interview, while still allowing the interviewer to stray from the prepared questions and ask follow-up questions (Ibid.). We will comment more thoroughly on this choice in the next paragraph, presenting the interview design.

3.6.2. Designing the interview

One aspects of designing an interview is to contemplate on the essential number of respondents needed (Kvale, 2007). Kvale (2007) argues that there is often a misconception of the number of respondents needed for a given study. He argues that one should strive to interview as many people needed to answer ones' research objective, in this case, ask as many respondents as it takes to identify pains, gains and jobs thus create the customer profiles. According to Kvale (2007), if the purpose of the interviews is to statically examine a subject group's attitude towards something, the adequate number of respondents depends on the level of detail you wish to examine in the attitude (Ibid.). In this case, we wish to create a value map (pains, gains and jobs) followed by a ranking of these. The subject group is defined as Danish men between the age of 25-34 who do not own a smartwatch. For more details about the subject group see 3.3. We chose to only focus on consumers who did not own a smartwatch, since what we are examining is product/market-fit (what it will take to equip more people with smartwatches). The respondents for the interview were located through network (social circles).

Some structure is necessary to make sure that we acquire the empirical knowledge necessary to investigate and answer the research questions. When formulating the interview questions, it is important to remember that the interview questions are an extension of the research questions (see illustration 3-22).

In addition to Kvale (2007), we used Osterwalder et al.'s (2014) approach to *capturing customers pains, gains and jobs* as inspiration. Osterwalder presents some interesting points on customer interviews, first, he argues *not* to ask for the respondent's opinion (e.g. ''would you do this?'' Or ''would you do that?'') and instead ask ''when was the last time you bought a similar product?'' (Ibid.). This should in theory encourage answers where the respondent can explain when they may have done a specific type of action or *job-to-be-done* (ibid.).

In addition, he suggests gathering quantitative answers (e.g. ‘’How much more would you pay for a smartwatch with standalone connectivity – 10%, 20%?’’) (Ibid.). This approach is ideal because it allows us to get into instances and concrete quantities to understand how they measure success and how they measure failure (pains and gains).

Interview guide

Setting: The interview is a semi-structured interview to identify and rank the segments’ pains, gains and jobs related to smartwatches. The interviews were conducted via the video chat service, Skype. We utilized audio and video chat. Additionally, we made sure that the respondent did not own a smartwatch prior to inviting them to do the interview.

Time frame: Each interview took approximately 15-20 minutes.

Recording / ethics: The interviews audio was recorded. The recordings are used for transcribing and will be deleted following the completion of the oral defense of the thesis. The respondents were notified about this and all gave their explicit verbal permission before the interviews were conducted.

Anonymity: The interview is anonymous. Age, sex and postal code is the only demographic information collected. The respondent was notified about this before conducting the interviews.

Roles: The interview is a 1-on-1 (online) interaction with two participants – the interviewer and the respondent. The role of the interviewer is to lead the interview and ask the prewritten interview questions as well as potential follow-up questions.

Location: As mentioned, the interviews were conducted using Skype. Prior to the interview, we asked the respondent to choose a location where they would not be disturbed nor interrupted during the interview.

Introduction: An introduction to the interview was given prior to the interview (see appendix 8.3 for introduction). In addition to the formal introductory given, we formulated a few introductory questions to practice and show the format of the interview.

Interview questions: See appendix 8.3 for the original and translated manuscript and interview questions. The interview consisted of explorative questions aimed at identifying the respondent’s jobs, pains and gains. Subsequently, as new jobs, pains and gains were identified, we had the respondent rank the *importance of jobs*, *severity of pains* and *relevance of gains*.

See the illustration below for a quick overview of the connection between interview questions and research objectives. Note, some interview questions explore more than just one objective although they are connected to one question:

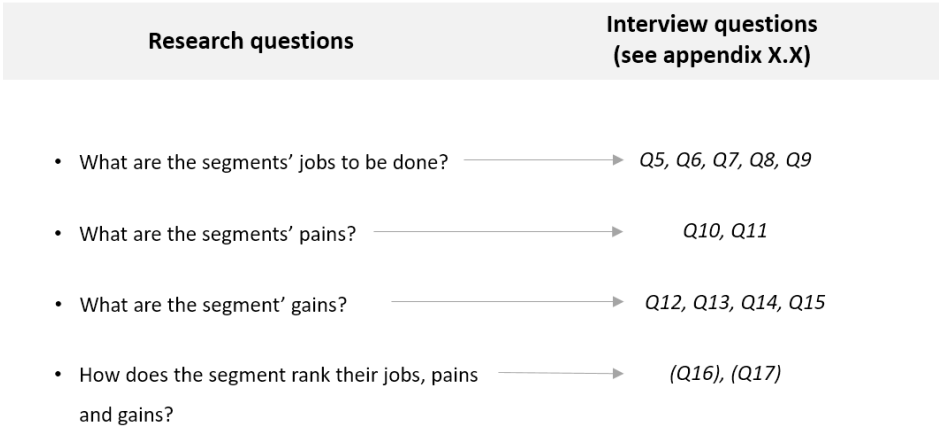


Figure 3-23: "Research objectives and Interview questions"

Questions 5 to 7 were about smartphone usage and was included for two primary reasons 1) it allowed the respondent to 'warm up' before asking them about smartwatches and 2) since smartwatches and smartphones have similar properties, we were interested in exploring possible similarities and differences in usage, additionally, to see if respondents could see smartwatches replace smartphones in the future.

Preliminary interviews

Before conducting the interviews, we completed two preliminary interviews to ensure that the interview questions produced the intended answers, had a proper *flow* and no risk of confusions. Minor corrections were made to the interview guide following the preliminary interviews.

3.6.3. Conducting the interviews

The interviews were conducted based on the interview guide above and with a reflective approach to the knowledge sought. In 6 of the 9 conducted interviews, the interviewer had some interpersonal relationship with the respondent. Since the interview required the respondent to use his imagination and convey different possible use cases, a discipline that for some respondents could be uncomfortable if there is a lack trust and comfort between the interviewer and respondent, these relationships meant that we could shorten the preliminary comfort-building phase of the interview. The interviews took on average 15-20 minutes to conduct.

3.6.4. Transcribing

While taking notes and writing down our immediate interpretation of the responses is important, it is expected that we are going to miss out on some details. An audio recording of the interviews allowed us to refer to the interview transcript and return to the interview data for review.

Furthermore, recording research interviews also ensures descriptive validity, which refers to the accuracy and objectivity of the information gathered (e.g. correct transcribing) (Ibid.).

We deliberately designed the interviews to be short and concise, to limit the need for *interview condensation* before analyzing (Saldana, 2017). The intention of condensation is to formulate short and concise interview transcripts, ideal when dealing with relatively large amounts of empirical data (Ibid.). However, as mentioned above only limited condensation was needed following the transcribing, since the responses for each question was only a few lines in length.

3.6.5. Thematic analysis of interviews

The method of analysis chosen for the qualitative research is thematic analysis. Thematic analysis is a widespread and commonly used qualitative approach to analyzing interviews (Braun and Clarke, 2006). The conceptual framework of thematic analysis applied for the interviews was primarily built upon the theoretical position of Braun and Clarke (2006). Their conception of thematic analysis is a method of identifying, analyzing and reporting patterns (themes) within the obtained data (Ibid.). We have chosen a thematic approach because 1) it facilitates an investigation of the interview data from a data-driven perspective based on inductive coding, and 2) from the perspective of the research questions, to test if the data provides the necessary information to answer these questions (Ibid.).

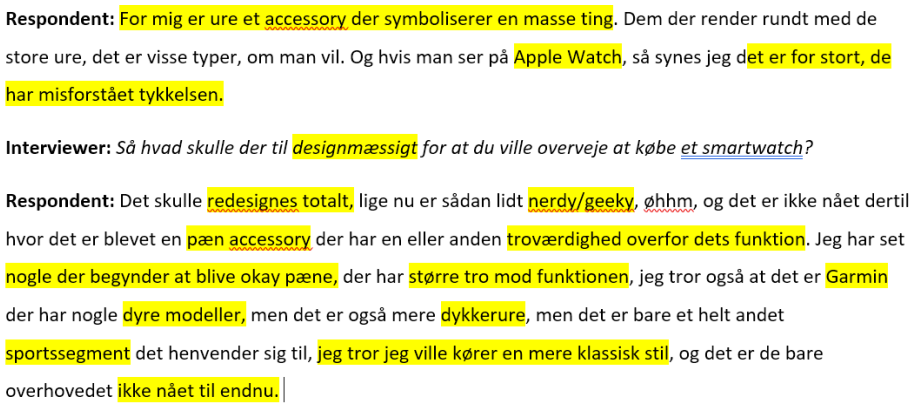
We wished to identify themes in the obtained interview data. Our conception of a theme, is something that captures a main thought in the data in relations to the research questions, and that represents some degree of thematized or patterned response or meaning within the dataset (Ibid.). In this case, we are looking for themes or patterns in relation to customer preferences in relation to jobs, pains and gains and how these are ranked. This process of identifying and determining themes must be consistent throughout the entire analysis, and can be done in an inductive ‘buttom-up’ way or in a deductive ‘top-down’ way (Braun and Clarke, 2006) (Bazeley, 2009).

In analyzing the qualitative data, we have adopted an inductive approach, which will allow research findings to emerge from the central themes in the data (Thomas, 2003). According to Thomas (2003), three main purposes exist for using inductive reasoning in research analysis: first, it allows the researcher to condensate large and varying datasets into a clear and concise format; secondly, to create linkage between the aim of the research and the condensed findings derived from the interview data; and thirdly, to establish a model or theory about the underlying structure of experiences or processes in the data.

The thematic analysis consisted of six (nonlinear) phases (Braun and Clarke, 2006):

1. Familiarization with data: In all kinds of qualitative research – the researcher must familiarize and immerse with the collected data. We did this by re-reading the transcripts and listening multiple times to the audio-recordings of the interviews.

2. Coding: Coding is another common element in qualitative research analysis. It involves creating clear labels for important features of the data relevant to the research question guiding the analysis (Ibid). This is not to be confused with data condensation, it is an analytical process that captures both a semantic and conceptual reading of the data. In practice, we coded all relevant data items by highlighting and labeling them (see illustration below), we ended the coding phase by aggregating all codes and relevant data extractions.



Respondent: For mig er ure et accessory der symboliserer en masse ting. Dem der render rundt med de store ure, det er visse typer, om man vil. Og hvis man ser på Apple Watch, så synes jeg det er for stort, de har misforstået tykkelsen.

Interviewer: *Så hvad skulle der til designmæssigt for at du ville overveje at købe et smartwatch?*

Respondent: Det skulle redesignes totalt, lige nu er sådan lidt nerdy/geeky, øhhm, og det er ikke nået dertil hvor det er blevet en pæn accessory der har en eller anden troværdighed overfor dets funktion. Jeg har set nogle der begynder at blive okay pæne, der har større tro mod funktionen, jeg tror også at det er Garmin der har nogle dyre modeller, men det er også mere dykkerure, men det er bare et helt andet sportssegment det henvender sig til, jeg tror jeg ville kører en mere klassisk stil, og det er de bare overhovedet ikke nået til endnu.

Figure 3-24: "Snippet of interview coding (in Danish) in MS Word – See in Appendix, section 8.4"

3. Searching for themes: Themes can be described as coherent and meaningful patterns in the data relevant to the research questions (e.g. identifying themes within *jobs, pains and gains*). Searching for themes can also be explained as coding the code to locate similarities within the data. The themes were constructed by us based on the research questions. Like with coding, this phase ended with an aggregation of all the coded data relevant to themes.

4. Reviewing themes: In this phase, we reflected on whether the themes were telling the complete story and if it was necessary to combine or split some of the themes into two or more themes.

5. Defining and naming themes: According to Braun & Clarke (2006), this phase requires the researcher to conduct and write a detailed analysis of each theme, identifying the essence of each theme and name them accordingly.

6. Writing up: The final phase of Braun & Clarke's (2006) take on thematic analysis, involves constructing an analytical narrative of the extracted data, to present a coherent and complete

story about the data, and contextualize in relation to existing studies and other research findings, in this case from the conjoint analysis.

Lastly, we would like to comment on why we chose thematic analysis in favor of qualitative content analysis. The number of related studies and literature on practical use of thematic analysis was far greater than that of content analysis. In addition, from our understanding, the two methods are very similar in approach and purpose, and especially when it comes to the element of *coding*, which we deem as the most important element for this research.

3.6.6. Verifying (validity and reliability)

Validity

As mentioned earlier, validity constitutes whether an interview study investigates what is intended to be investigated (Kvale, 1996). In this case, validity is achieved if we manage to design and conduct interviews that will create data that can ultimately help us answer the RQ related to the creation of customer profiles, in coherence with the Value Proposition Design theory. We are confident that the interview design has been sufficient in ‘’measuring’’ the respondent’s pains, gains and jobs to be done.

In relation to ‘’scientific truth’’, it is important to remember that we are researching on social phenomena, and it is difficult to, or rather problematic, to use the notion of truth or true knowledge, which is often correlated with validity in scientific fields (Kvale, 1996). However, a more theoretical approach to validity is presented by Kvale (1996), who focuses on the social constructions of validity in interviews. According to Kvale (1996), valid qualitative research is about credibly representing different social worlds or different interpretations to the readers, something we sought to achieve by carefully conducting the coding phase of the interviews.

In relation to randomization, the interview research has its limitations. Since the respondents had to representative for early adopters, the pool of respondents available to us was somewhat limited, why we could not execute complete randomization in our selection of respondents. As a result, we must acknowledge the fact that selection bias exists in the interview research. In addition to selection bias, we as interviewers had personal relationships with some of the respondents, which could potentially have led to acquiescence bias, where the respondent tends to agree with and be positive about whatever the interviewer presents (Lavrakas, 2008).

Additionally, when an interviewer knows certain things about the respondent, there is a risk of wording bias and asking leading questions, that the interviewer would like the respondent to include in the interview. We were extremely aware of this in conducting the interviews, and in

our transcription afterwards, we carefully listened after if we had failed in avoiding this, so that we could remove that specific interview or question/answer.

Lastly, in relation to the sample size, we will refer to Kvale's (1996) belief that the number of respondents in a research should be as many as it takes to answer for the interview objective. In our case, we believe that the number of respondents in the research has been sufficient to create customer profiles, however, we also acknowledge that more respondents would have only made the research more valid.

Reliability

Reliability is also related to verifying, and refers to whether our data collection techniques and analytical process and methods would reproduce consistent findings, if they were repeated on by a different researcher (Ibid.). Since the research design is structured using Kvale's seven stages, it should be possible for most researchers to replicate our method and possibly produce the same results. To further facilitate reliability, our method of analysis is based on Braun & Clarke's (2006) six phases of analysis, which in addition to Kvale's seven stages, should make the data analysis easier for other researchers to replicate, as they could theoretically just follow the steps provided. However, our interpretation/coding of the data and identification of themes, might differ from that of other researchers, since there exists as many interpretations of data as there are interpreters, why compete replicability (and truth) is unachievable in a qualitative method such as interviews.

3.6.7. Reporting

According to Kvale (2007), the interview report is a social construction in which our choice of writing style provides a specific view of the respondents lived world (Kvale, 2007). One aspect of the social construction is the writing process of the obtained knowledge from the interviews. The quality of the interview report has a central role when considering validation and generalization of the interview findings including the communication with the readers. Especially relevant in our case is the fact that we are two authors, which means that we must make sure that the level of deviation in writing style and communication in general is minimized.

3.6.8. Limitations

We conducted nine interviews with two preliminary interviews, the number of respondents could have been higher, however due to limited time and extensive focus on the quantitative part of the research, we had to compromise and go with fewer respondents than originally aimed for.

However, most importantly, the methodology should make the research replicable if other researchers wished to create a larger study on the subject.

4. Analysis

4.1. Conjoint Analysis

4.1.1. Findings

Our model converged at 121.514 iterations, with a root likelihood of 0,813. This means that our model is estimated to predict preferences with 81,3% success, when choosing among three product alternatives. This is above our threshold for acceptance at two times random (66%).
The aggregate of our model shows the following utilities:

Part-worth utilities based on individual Bayesian estimates

Source	Mean	Minimum	Maximum	Std. deviation
(0) DKK 1399	0,000	0,000	0,000	0,000
DKK 2199	-2,046	-3,070	-1,038	0,521
DKK 2999	-4,305	-5,707	-2,128	0,948
(0) 1 day battery life	0,000	0,000	0,000	0,000
4 days battery life	2,601	1,420	3,828	0,704
7 days battery life	4,152	1,833	7,389	1,211
(0) No fitness tracking	0,000	0,000	0,000	0,000
Fitness tracking	2,973	0,259	5,468	1,311
(0) Fixed strap	0,000	0,000	0,000	0,000
Interchangeable strap	0,511	-1,228	3,202	0,953
(0) Thicker than a normal watch	0,000	0,000	0,000	0,000
Same thickness as normal watch	1,883	-0,690	6,091	1,836
(0) Internet through smartphone	0,000	0,000	0,000	0,000
3G/4G Built-in	2,138	0,312	5,763	1,556

Figure 4-1: "Results of Hierarchical Bayes Modelling"

Resulting in the following importances:

Importances based on part-worth utilities (sorted by importance)

Source	Mean	Minimum	Maximum	Std. deviation
Price	26,41%	14,98%	38,96%	5,94%
Battery	25,70%	10,96%	52,48%	8,38%
Fitness tracking	18,33%	1,67%	37,23%	8,55%
Connectivity	12,95%	0,22%	36,26%	9,15%
Thickness	11,67%	0,43%	31,12%	9,30%
Strap	4,94%	0,03%	22,17%	4,84%

Figure 4-2: "Importances based on part-worth utilities"

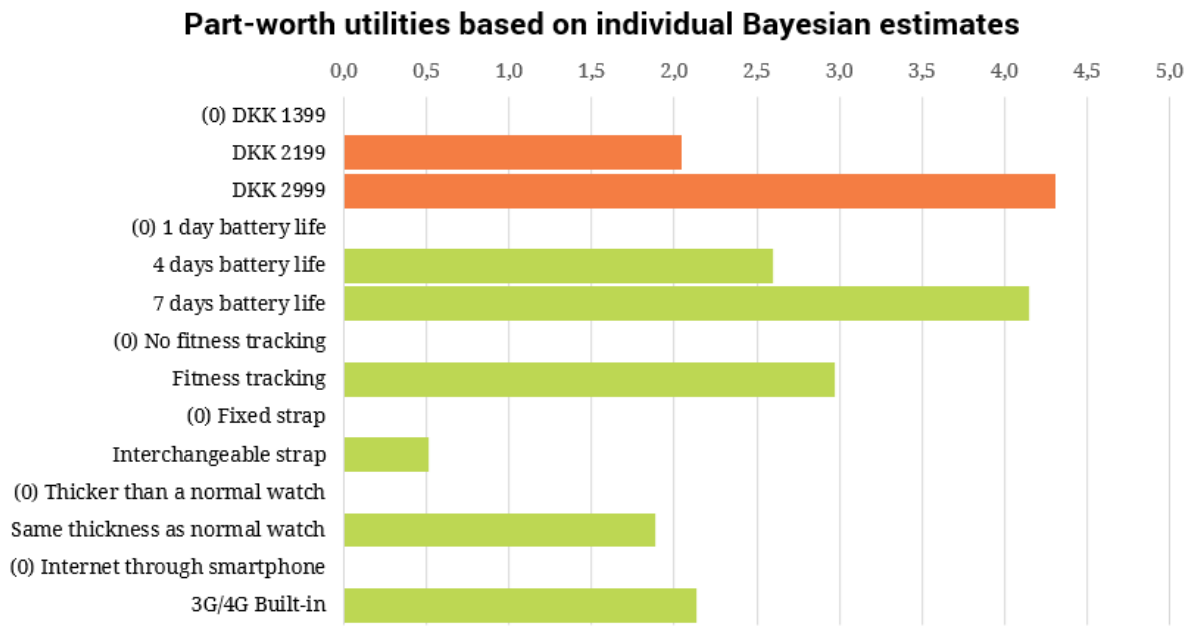


Figure 4-3: "Graphical representation of results from Hierarchical Bayes modelling (Red is negative utilities)"

Looking at figure 4.2, we see that on average there is a sort of 4-level separation. Price and battery are the most important attributes on average, fitness tracking sits alone at medium importance, connectivity and watch thickness is on the low end of importance, and strap interchangeability almost doesn't matter on average. Looking at the utilities, whether the strap is interchangeable has almost no utility (0,511).

As explained in our methodological considerations, the price and battery life emphasis, might be exaggerated due to them being 3-level attributes, with the other attributes being 2-level attributes, and respondents putting more focus on deeper attributes (Green & Srinivasan, 1990). Also, the price-emphasis might also have been influenced by the design. In short, we expect the importances and utilities on battery and price to be slightly exaggerated.

Nonetheless, we can see on average, the negative utility from price can be almost equally mitigated by creating a product with higher battery life. I. e., if a producer creates a product, which has 7 days battery life, and it retails for DKK 2.999, on average and all else being equal, our respondents would find as much utility in that product, as they would find a product with 1-day battery life, priced at DKK 1.399.

Furthermore, a price increase from DKK 1.399 to DKK 2.199 can on average be "defended" by reducing the smartwatch thickness to resemble normal watch thickness or implementing stand-alone connectivity (-2,046U + 1,883U = -0,163U; -2,046U + 2,138U = 0,092U).

A price increase from DKK 1.399 to DKK 2.999 can on average be "defended" by having both (-4,305U + 1,883U + 2,138U = -0,284U). Having fitness tracking lies in between these.

4.1.2. Agglomerate clustering

As can be seen from the maximum and minimum values in both the importances and part-worth utilities, there are differences in preferences within our respondents. In Figure 4.2, we can see that there are individuals who do not care for either of the individual 2-level attributes. And to some, even strap interchangeability has a large utility and an importance of 22,17%.

By applying a XLSTATS agglomerate clustering, we find the following dendrogram (the line is where XLSTAT has truncated the segments). As can be seen there are two very dissimilar segments (Segment 1 vs. Segment 2 and Segment 3), where one has two less dissimilar segments (Segment 2 and Segment 3). Technically Segment 2 could also be further segmented into two slightly less dissimilar segments (green lines). Furthermore, the dissimilarity falls drastically further down the clusters (red, blue, and second tier green):

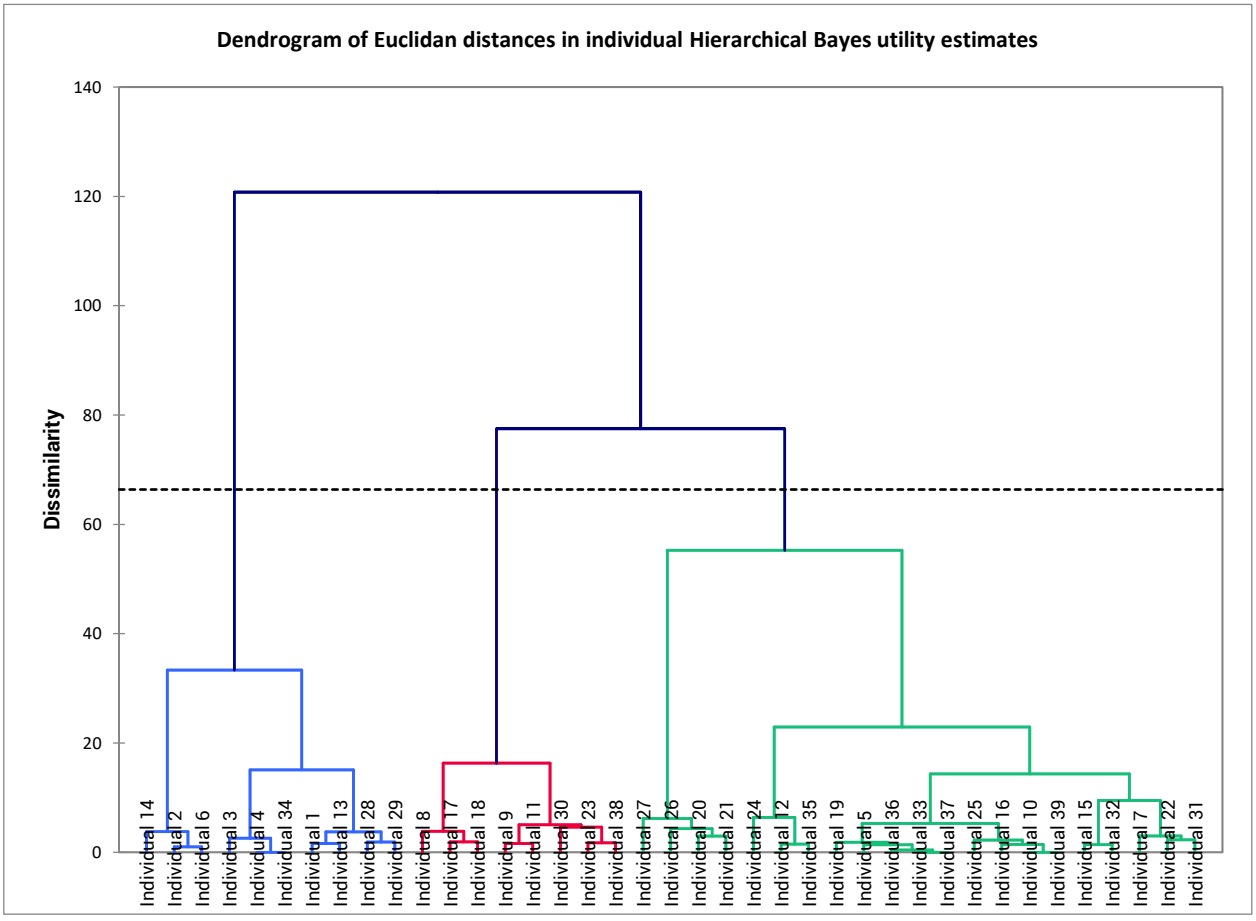


Figure 4-4: "Dendrogram of clusters in respondents"

The three first clusters have the following utilities:

Segmented part-worth utilities based on individual Bayesian estimates

Source	Segment 1 (n = 10)	Segment 2 (n = 21)	Segment 3 (n = 8)
(0) DKK 1399	0,000	0,000	0,000
DKK 2199	-2,171	-1,968	-2,097
DKK 2999	-3,432	-4,831	-4,016
(0) 1 day battery life	0,000	0,000	0,000
4 days battery life	1,973	2,967	2,426
7 days battery life	3,274	4,707	3,793
(0) No fitness tracking	0,000	0,000	0,000
Fitness tracking	3,720	2,128	4,256
(0) Fixed strap	0,000	0,000	0,000
Interchangeable strap	0,248	0,301	1,389
(0) Thicker than a normal watch	0,000	0,000	0,000
Same thickness as normal watch	4,383	1,328	0,215
(0) Internet through smartphone	0,000	0,000	0,000
3G/4G Built-in	1,737	2,869	0,721

Figure 4-5: "Segmented part-worth utilities based on individual Bayesian estimates"

With the accompanying importances:

Sorted importances based on segmented part-worth utilities

# Segment 1	Import.	# Segment 2	Import.	# Segment 3	Import.
#1 Thickness	26,10%	#1 Price	29,89%	#1 Fitness tracking	29,58%
#2 Fitness tracking	22,15%	#2 Battery	29,12%	#2 Price	27,91%
#3 Price	20,44%	#3 Connectivity	17,75%	#3 Battery	26,36%
#4 Battery	19,49%	#4 Fitness tracking	13,17%	#4 Strap	9,66%
#5 Connectivity	10,34%	#5 Thickness	8,21%	#5 Connectivity	5,01%
#6 Strap	1,48%	#6 Strap	1,86%	#6 Thickness	1,49%

Figure 4-6: "Importances based on segmented part-worth utilities"

The clusters show some heterogeneity in preferences within our population if separated into three clusters. Segment 1, Segment 2, and Segment 3 account for 25,6%, 53,9%, and 20,5% respectively. A graphical representation of the segments can be found on the next page.

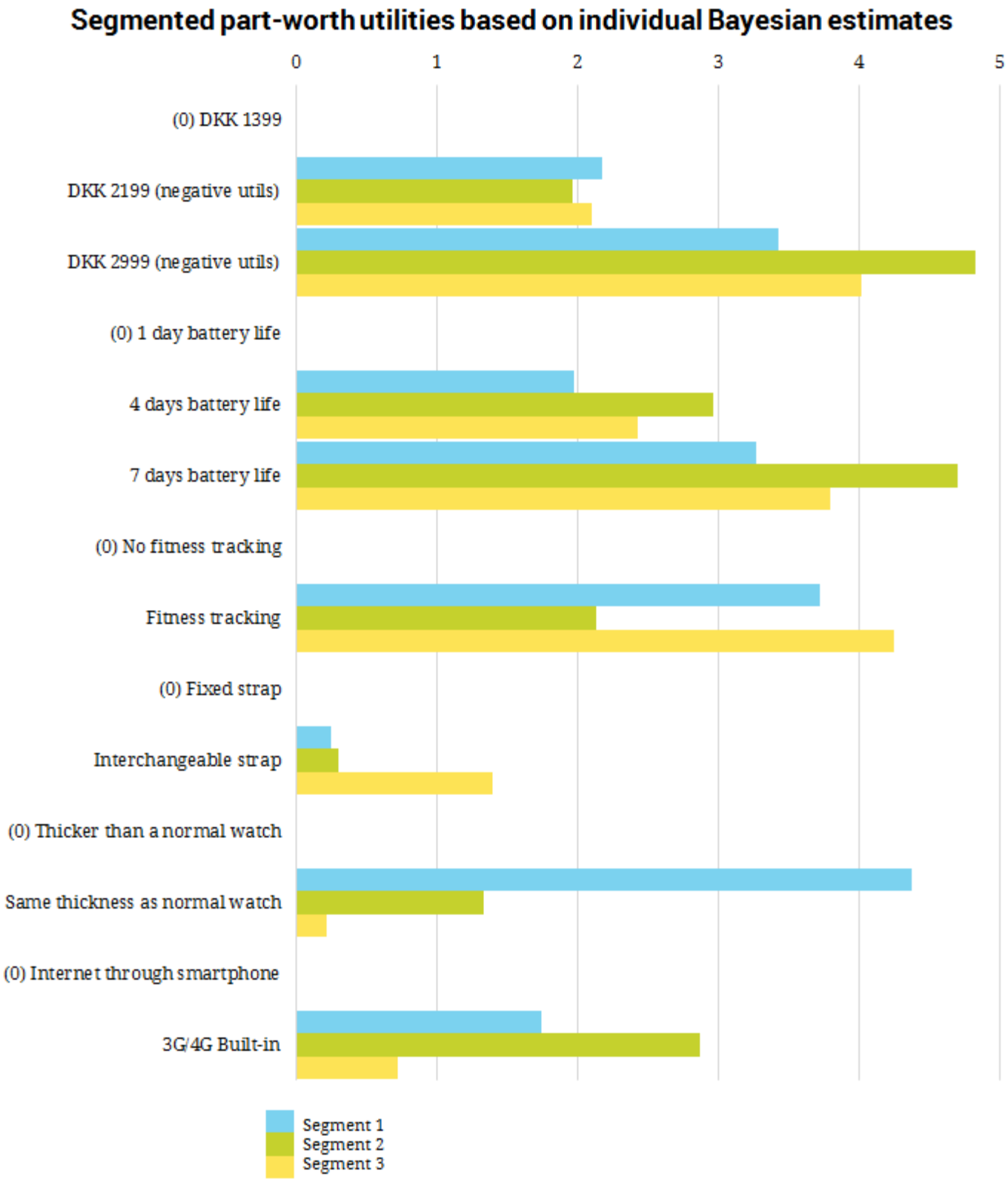


Figure 4-7: "Graphical representation of results from segmentation based on Bayesian estimates"

Segment 1

The first segment we find accounts for 25,6% of our respondents (n = 10). Their preference for one smartwatch over another is largely determined by the thickness of the watch, with its importance of 26,1%. Next, their preferences are almost equally determined by the price of the smartwatch (20,44%), the battery life (19,49%), and whether it has fitness tracking (22,15%), Stand-alone connectivity can explain 10,34% of a preference of a product over another product, and strap interchangeability has almost no influence on preference (1,34%).

A unique quality with the first segment is that, all else being equal, this segment would choose a product with the same thickness as a normal watch, over any other watch that had fitness tracking. More interestingly, this segment would choose a watch, which had the same thickness as a normal watch, priced at DKK 2.999, over a product which was as thicker than a normal watch priced at DKK 1.399. They are thusly, in that case, willing to pay more than double the price for a smartwatch (from DKK 1.399 to DKK 2.999), if it has the same thickness as a normal watch, all else being equal.

Both segment 1 and 3 find so much utility in fitness tracking, that at the highest price point, they would still show preference towards a smartwatch with fitness tracking price at DKK 2.999 vs. a 0U case. Segment 2 would show preference for at smartwatch with a fitness tracker over a 0U case, only if the smartwatch was priced at DKK 2.199.

Segment 2

The second segment accounts for 53,9% of our respondents (n = 21). Their preferences of one smartwatch over any other smartwatch is most determined by battery life and price, each with importances of 29,89% and 29,12% respectively. Next on the list is 3G/4G connectivity with 17,75%, fitness tracking with 13,17%, thickness with 8,21% and strap interchangeability at 1,86%.

A unique quality of the segment is that the preference they derive from 4-day battery life over middle pricing is relatively higher than in other segments, where medium battery life and medium pricing are more equal in utility – i. e. if a product exists on the market which costs DKK 2.199, and has a 4 day battery life (-1,97U + 2,97U = 1U) , this has clear preference to a product which costs DKK 2.999 and has a 7 day battery life (-4,83U + 4,71U = -0,12U) or a 0 utility product at DKK 1.399 and 1 day battery life.

Another unique quality of the segment is that no feature in and of itself has more preference than avoiding having to pay DKK 2.999 for the product. This means that products will have to perform on at least two attributes, for this segment to be willing to purchase the product at the highest price mark.

The cases in which this holds true are if a product has either A. Both 4-day battery life and fitness tracking ((2,97U + 2,13U) > 4,83U), B. Both 4-day battery life and 3G/4G connectivity ((2,97U + 2,87U) > 4,83U), or C. Both fitness tracking and 3G/4G connectivity ((2,87U + 2,13U) > 4,83U), with the preference order of these products being B > A > C (5,84U > 5,1U > 5,0U).

Furthermore, the segment is unique in the importance it puts on stand-alone connectivity. Firstly, it is unique in that they prefer stand-alone connectivity over fitness tracking. Secondly, that they are the only segment, which are willing to pay at least DKK 800 more for it, with utility to spare (-1,97U + 2,87U = 0,9U). No other segment has more positive utility in stand-alone connectivity, than the negative utility of mid-range pricing, which is an interesting observation given the segment size.

Segment 3

The third segment accounts for 20,5% of our respondents (n = 8). Their preference of one smartwatch over any other smartwatch is primarily determined by whether the smartwatch has fitness tracking (importance of 29,58%). Price and battery have respective importances of 27,91% and 26,36%. Next is strap interchangeability with an importance of preference on 9,66%, stand-alone connectivity with 5,01% and 1,49% for watch thickness. Their top 3 most important attributes on determining preference account for 83,85% of the utility they find in the product.

Other than by having fitness tracking and a 7-day battery life, a positive utility for performance on this product must be achieved by performing on at least three different attributes, meaning that the product must have at least 4-day battery life (2,43U), an interchangeable strap (1,39U), and inbuilt connectivity (1,39U), to match the negative utility of DKK 2.999 (4,02U) with their combined utility of 4,54U. This means, that to obtain preference over a 0U product (no performance on either attribute, at lowest price), besides 7-day battery life and fitness tracking, a superior utility to a 0U case could only be derived from having 4-day battery life, an interchangeable strap, and inbuilt connectivity.

This could be an indication that this segment would almost exclusively use their smartwatch for fitness purposes, which is a need a fitness tracker could possibly fill just as easily, at a lower price point. To emphasize this point, if a smartwatch was priced at DKK 2.199 there is no way given our results, that this segment would show preference for this smartwatch, even if it had inbuilt connectivity, a 7-day battery life, an interchangeable strap and the same thickness as a watch (sum utility of 4,02U), over something resembling a normal fitness tracker priced at DKK 1.399 (sum utility of 4,26U).

Differences across segments

Across all segments, the utility from increasing battery life from 4-7 has only adds respectively 66%, 59% and 56% more utility than from 1-4 days, which might be an indication that there is a decreasing rate of utility per battery day life.

The significant importance of watch thickness to segment one, and the low importance of it to the other segment shows, that even within an expectedly homogenous group, there can be large differences in preferences. It emphasizes the dangers of assuming that demographic homogeneity results in homogenous preferences, which in our case, it does not. Applying clustering methods, finding latent classes or even looking at individual preferences can reveal previously unknown segments in the market. Osterwalder et al. (2014), emphasizes how customer profiles, which are technically segments, should be divided not based on basic demographics, but instead separating by needs. Their focus on emphasizing this exact point is supported by our data – if, as has been done in the past, all individuals are grouped into one large aggregate, you as a product designer, or marketer of products, create products that fit into neither of the available segments.

None of the segments created from our clustering method resemble the aggregate customer, which means that if a smartwatch producer took the aggregate results, and focused their innovation accordingly, they would risk ending up creating a product, which falls under the provoking statement of “one-size-fits-*none*”.

4.1.1. Sub-conclusion

In summation, we achieve a model with a high estimated root likelihood of predicting choices in 81,3% of individual cases. We also find that by separating the respondents into three segments based on their Euclidian distances, that there are significant differences between segments preferences. The first segments top three are, beginning from first priority, whether the smartwatch has the same thickness as a normal watch, secondly that the watch has fitness tracking and thirdly the battery life. Our highest price of DKK 2.999 is less important than its top two. The second segments top three are long battery life, standalone connectivity and fitness tracking, with price however being more important than anything else. Thirdly and lastly, the third segments prefer fitness tracking over everything else, with price being more important than the next two attributes, which are battery and strap interchangeability. These segments can be visually represented using the theory from Osterwalder et al. (2014), as such:

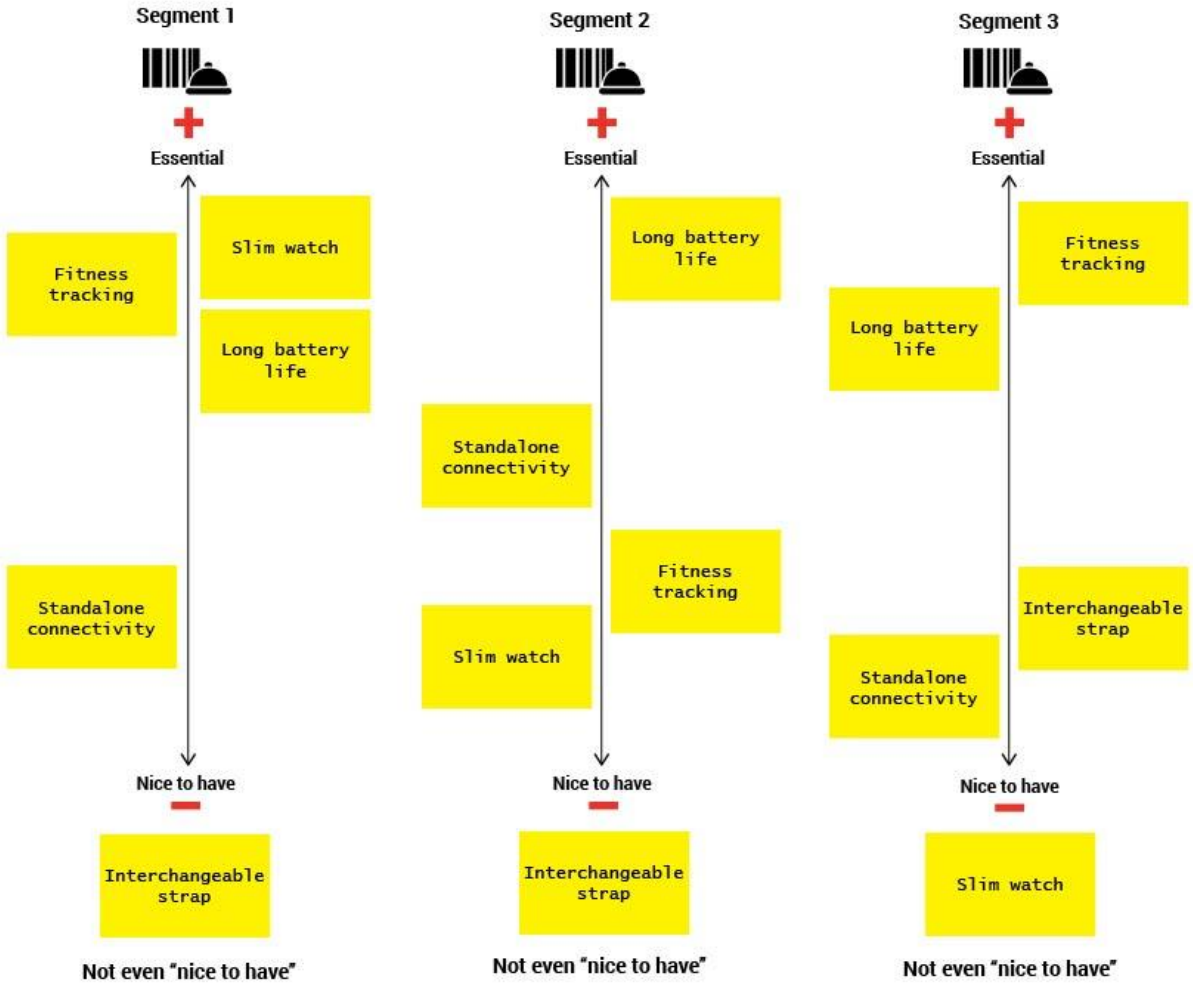


Figure 4-8: Segments with importances like Value Proposition Design

4.2. Interviews: Findings and analysis

In this section, we will present the findings from the interviews followed by an analysis and creation of customer profiles. Our findings consisted of initial coding of the transcript by highlighting (codes) relevant to the study. This was followed by a grouping of the codes into so-called *themes*, again, relevant for creating the customer profile by identifying *pains, gains and jobs*. We then labelled these themes accordingly, and used the rankings given by the respondents in the interview to create a hierarchy among the themes.

The findings were then analyzed using the literature on Value Proposition Canvas (Osterwalder, et al., 2014) to create customer profiles. Below is a flowchart of the process from initial interviews to analyzing (creating customer profiles).

Figure 4-9: "Flowchart of coding and conceptualization process"

4.2.1. Findings: Coding and conceptualizing

After transcribing the interviews followed a process of coding (see Appendix, section 8.4 for coded interview transcripts). As described in the methodology section, the coding process consisted of highlighting *codes* relevant to the study. These codes consisted of respondents' thoughts and opinions on smartwatches in general, as well as opinions on specific attributes. Since we had very clear research objectives and we knew what type of answers we were looking for, the coding process was manageable. The process of coding is of course a very subjective process, since we as researches and interpreters are deciding what is important and what is not. The coding process consisted of two parts: firstly, did a rough (first*)* coding, highlighting anything that might be interesting and relevant to the study. This was followed by a more thoroughly (second) coding process, in which we sorted and listed the codes we considered most relevant and applicable going into the next step of conceptualization. Below we have listed (and translated) the codes relevant for the thematization. Note, the codes included below are solely related to smartwatches (and not smartphones), and only one code per respondent per overall theme was included in the list. E.g. if one respondent commented on smartwatches being *too thick*, and later emphasized this by saying they are *too clumsy* – only one of the codes were included. We did this to prevent a misrepresentation in the themes, since one respondent could in theory have been the only one commenting on that particular theme (design).

Codes from interviews:

Display not big enough	**Battery last at least one day**	**Fast charging**	**Music control**	**Scroll though songs**
Smartwatch has limited usability	**For business people**	**For sporty people**	**Trendsetters and firstmovers**	**Accessibility**
Users are Fashion-conscious	**Notifications**	**Messenger**	**Glorified step counter**	**Social Media apps**
See YouTube videos	**Technology not there yet**	**Read news**	**Updated with stock prices**	**Navigation**
Communication in general	**Find locations locally**	**User-friendliness**	**Operative system**	**Quantifying health**
Fitness tracking	**Monitoring sleep / sleep analysis**	**Convenient**	**Lacking concrete value**	**Too bulky design**
Too thick	**Same thickness as classical watch**	**Reliability**	**Intuitive interface**	**GPS functionality**
3G/4G connectivity	**Just a trend**	**It's a downgrade**	**Lacks brand value**	**Battery life**
Too many devices	**Standalone product**	**Just another gadget**	**Uncool**	**Value for money not very impressive**
Lacking functionality	**3G connection is mandatory**	**Good materials**	**Minimalistic design**	**Esthetics**
Lacks good speech-to-text app	**Choose between different designs**	**Don't care about trends**	**Brick-like design**	

Figure 4-10: "Codes from interviews"

Grouping codes in themes and labelling:

In this step of coding and conceptualizing, we grouped codes that had connections between them. *Theme 1* (design) is an aggregation of everything concerning the physical design of the smartwatch (e.g. thickness, display size, materials etc.). In addition to being attributes, some of these codes also express a subjective opinion of that attribute related to smartwatches in general (e.g. they are too thick, battery should last at least one day etc.). *Theme 2* (battery life) consists of all codes related to the battery life and charging of smartwatches.

As seen in codes (and the transcript), several respondents were asked about the minimum length of one battery charge, after indicating that this was of importance to them. Most of them said that it had to have enough power for *at least one day*. *Theme 3* (emotional) is a bit of a wide-ranging theme as it consists of respondents' general opinions of smartwatches and reason as to why they do not own one. *Theme 4* (fitness tracking) is codes related to any kind of fitness tracking. *Theme 5* (entertainment) is an aggregation of all (media) apps related to any kind of entertainment, whether that is from social media, music etc. *Theme 6* (applications) consists of general utility that respondents have mentioned during the interviews. *Theme 7* (Interface) consists of all OS and interface related mentions. *Theme 8* (3G/4G connectivity) is an aggregation of all mentions related to smartwatches being a so-called standalone product, a product that can access the internet without being connected to a smartphone via Bluetooth.

Lastly, note how four of the themes (design, battery life, fitness tracking and 3/4G connectivity) are also the attributes tested in the conjoint analysis. Furthermore, *fitness tracking*, *design* and *battery life* are three themes/attributes that were also identified in the text analysis (see 3.5.1).

Theme 1 (Design)	**Theme 2 (Battery life)**	**Theme 3 (Emotional)**	**Theme 4 (Fitness tacking)**
- Display not big enough - Brick-like design - Good materials - Minimalistic design - Esthetics - Too bulky design - Too thick	- Battery life - Fast charging - Battery last at least one day	- Just a trend - Technology not yet there - Value for money not impressive - Lacking concrete value - Limited usability	- Quantifying health - Fitness tracking - Glorified step counter - For sporty people
Theme 5 (Entertainment)	**Theme 6 (Application)**	**Theme 7 (Interface)**	**Theme 8 (3G/4G connectivity)**
- Music control - Updated stock prices - Social media apps - YouTube videos - News	- Navigation - GPS functionality - Find locations locally - Sleep analysis - Messenger - Communication - Notifications	- User-friendliness - Operative system - Intuitive interface - Accessibility	- 3G/4G connectivity - Standalone capability - 3G connection is mandatory

Figure 4-11: "Themes from interviews"

Ranking themes:

After grouping the codes into themes, we labelled the themes accordingly. We only asked respondents to rank themes/codes they had mentioned themselves, when asked about what functionality they could see themselves use if they owned a smartwatch. In some cases, the respondent might have indicated or indirectly mentioned functionality or *use cases* that required e.g. standalone connectivity (3G/4G), we would then follow up with a question concerning the relative importance of this feature/attribute, although the respondent had not directly mentioned this feature/attribute. As seen in the table below, this happened in several interviews, resulting in more rankings of i.e. connectivity compared to the other themes.

We only included themes or codes that had been ranked by two or more respondents. In the table below, all the ranks given to each theme/code is listed and an average rank has been calculated. These findings will be used in the analysis to show the relative importance of the different pains, gains and jobs (Osterwalder, et al., 2014). Some of the attributes ranked below are codes rather than theme, since they are specific or single purpose applications. However, since they were directly mentioned by more than two respondents, they have also been ranked and therefore included below.

Themes	**Ranks given (0-10)**	**Average rank (0-10)**
Design (right thickness and right screen size)	9, 8, 7, 10, 7, 7	8
Battery life (last at least one day)	7, 3, 10, 8, 7	7
Fitness tracking (availability of fitness tracking)	2, 8, 0, 6, 8	4,8
3G/4G connectivity (standalone product)	5 (10)[44], 7, 10, 8, 10, 10, 7 (10), 10, 5	8 (8,8)
Music (application) (music control)	9, 10, 9	9,3
Navigation (application)	8, 8	8
Notifications (application) (possibility of displaying notifications)	10,3 (10), 10	7,6 (10)

[44] Ranks in brackets are the ranks in case the smartwatch was intended to replace the smartphone (as a standalone product) instead of functioning as an extension.

Finally, themes and codes can we viewed as input into *pains*, *gains* and *jobs* – which will ultimately form the customer profiles.

4.2.2. Analysis: Creating customer profile

In this analysis, we wished to utilize our qualitative findings to create customer profiles (Osterwalder et al., 2014). What we have here is new knowledge about the world, from the perspective of the participants in our study, and we seek to take this knowledge and examine it within the theoretical framework of the literature, to create new insight into the preferences of the chosen sampling group.

Contrary to the quantitative analysis conducted using conjoint analysis, we did not have enough respondents to create segments within the sampling group, thus create separate customer profiles for these segments. Instead we have created two customer profiles related to two different *use cases,* based on all the findings from the interview respondents. The first *use case* is *smartwatches as an extension* to smartphones, and the second use case is *smartwatches as a replacement* of smartphones. As also mentioned in *findings*, attributes were ranked and mentioned differently when considered in different use cases. Since this thesis seeks to examine how to achieve better product/market-fit in a stagnating market, and the market currently consists of products that require a smartphone for internet connectivity, examining customer profiles for both use cases seems highly relevant. In summary, we will create two customer profiles addressing the two *use cases* described above. Each customer profile will consist of codes and themes related to that specific use case.

To create the customer profiles, we have used both *single* codes and themes. This could we viewed as a two-step interpretation process, in which we have first coded the transcripts and extracted the most relevant codes and themes, followed by an interpretation of these codes and themes into pains, gains and jobs.

It is relevant to examine both use cases and not just the current one (smartwatches as extension) because of the technological development, hitherto powered by Moore's Law[45] of shrinking transistors and growing computational capabilities, are rapidly changing the game of personal electronic devices. For about a decade, we have been increasingly accustomed to being constantly connected to the world via our pocket computers (smartphones). However, by looking at the research findings, or glancing at the current trends in electronic devices, there are strong indications that wearables will eventually compete with smartphones over our attention.

[45] MIT Technology Review, ''Moore's Law Is Dead. Now What?'' by: Tom Simonite, Link: https://www.technologyreview.com/s/601441/moores-law-is-dead-now-what/ [visited 20-07-2017]

8 of 9 respondents directly or indirectly indicated that they could see smartwatches partially or fully replace their smartphones with smartwatches within the next five years. And with the increasing technological possibilities, we argue that it is highly relevant to examine a use case where smartwatches will indeed replace smartphones.

Some of the pains, gains and jobs do not appear in the *ranking*, since they were not explicitly ranked during the interviews. However, after reviewing the coded transcripts we have concluded that not included them in the customer profiles would be a mistake, as they are in fact mentioned directly and indirectly by several respondents. This is an example of one of the many challenges of interviewing – there is always the risk of missing a potential follow-up question or point during interviews (Kvale, 2009).

The ranking of pains, gains and jobs has its limitations since there is a substantial spread in the numbers of ranks for each attribute.

Customer profile #1: Smartwatch as replacement

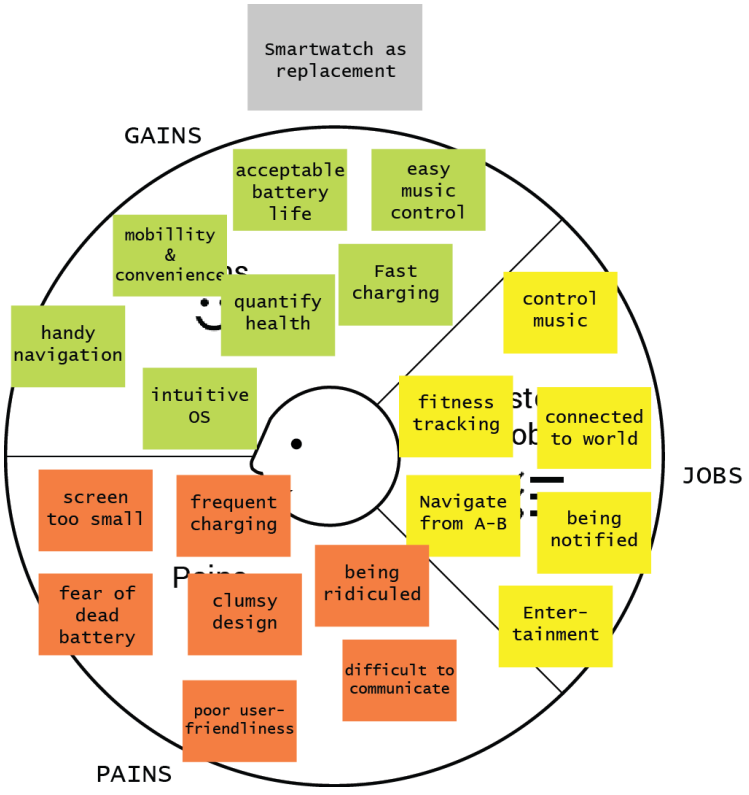


Figure 4-12: "Customer profile #1 (smartwatch as replacement for smartphone)"

In situations where customers are looking to replace their smartphones with smartwatches permanently or occasionally, the requirement for functionality increases a lot, compared to situations where the smartwatch will function as an extension to the smartphone.

We will go through pains, gains and jobs and comment on *how* and *why* we have come to the conclusions we have during our analysis of the findings.

Jobs

As described in the *literature review*, jobs gather all the customer's needs, the problems they are trying to solve and the tasks they are trying to perform or complete (Osterwalder et al., 2014). Examining the findings, we saw that controlling music was one of the more frequently mentioned tasks that the respondents could see themselves use a smartwatch for. Fitness tracking was also mentioned by most of the respondents, although the relative importance of this job was the lowest (see ranking #1). Being entertained was also important, whether that meant listening to podcasts, music etc.

If the smartwatch was to replace the smartphone, notifications (being notified) was one of the top concerns related to jobs, this makes sense this the smartwatch is in this case functioning as your primary and only device, thus you do not have an additional device notifying you about messages, incoming calls etc. Navigation was also mentioned by most of the respondents as a valuable and important job. Finally, being connected (having a 3G connection) was crucial if the smartwatch was to function as a standalone product.

Pains

Pains gather all the negative emotions and undesired costs, situations and risk which the customer could experience before, during and after the job is done (Ibid.). The first *pain* had to do with the small screen size, this was pointed out by respondents as a hindrance to watching YouTube-videos (entertainment), reading long emails etc. In a situation where smartwatches should overtake the jobs of a smartphone, respondents were afraid that the small screen would be inadequate. In the same theme (design), we find another pain, *''too clumsy''*. Several respondents mentioned the thickness or ''clumsy'' look of smartwatches, and viewed this as having a direct impact on their willingness to buy a smartwatch. *Frequent charging* and *fear of dead battery* are both related to the battery life, and was also mentioned several times. An interesting find regarding battery life was that respondents seemed to settle for shorter battery life if the smartwatch was to replace their smartphone, and/or if supported by *fast charging*[46]. However, the battery had to last for at least one day of full use. This might have to do with the fact that most customers are already used to charging their smartphones every 24 hours or so. A few respondents feared that the lacking brand value and the ''gimmicky/gadgety'' image of smartwatches might make friends ridicule them when wearing the smartwatch in public.

[46] Fast charging is a technology that can charge approx. 70% of the battery in approx. 15 minutes. It is a common feature in new generation smartphones.

Poor user-friendliness was also mentioned as a concern, since the large amount of functionality in such a small device could result in interface challenges. Lastly, since there is not much room for a keyboard on smartwatches, respondents are concerned that communication could be difficult, since you would need a Bluetooth headset to conduct calls and a speech-to-text application to ”write” messages and emails.

Gains

Gains gather all the customer’s benefits and desires (Ibid.). In contrary to battery life being a possible pain, it might as well be a gain, provided that the *battery life is acceptable* and the smartwatch has *fast charging*. Enhanced mobility and convenience was also mentioned during the interviews as a possible gain of having a smartwatch, especially for people with certain professions. Although not mentioned as much as we had initially expected, the quantification of one’s health through fitness tracking was also among the mentioned gains. More convenient *control of music* as well as more accessible *navigation* were two frequently mentioned gains amongst the respondents. Lastly, in contrary to the pain regarding user-friendliness, an *intuitive OS* (operating system) was mentioned as a gain.

Ranking #1

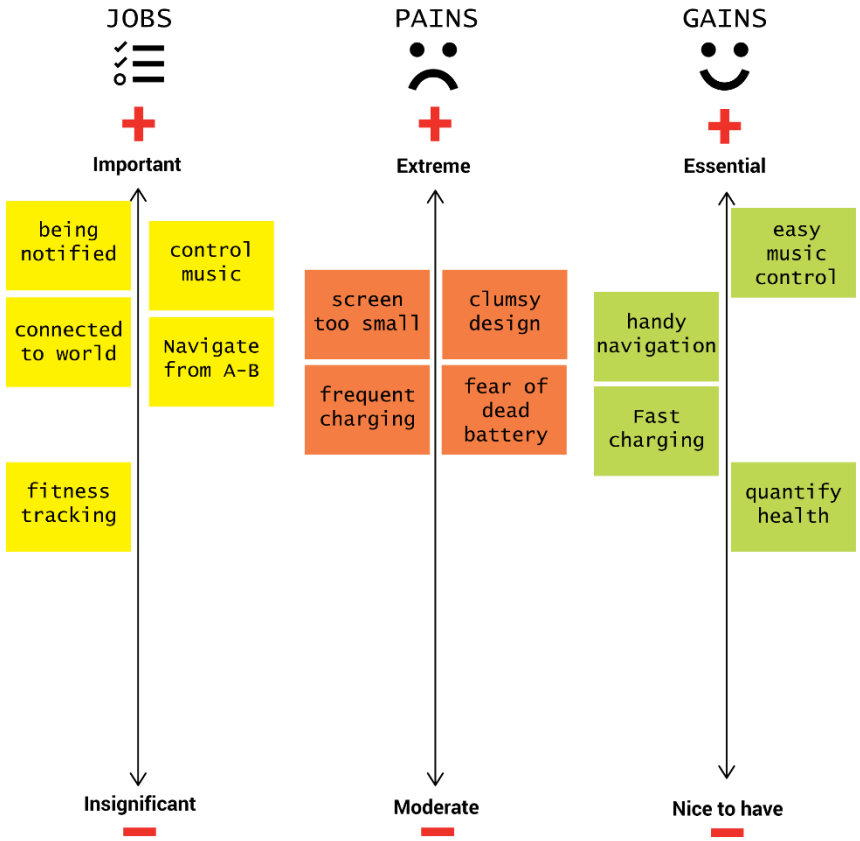


Figure 4-13: "Customer profile Ranking #1 (smartwatch as replacement to smartphone) "

Above are the rankings of (some) jobs, pains and gains. The ranking is important as it will create insight into which jobs, pains and gains will have the highest relative value for the customers when deciding on one's *product or service* (Ibid.).

Customer profile #2: Smartwatch as an extension

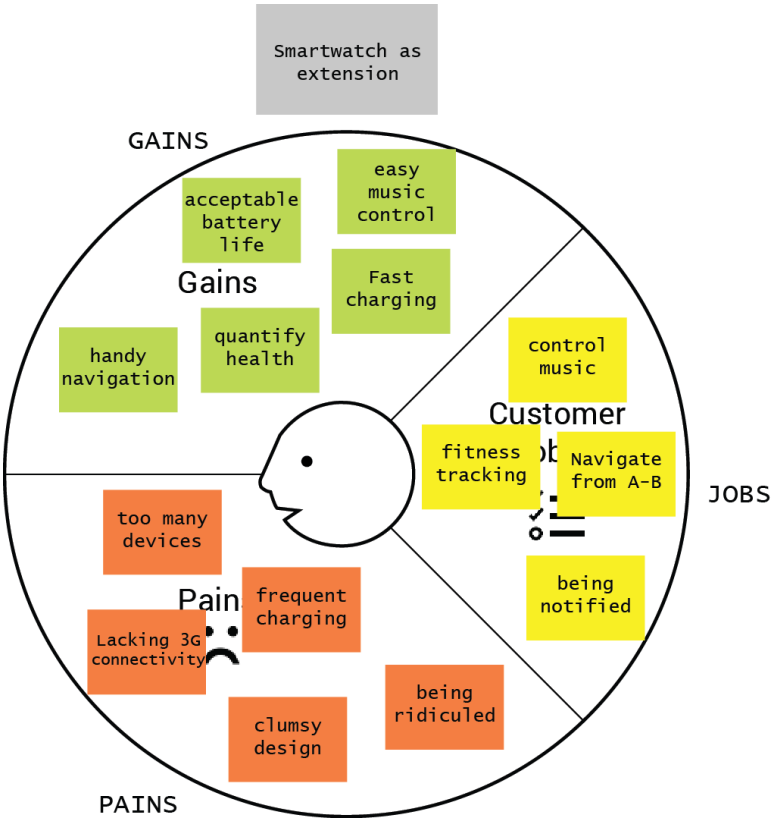


Figure 4-14: "Customer profile #2 (smartwatch as extension to smartphone)"

Customer profile #2 is based on a situation in which the customer intends to use the smartwatch as an extension to a smartphone. Naturally, many of the pains, gains and jobs from customer profile #1 is also represented in this customer profile. However, the underlying rationale might differ from that of the first profile, which will be more thoroughly elaborated on below. It is worth mentioning, that most of the respondents was not willing to by a smartwatch if it did not have a 3G connection.

Jobs

In this use case, *control of music* was mentioned by several respondents as one of, if not the primary job they were looking to solve (find a better solution for). *Navigation* was also amongst the top mentioned jobs. Getting notifications was mentioned as a job they expected the smartwatch to solve. Fitness tracking and being able to keep track of health was also amongst the jobs to be done.

Pains

Three of the pains are similar to customer profile #1. A pain unique for this customer profile is *too many devices*. Several respondents mentioned or showed frustration associated with having yet another electronic device to carry around. Most respondents mentioned that smartwatches in their current form (as extension) ads no or insignificant value because of lacking (unique) functionality. This might very well be related to the last pain, *lack of 3G connectivity*. We have included this although the use case does not actually need it, but because the consensus amongst the respondents was that relying on a Bluetooth connection to your smartphone for internet is a concern regardless of the use case.

Gains:

Two gains were especially important to the respondents in a use case: navigation and music control. Two respondents said that having navigation on your wrist compared to holding your phone, would enhance safety when using navigation while cycling or driving - why this would be a positive outcome of using a smartwatch to complete their job of navigation. Similar, the easy access and control of music was a clear gain for respondents.

Ranking #2

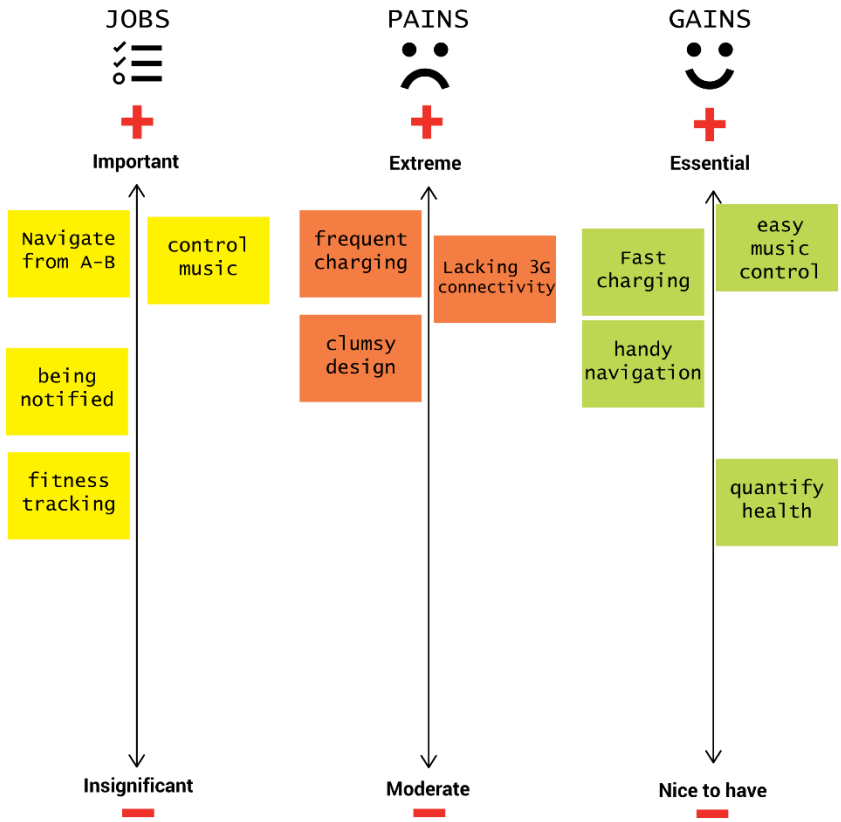


Figure 4-15: "Customer profile Ranking #2 (smartwatch as extension to smartphone)"

4.2.3. Sub-conclusion

The general sentiment and conclusion from the interviews is that the first and current generation of smartwatches has lacked functionality and value. The respondents seem to agree that smartwatches need either (valuable) functionality that does not already exist in smartphones and/or a 3/4G connection to make them standalone products, and potentially replacements to smartphones. In conclusion, according to most of the respondents, smartwatches have not had their existence legitimized yet, and to do so, manufacturers must a) achieve greater radical innovation and invent functionality that is valuable and unique to smartwatches and/or b) implement 3/4G connectivity and improve on communications applications to make smartwatches a possible replacement to the smartphone.

5. Discussion

In this chapter, we discuss what our findings in our analysis means, what value they can bring and why. We start out by discussing the findings of the conjoint analysis, followed by a discussion of the findings in the interviews. Hereafter, we discuss how the different findings together both adds and subtracts to any conclusions with regards to what can be done to improve the product/market-fit in the smartwatch industry with regards to early adopters. Thereafter, we offer problem/solution-fits based on these discussions, to which we believe we have established some support for, would result in products, which have a better product/market-fit. Lastly, we discuss how these findings can have other applications than product development, namely for marketing and communication purposes.

5.1. Conjoint Analysis

As stated under biases, there might be a negative price bias and a positive battery bias, since they are both 3-level factors (Green & Srinivasan, 1990), and price was largely emphasized in the design of the experiment. That being said, these findings in themselves offer some value towards new product creation, and thusly an improved product/market-fit.

Firstly, to about 75% of our respondents, interchangeable straps had close to zero utility for them. If we assume that this trend would replicate in a more representative study, this would render making designs with interchangeable straps completely redundant for 75% of the market – and since the remaining share of the market would always prefer a cheap fitness tracker over everything else, this could be largely erased from any designs in smartwatches for early adopters.

In retrospect, we see that 4 days battery life has a generally large utility to the respondents. This might be due to either the emphasis on a three-level factor, however we suspect that it might also have been influenced by the perception of the attribute itself. Though we do not have any support for this claim, we suspect consumers might be used to retailers promising up to 24-hours standby, which means that with use, the product is depleted in less than a day. If it has been phrased as “at least 1 day”, or with a buffer called “2 days battery life”, the results might have been different. For half of the respondents (Segment 2), battery life was shown to be the most important attribute other than price. With the high utility from going from 1 day to 4 days battery life, it emphasizes the importance for producers to be able to provide a product which has a long enough battery life.

Seeing that this half of our respondent's value price, battery and stand-alone connectivity as their top three attributes, and that the two largest Danish electronics retailers, Elgiganten and Power[47], neither of these retailers provide any smartwatches with stand-alone connectivity, and their prices are closer to the DKK 2.999 mark, there is some support that the product/market-fit could be improved by introducing affordable (not necessarily cheap) smartwatches with standalone-connectivity. Adding to that, fitness tracking does have some importance to this segment, but could potentially be left out of the design – since the respondents would always choose stand-alone connectivity over fitness tracking, in a case of either/or, products with standalone-connectivity would almost always win, all else being equal. From a production standpoint, focusing on getting standalone-connectivity right, instead of focusing on developing better fitness trackers, looks like a good investment from the data we have. Most positively for smartwatch producers, the design constraint in the size of the watch, is not so prevalent for this segment, which means that they can provide almost max utility, without having to make the smartwatch slim.

Looking at the first segment, this segment could be what we call the "Apple Watch"-segment. Even though they might not have bought an Apple Watch yet, they seem to be the segment, which would prefer the Apple Watch over other products. Apple Watch is slimmer than most other watches, but generally suffers from low battery life. However, battery life is not in top three in the case of this segment, which means that an Apple Watch probably is a good enough product for this segment. As can be seen, they are more than willing to pay the high prices, if they get a watch which is slim in return (-3,4U vs. 4.4U). These also value standalone-connectivity to some extent, but would almost always prefer the longer battery time. With biases taken into account, or with a rephrasing of the attribute to "at least 1day battery life", this segment might also show preference for a smartwatch with standalone connectivity, which lasts for at least one day.

The third segment, as stated in the analysis, could just as easily buy a fitness tracker, based on our observations. Almost all their utility is based on the price, battery and fitness tracking, with fitness tracking being the most important one. These respondents might not find enough added value from a smartwatch over a fitness tracker (of course without taking into account other attributes, which were not measured against). These are already being well served in the market, with products like FitBit, Xiaomi etc.[48] In short, based on our conjoint analysis, this segment is already being catered to, meaning that it is most likely not here the product/market-fit needs to be improved.

[47] Smartwatches on Elgigaten and Power, Links: https://www.elgiganten.dk/cms/wearables-digitalur/smartwatch/# [Visited 29-08-2017] https://www.power.dk/search/?q=smartwatch [Visited 29-08-2017]
[48] Fitbit and Xiaomi smartwatches, Links: https://www.fitbit.com/dk/home [Visited 29-08-2017] http://www.mi.com/en/ [Visited 29-08-2017]

5.2. Interviews

We identified two meaningful use cases through our interview. The pains, gains and jobs differed depending on, what the interviewee were to use the smartwatch for. Starting with the smartwatch as an extension, easy music control, fast charging, and navigation were the most essential gains and jobs. The most extreme pains were “frequent charging” and “lacking 3G connectivity”. The utility these respondents derive from having a high battery life, or at least being able to charge it quickly, matches the overall results from the conjoint analysis. What was the common theme however, was that most respondents found that the added value of the being able to navigate on your watch or control your music was not nearly enough value to warrant a purchase.

The respondents from our interviews mostly resemble the second segment from our conjoint analysis – high focus on standalone connectivity, battery and price. Generally, when we look at the interviews, the answers are in accordance with the Ericsson study (Ericsson, 2016). People expect there to be some sort of inbuilt connectivity, even when they would use it as an extension for their smartphone.

None of the interviewees owned a smartwatch already, so their answers with regards to controlling music and navigating from A-B might be misleading. By that we mean, that since they have not yet established any connection with the product, they would not be able to determine whether the current software and user interface is adequate. There is the risk that spending more time developing these aspects of the smartwatch would not be feasible. In essence, we have some support that navigation and music control are paramount to the smartwatch value, but that we cannot say if the current software and interface is adequate. It was mentioned as important factors for both use cases as important factors, so making sure that the user interface is excellent in this matter. However, we cannot say if the current interfaces are deemed excellent by the user.

An interesting observation was that the respondents were more averse to low battery life, if the smartwatch was only to be used as an extension of the smartphone. The pain of having too many devices was mentioned specifically by an interviewee. Though we cannot say it with certainty, there seems to be an effect that, if the watch is to extend the smartphone, it becomes a pain having to charge it often, because “I am already charging one device daily – now I have to charge one more”, whereas when it replaces it, this aversion lessens. We suspect that this is because either can be charged to be connected to the world, to receive calls and so forth. I. e. if one runs out of power, you still have the other one. Whereas without stand-alone connectivity, you must charge your both your phone and smartwatch, no matter what, in the case of a replacement, you can charge either. However, this is only speculation.

If we look at the smartwatch as a replacement for the smartphone, the importance the interviewee put on their pains, gains and jobs are changed. Since they can no longer get notified on their phone, being notified becomes the most important job they have. Controlling music and navigating are rather constant, understandably since these pains, gains and jobs were highly relevant in the case of the smartwatch being an extension.

As we highlighted in "2.1.1 Critique of Value Proposition Design", doing as Alexander Osterwalder does in a lecture, in which he uses electric cars as an example[49], would warrant the creation of the two different customer profiles as done in our analysis. However, as we point out in 2.1.1, fully understanding the customer must be done *outside a specific value proposition* (as we believe is originally stated in Osterwalder et al. (2014)) *but inside relevancy*. Therefore, creating a customer profile, which extends outside the product group will create a better picture of how added value can be created. The value proposition of a smartwatch as an extension with an accompanying smartphone vs. a smartwatch as a replacement and a *sometimes* accompanying smartphone should be seen as direct substitutes, which means per our previous argumentation, that the customer should be understood at a higher level of analysis. Thusly, "being notified" does not come from the fact that it is important, with the smartwatch as a replacement – it comes from the lack of a smartphone. The same most likely also results in a larger "fear of dead battery", and a higher importance put on "fast charging". The smartwatch as a replacement starts moving up to a new level of analysis, which means that it is competing with smartphone. And in competing with smartphones, it has to relieve the same pains, create the same or gains and solve the same jobs – or add something else of equal or greater value. The reason why these points become important is because they are no longer having these pains, gains or jobs relieved by the smartphone – which, based on the amount of replacement, put an even higher pressure on the smartwatch. The convenience factor or potential gain of "not having to carry around cellphone", combined with "mobility and convenience", and the such, will have to be perceivably higher for the smartwatch to have a high amount of replacement.

With the focus here on battery life as well, we expect this to be a constant – at least one day of use. For the smartwatch to start functioning as a stable replacement for the smartphone, in everyday life, it has to be able to do go for at least a day. From going to work in the morning, to coming back late in the evening – battery is imperative, and especially because a "maybe one day" feeds into the "fear of dead battery".

[49] Alexander Osterwalder, Value Proposition Design, 2017, Link: https://www.youtube.com/watch?v=b_X18bmpHaw [Visited 30-08-2017]

5.3. Ways to improve the Product/Market-Fit

So, how can the product/market-fit be improved? Since the first and third segment from our conjoint analysis are probably already well served by the offerings in the market already, and that the second segment and the interviewee's put a high emphasis on standalone connectivity, together with the Ericsson (2016) report, the obvious answer should be to add standalone connectivity. Also, with the high preference for longer battery times in both the conjoint analysis and interviews, making battery life reach an acceptable level of having to be recharged less than daily falls under other obvious answers based on our data. Though the second segment in our conjoint analysis put little emphasis on the thickness of the watch, the interviewee's put emphasis on avoiding being ridiculed and making sure that the design was not clumsy. The simple answer to the question, of how the product/market-fit can be improved would thusly be to add stand-alone connectivity, in a watch with longer than one-day battery life, which does not have a clumsy design. This with a "maybe", on focusing on improving the interface surrounding navigation and music control, however we cannot say if these are already at "good enough" levels.

Whilst the short answer has support in our data, the question of the smartwatch as a(n) (occasional) replacement for the smartphone remains. With the use case of the smartwatch as a replacement, we suspect that the smartwatch will need to perform on more factors than just stand-alone connectivity, battery and a non-clumsy-design. Since its competing against the smartphone for relieving pains, creating gains and solving jobs, there will have to be situations in which the value proposition of a smartwatch by itself, will have to compete with the smartphone, and with a smartphone and a smartwatch. Taking everything from both analyses, and combining it with the adjustment we made to the model in "2.1.1 Critique of Value Proposition Design", we create three cases which emphasizes the point we are making. On the following pages are 3 cases.
The first case is a standard smartphone by today's standards.
The second case is the value proposition a smartphone combined with a smartwatch. The smartwatch has fast charging, is designed well enough to be non-clumsy, it has intuitive navigation and music control, and fitness tracking (which is representative of what is in the market at the moment). The smartphone is a standard smartphone by today's standards.
The third case is the smartwatch that we propose, will possibly improve the product/market-fit, with an acceptable battery life of more than one day, non-clumsy design and, standalone connectivity and intuitive music and navigation control.

Case 1: A regular smartphone

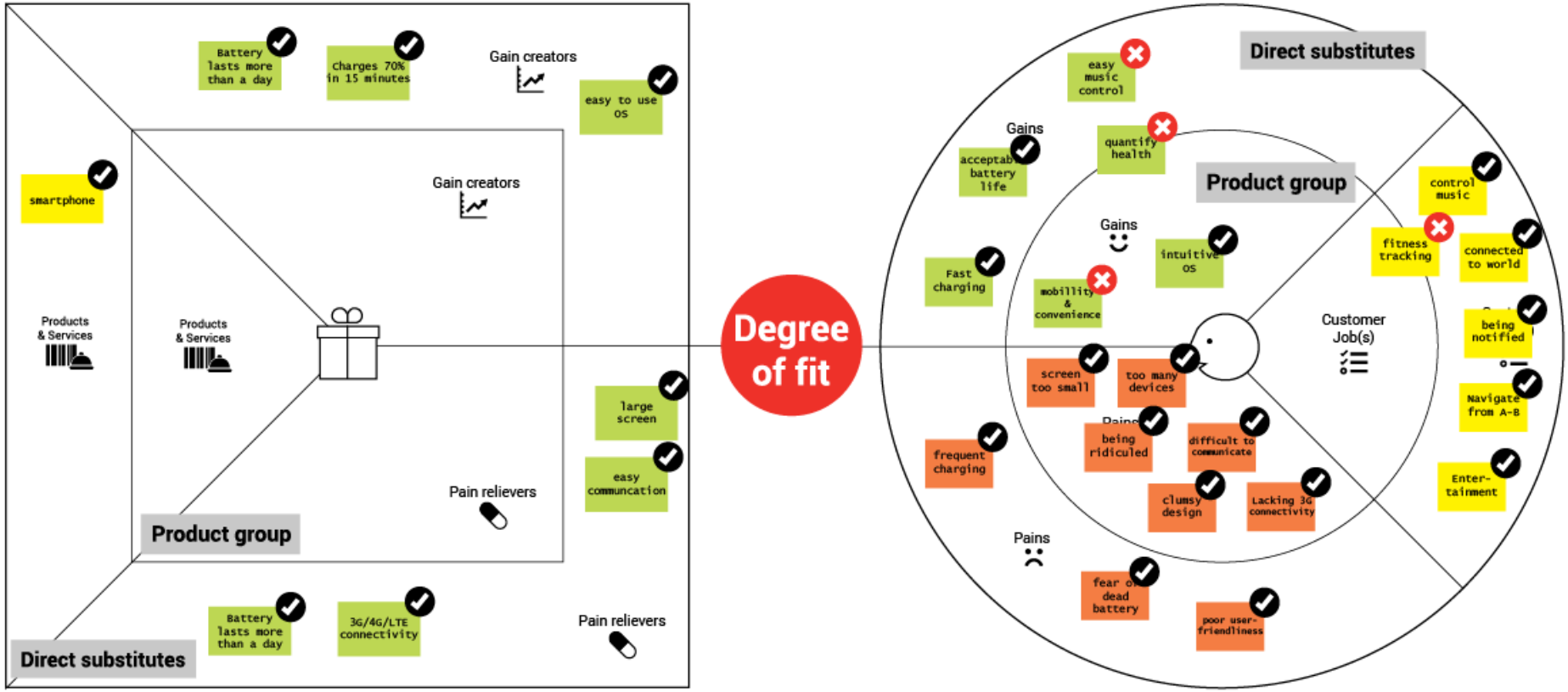


Figure 5-1: Problem/solution-fit of a regular smartphone

The smartphone takes care of most pains, gains and jobs in the two layers. The screen is big enough for entertainment, the customer can navigate from A-B, get notified, be connected to the world, control music, but cannot track their fitness (which scored low in importance of our interviewees). It meets all the needs for battery, mitigates the pains of poor user-friendliness, of having too many devices, there is no way to be ridiculed, and it's easy to communicate from. What it lacks is mobility and convenience, which the smartwatch has, the fitness tracking, and the easy "on-the-go" music control (and navigation for that matter).

Case 2: A regular smartphone with regular smartwatch

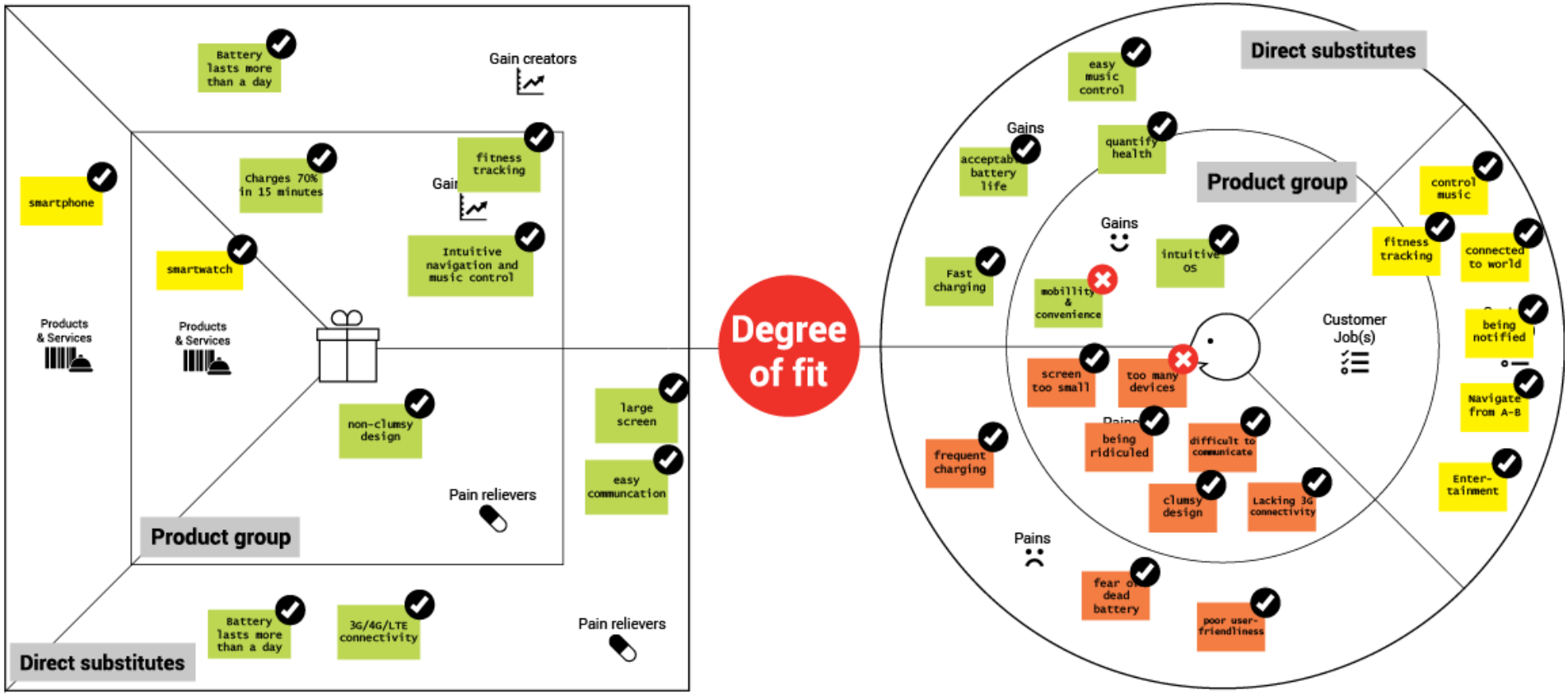


Figure 5-2: Problem/solution-fit of a regular smartphone and regular smartwatch

In this case, the smartwatch is added. The value proposition now supports both easy music control, fitness tracking and health quantification. However, it does still not have the mobility and convenience because they still need to carry their pohne, and now has the pain of the person having too many devices with them. Since fitness tracking and health quantification has a low impact on the perceived value, the degree of fit has not increased much (based on our interviews, and half of our conjoint analysis respondents). Music control ranked high, as an essential gain from the smartwatch, which might add to the degree of fit, but as the interviewee's said, this alone isn't enough to warrant a purchase.

Case 3: An optimized smartwatch

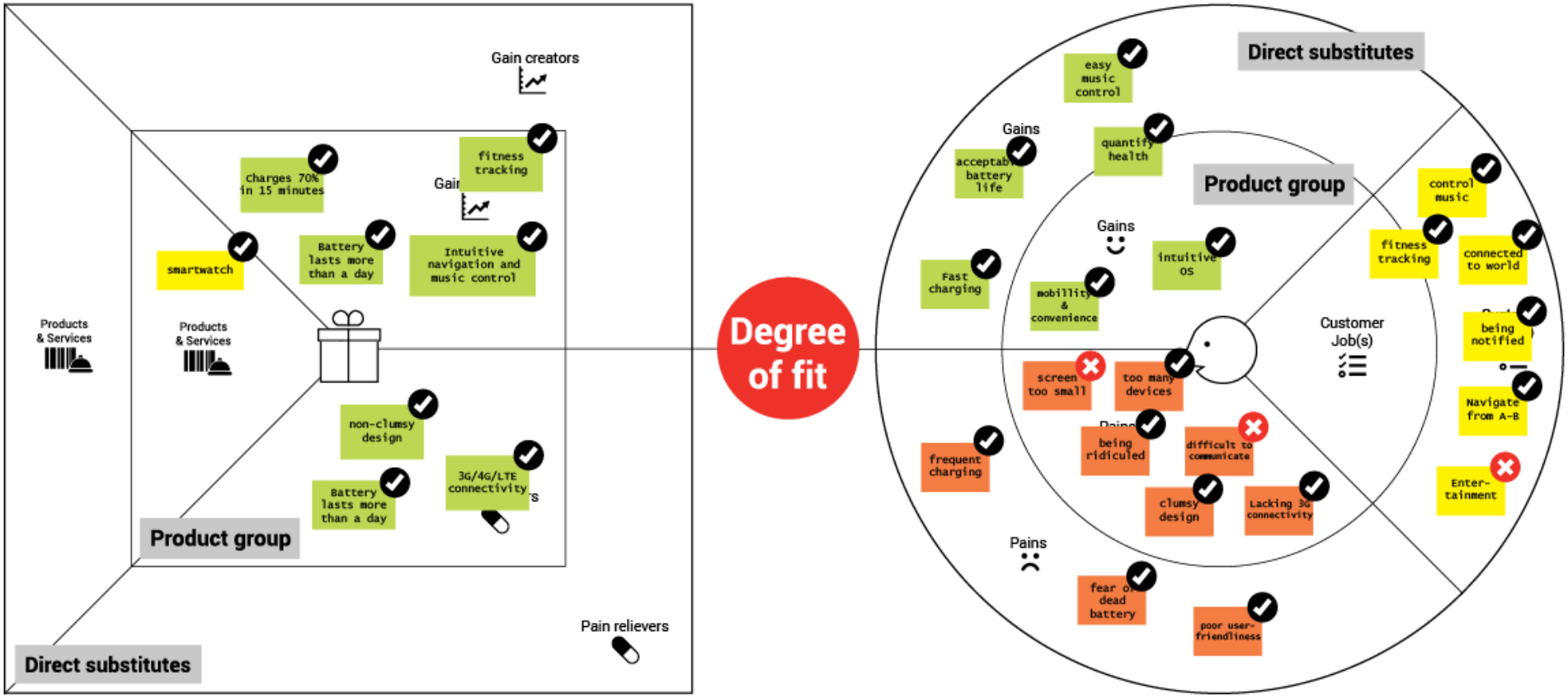


Figure 5-3: Problem/solution-fit of an optimized smartwatch

The problem/solution-fit of a smartwatch optimized according to our findings, will solve all the jobs except entertainment, relieve all the pains, except the screen being too small and it being difficult to communicate, and will create all the gains we could create based on the interviews. What it essentially means here is that, there has to be situations in which the job of entertainment, the screen being too small, and it being difficult to communicate has low enough importance, and that the gain of mobility and convenience, and not having too many devices at hand at the same time has a relatively higher importance for this to be a better value proposition than both the smartphone and the smartphone + smartwatch combination.

This means that the long answer to the question of how the product/market-fit can be improved with Danish early adopters based on our data, is the following: By creating a product, which is non-clumsy, has standalone connectivity and a longer battery life than a day, and market this problem/solution-fit towards consumers who are in situations, where the need for the larger screen, and being entertained has less importance than mobility and convenience. The degree of product/market-fit will then depend on how often these customers find themselves in that situation, with more often meaning a better problem/solution-fit, and therefore a possibly better product/market-fit.

5.4. Other applications

Value Proposition Design finds usage not only in new product development. Based on our data, a marketer can create ad campaign surrounding the specific pains, gains and jobs they are solving with their product. Using the example of the first segment from the conjoint analysis. They prefer slim watches over thick watches about everything else, in combination with fitness tracking. This should be reflected communication through their marketing channels, if these want to market to this specific segment. On the product website, they could focus on its fitness tracking capabilities, in combination with it being as slim as a normal watch. In their ad campaigns, it should be included as part of the value proposition they are proposing - “Track every heartbeat, with the slimmest of smartwatches”.

For retailers selling smartwatches on their website, they can highlight the aspects, which are most important to the customers. As shown in 3.5, Elgiganten show three different attributes of their product, when these are moused-over. These three attributes should be the most important ones to the customer. For example, if Elgiganten wants to market to segment 2, what is most important to them attribute-wise, should be shown there – battery, connectivity, fitness tracking (if it has such).

6. Conclusions

What attributes of smartwatches does Danish early adopters show preference to?

Through our conjoint analysis experiment we find that on the aggregate, the top 3 attributes, which can explain most preference of a smartwatch over any other in potential Danish early adopters of technology are in order from the top; price, battery and fitness tracking.

Do Danish early adopters have homogeneous preferences?

As we researched individual preferences, we could use agglomerate clustering to create segments based on the individual preferences. If separated into three segments, the preferences of the individual segments were different. The first segments (n=10) top three attributes, which had most importance in explaining preference of one product over another, were “watch thickness”, “fitness tracking” and price. The second segments (n=21) top three were price, battery life and “standalone connectivity”. The third segment (n=8) had “fitness tracking” price, and battery life as their most important attributes. These findings were especially interesting since we suspect that the first segment can be satisfied with Apple Watch’s offerings, with it being a slim watch with fitness tracking, albeit on the deer side. Also, that the third segment could as easily have their needs met by any ordinary fitness tracker like FitBit. We therefore conclude that the second segment of more than half of the population, was were the product/market-fit could most easily be improved, and that said product/market-fit would most easily be improved by offering affordable (around DKK 2.000) smartwatches with stand-alone connectivity, and a battery life of more than 1 day.

What relevant pains, gains and jobs to be done does Danish early adopters have?
What are the importances of these pains, gains and jobs to be done?

Through our interviews we identified two meaningful use cases for the smartwatch. One use case was the use of the smartwatch as an extension, another use case was the use of a smartwatch as a replacement of the smartphone. In the case of using the smartwatch as an extension, we identified “control music”, “navigate from A-B”, “being notified” and “fitness tracking” as relevant jobs. The relevant gains were “acceptable battery life”, “easy music control”, “fast charging”, “health quantification” and “handy navigation”. Of relevant pains were “too many devices”, “frequent charging”, “lacking 3G connectivity”, “being ridiculed” and “clumsy design”. When asked, the most essential jobs were “navigating from A-B” and “controlling music”. The most important gains were “fast charging” and “easy music control”. The most important pains were “frequent charging” and “lacking 3G connectivity”, showing that even in this case, standalone connectivity was of high importance.

In the other use case of the smartwatch as a replacement, we identified the same jobs, pains and gains, however with additional pains, gains and jobs, since it was now competing with the smartphone as well. The additional jobs were being “connected to the world” and “entertainment”. The additional gains were “mobility and convenience” and “intuitive OS”. The additional pains were “screen to small”, “fear of dead battery”, “poor user-friendliness” and “difficult to communicate”. The two most important jobs were then “being notified” and “control music”. The two largest pains were “screen too small” and “clumsy design”. The two most important gains were “handy navigation” and “easy music control”. However, the results with the regards to the importances asked about in the interviews were incomplete, since the interviewees were not asked to rank all pains, gains and jobs.

How can the product/market-fit between Danish early adopters and smartwatches be improved?

Since the interviews were by and large the same results we obtained with regards to the second segment of our conjoint analysis, we concluded that the short answer to the question, of how the product/market-fit with smartwatches and Danish early adopters could be improved, was to offer a smartwatch with a non-clumsy design, stand-alone connectivity, a battery whilst lasts for more than a day, and easy music and navigation control. However, we could not say whether the current offerings are providing easy enough music and navigation control, since none of our interviewees already owned a smartwatch.

From the two use cases derived from the interviews, we created one customer profile, based on the notion that these pains, gains and jobs were relevant, no matter the use case. However, the missing pains, gains and jobs were not identifiable with the smartwatch as an extension, since some of these were already met by the smartphone. We created value propositions based on a regular smartphone, a regular smartphone and a regular smartwatch, and an optimized smartwatch. With the complete customer profile and our value propositions we created problem/solution-fits. These problem/solution-fits showed that even in the case of the creation of a smartwatch, which should improve the product/market-fit, based on our data, it will come down to whether the individual situationally finds more value in mobility and convenience, health quantification and easy music and navigation control than they do in being entertained and having easy communication through the phone.

6.1. Implications for practice

Firstly, we would like to make it clear that our results are indications of what the market wants, and are not of such quantity that major business decisions should be based hereon.

However, we do find indications that producing and selling smartwatches with standalone connectivity and being able to offer this in a "non-clumsy" manner, with a longer than a day's battery life would increase adoption. Since it seems that producers are not yet able to provide a smartwatch with a small enough battery, with a long enough battery life, without the watch bordering to clumsy, practice should perhaps invest in R&D surrounding improving batteries. Whilst the segment, which we identified as not having a readily available product offering in the market, did not care whether the watch was thicker, we suspect that might be the case, however, avoiding large and bulky/clumsy designs should be priority. Furthermore, if businesses are performing on specific attributes with high importances, these should market their products as such. For the first segment, which showed a preference for slim smartwatches with fitness tracking, marketers should market their products with a focus on these attributes. For the second segment, marketers should focus on battery life and standalone connectivity – perhaps even with a focus on using the smartwatch as the occasional replacement for the smartphone.

Management could furthermore consider investing in making entertainment possibilities or increasing the ease with which one can communicate using a smartwatch. Since we identified that these were a job and a pain respectively, which were separating the value a smartphone and a smartwatch can bring, researching in improving these aspects of the smartwatch might decrease the situational value superiority of the smartphone.

6.2. Implications to theory

We propose that the understanding of the term "product/market-fit" needs a clear definition, which can be understood outside the terminology used solely in Osterwalder et al. (2014) and Christensen et al (2014), referring here specifically to gains, jobs and pains. We found it meaningful to make the distinction between problem-solution fit, product/market-fit and business model fit, rewriting the first two according to Rachleff's definition (Griffin, 2017). We concluded that both Marc Andreesen, Clayton Christensen, Alexander Osterwalder and Andrew Rachleff are essentially using the same term, it is just a matter of semantics and categorization. The definitions we concluded were most widely applicable were:

"*Problem-solution fit takes place when you have evidence about a homogenous segment's needs and the benefits they seek, and have created theoretical products and services which address these needs and benefits*"

"Product/market-fit takes place when you have evidence that these products and services are in fact addressing the segments needs and benefits, and is creating value for the customer resulting in adoption of your product and services in the market".

"Business Model fit takes place when you have evidence that your products and services can be embedded in a profitable and scalable business model"

With the latter being the same definition used in Osterwalder et al (2014).

An interesting find from was that extraversion and openness to experience were the best predictors of early adoption of technology[50]. Assuming Big Five personality tests take more than 20 minutes to complete, if a viable quicker alternative with a high enough reliability coefficient to the original tests (say 0.75), which tested only for extraversion and openness to experience, a better, more stable way of discerning potential early adopters from others would become available. If this study had a survey before being presented with the experiment, which contained 10-15 questions about the respondents' personality traits concerning extraversion and openness to experience, a better heuristic than "18-49 year old males in high income households" could be achieved. In our much smaller demographic, we had large variability in preferences – it would be interesting to find out whether the same variability would be found, when categorized not by demographics, but instead by personality traits.

We found that Osterwalder et al (2014)'s distinction between pains, gains and jobs works well with thematic analysis framework of Braun & Clark (2006). Osterwalder et al. (2014) in itself is a very practical approach, and focuses on an iterative process with risks of bias. By coding and thematizing interviews, we expect that researchers can be more objective in their research of customers pains, gains and jobs.

We found that expanding the customer profile into three categories – product group, direct substitutes and indirect substitutes, helps the process of understanding customer needs. Almquist et al. (2016) states that the more value levers are performed on, the better performance of product and service offering (though not stated explicitly with data). We find that it to an extent solves the problem of identifying needs widely enough around a use case, whilst maintaining relevancy.

[50] 28% of Americans are 'strong' early adopters of technology, Pew Research Center, Link: http://www.pewresearch.org/fact-tank/2016/07/12/28-of-americans-are-strong-early-adopters-of-technology/ [Visited 29-06-2017]

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8. Appendix

8.1. Text analysis

8.1.1. Data pre-processing raw files

Snippets of raw file in Excel before and after clean

Before

	A	B
1	data__children__data__title	data__children__data__replies__data__child
2	Need watch face	
3		
4		
5		
6	Bluboo xWatch.. Real?	
7		
8		
9		
10		
11		
12	No Stupid Questions Monday - (February 01, 2016)	
13		
14	Do I get the Moto 360 2 or the Pebble Time Round?	
15		
16	tell your Samsung gear s2 watch to set a timer for >2 hours, it sets it for only 1hr 39 min	
17		
18		
19	News Wednesday (February 03, 2016)	
20		
21	Interested in a smartwatch... does this exist?	
22		
23		

After

	A	B
1	Id	textvalue
2	1	No the Watch wouldn't show under Messages settings. Based on what you told me, you are se
3	2	and yet they still downvote, lol.
4	3	I have. Clearly you haven't.
5	4	Your welcome
6	5	I tried the first time on my phone, then went to my Mac to reset the security questions, on Mac
7	6	Nike sells shoes??
8	7	I wouldn't advocate for products that could potentially out you. :(But if it's something you fee
9	8	If you allow any continually dynamic content (animations, etc.). It isn't possible. There isn't a
10	9	It will be next to useless without an iPhone. You have to tether it to your iPhone to use most of
11	10	Yup.
12	11	I'm hoping it's more watch is 3 beta related than not still. But we'll see.
13	12	No problem man, glad I could help. Is it running on your watch?
14	13	Oh man... Condolences
15	14	I wouldn't be surprised if GPS were available in the next watch refresh. I hope so.
16	15	There's a place where I live called the Alpine Loop. My favorite place to ride in the Fall. I just t
17	16	You actually asked why we wouldn't be using it. I know it is popular in some places but it's al
18	17	It's M; may I ask what you're trying to determine?

8.1.1. Coding raw files

Coding (categorizing) in Excel

	A	B	C	D	E	F	G	H
1	**CONTENT ANALYSIS**							
2	**Keywords /r/ smartwatch**	**Category**	**Keywords /r/ apple watch**	**Category**		**Category**		**No.**
3	look:288	1	band:10724	1		Esthetics / design		1
4	battery:231	2	look:7849	1		Battery life		2
5	work:226	8	sport:4288	8		Fitness (tracking)		3
6	apps:162	8	black:3895	3		Price		4
7	life:157	2	screen:3869	1		Display		5
8	notification:155	7	battery:3773	5		Connectivity		6
9	price:134	4	wrist:3153	2		Notifications		7
10	screen:121	5	apps:3145	8		Utility (in general)		8
11	cheap:104	4	workout:2961	3				
12	fitness:91	3	notification:2512	7				
13	heart:89	3	activity:2224	3				
14	bluetooth:87	6	life:2186	2				
15	music:79	8	leather:2160	1				
16	sport:77	3	price:1990	4				
17	call:75	8	running:1972	3				
18	monitor:72	5	stainless:1842	1				
19	text:71	8	steel:1713	1				
20	sleep:69	8	color:1674	1				

Coding (share of mentions) in Excel

	A	B	C	D	E	F	G
1	**CONTENT ANALYSIS**						
2	**Keywords**	**# of mentions**	**Percentage**		**Keywords**	**# of mentions**	**Percentage**
3	look:288	288	11%		band:10724	10724	9,6%
4	battery:231	231	9%		look:7849	7849	7,0%
5	work:226	226	9%		sport:4288	4288	3,8%
6	apps:162	162	6%		black:3895	3895	3,5%
7	life:157	157	6%		screen:3869	3869	3,5%
8	notification:155	155	6%		battery:3773	3773	3,4%
9	price:134	134	5%		wrist:3153	3153	2,8%
10	screen:121	121	5%		apps:3145	3145	2,8%
11	cheap:104	104	4%		workout:2961	2961	2,6%
12	fitness:91	91	3%		notification:2512	2512	2,2%
13	heart:89	89	3%		activity:2224	2224	2,0%
14	bluetooth:87	87	3%		life:2186	2186	2,0%
15	music:79	79	3%		leather:2160	2160	1,9%
16	sport:77	77	3%		price:1990	1990	1,8%
17	call:75	75	3%		running:1972	1972	1,8%
18	monitor:72	72	3%		stainless:1842	1842	1,6%
19	text:71	71	3%		steel:1713	1713	1,5%
20	sleep:69	69	3%		color:1674	1674	1.5%

8.2. Conjoint Analysis

8.2.1. Introductory text in Danish

Smartwatch-eksperiment

Eksperimentet udføres som led i et kandidatspeciale og er af ren akademisk karakter. Vi skal på forhånd gøre opmærksom på, at Elgiganten ikke er affilieret med eksperimentet - der er altså tale om hypotetiske produkter som ikke udbydes af Elgiganten.

Om lidt vil du blive taget videre til en kopi af Elgigantens webshop. Alle links på siden er inaktive, det er altså kun muligt at trykke på knappen "Læg i kurv".

Du vil i alt blive præsenteret for 16 forskellige skærmbilleder.

På hvert skærmbillede vil du blive præsenteret for 3 smartwatches med forskellige egenskaber. Du skal vælge det smartwatch du helst vil købe, og derefter trykke "Læg i kurv".

Det er vigtigt at du bruger den fornødne tid på at tænke over dit valg.

Vær venligst opmærksom på at der vil være en opmærksomhedstest et tilfældigt sted i eksperimentforløbet.

På forhånd tak for din deltagelse.

Eksperimentet kan påbegyndes om 0 sekunder

Start eksperimentet

Change experiment language to English

8.2.2. Introductory text in English

Smartwatch experiment

This experiment is performed as part of a Master's Thesis and is intended for academic purposes only. The experiment has no affiliation with Elgiganten, which means that the products shown are not representative of products provided by Elgiganten.

When you press the button below, you will be taken to a copy of Elgiganten's website. All links on the page are inactive, which means that you can only press the buttons labeled "Læg i kurv" (Add to shopping cart).

You will be presented with 16 different sets of smartwatches.

Each set contains 3 smartwatches with different attributes. You must select the smartwatch you would most likely buy, and thereafter press the button "Læg i kurv".

It is important that you use the necessary time to contemplate your choice.

Please be aware that there will be an attention test at a random time during the experiment.

Thank you in advance for your participation.

The experiment can be started in 0 seconds

Start the experiment

Skift eksperimentets sprog til dansk

8.2.3. Cards from experiment and experiment design

Card number	Price	Battery	Fitness tracking	Strap	Watch thickness	Connectivity
Card 1	DKK 1.399	7 days	Fitness tracking	Fixed strap	Same thickness as a normal watch	Internet through smartphone
Card	DKK 1.399	4 days	No fitness tracking	Fixed strap	Thicker than a normal watch	4G built-in
Card 3	DKK 1.399	4 days	No fitness tracking	Interchangeable strap	Same thickness as a normal watch	Internet through smartphone
Card 4	DKK 1.399	7 days	Fitness tracking	Fixed strap	Same thickness as a normal watch	4G built-in
Card 5	DKK 2.999	7 days	No fitness tracking	Fixed strap	Thicker than a normal watch	4G built-in
Card 6	DKK 1.399	1 day	No fitness tracking	Interchangeable strap	Thicker than a normal watch	4G built-in
Card 7	DKK 2.199	7 days	No fitness tracking	Interchangeable strap	Same thickness as a normal watch	Internet through smartphone
Card 8	DKK 1.399	1 day	Fitness tracking	Interchangeable strap	Thicker than a normal watch	Internet through smartphone
Card 9	DKK 2.999	1 day	Fitness tracking	Interchangeable strap	Same thickness as a normal watch	4G built-in
Card 10	DKK 2.199	1 day	No fitness tracking	Fixed strap	Same thickness as a normal watch	4G built-in
Card 11	DKK 2.999	1 day	Fitness tracking	Fixed strap	Thicker than a normal watch	Internet through smartphone
Card 12	DKK 2.199	7 days	Fitness tracking	Interchangeable strap	Thicker than a normal watch	4G built-in
Card 13	DKK 2.999	4 days	Fitness tracking	Interchangeable strap	Same thickness as a normal watch	4G built-in
Card 14	DKK 2.199	4 days	Fitness tracking	Fixed strap	Thicker than a normal watch	Internet through smartphone
Card 15	DKK 2.999	7 days	No fitness tracking	Interchangeable strap	Thicker than a normal watch	Internet through smartphone

8.2.4. Experiment design

Comparisons	Choice 1	Choice 2	Choice 3
Comparison 1	Card 3	Card 2	Card 1
Comparison 2	Card 4	Card 6	Card 5
Comparison 3	Card 9	Card 8	Card 7
Comparison 4	Card 10	Card 11	Card 12
Comparison 5	Card 13	Card 15	Card 14
Comparison 6	Card 1	Card 7	Card 4
Comparison 7	Card 2	Card 5	Card 8
Comparison 8	Card 6	Card 9	Card 3
Comparison 9	Card 12	Card 10	Card 13
Comparison 10	Card 11	Card 14	Card 15
Comparison 11	Card 7	Card 3	Card 5
Comparison 12	Card 2	Card 4	Card 10
Comparison 13	Card 8	Card 1	Card 6
Comparison 14	Card 14	Card 12	Card 9
Comparison 15	Card 15	Card 13	Card 11

8.3. Original interview manuscript and interview questions

(In Danish)

Introduktion:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interview spørgsmål:

Indledende spørgsmål:

Q1: *Hvor gammel er du?*

Q2: Hvilket postnummer bor du i?

Q3: Er du bekendt med hvad et 'smartwatch' er? (Hvis ja: Hvordan ville du beskrive et smartwatch? Hvis nej: gives følgende beskrivelse: Et smartwatch er en form for beklædningsteknologi som du bærer på håndleddet som et ur. Det kan bedst beskrives som et ''smart-ur'', ligesom du har en ''smart-telefon''. Et smartwatch kan nemlig forbindes til din smartphone, og du kan modtage notifikationer om opkald, hændelser på sociale medier og endda læse og svare på beskeder. Du kan også downloade tredjeparts apps, som bl.a. fitness apps der kan hjælpe dig med at spore dine træningsrutiner og meget mere. Dertil kommer der et hav af funktioner og programmer der gør at du f.eks. kan styre hvilket musik du lytter til, vise billeder, overvåge hvordan du sover og meget mere.

Spørgsmål vedrørende *jobs* (opgaver):

Intro: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Q4: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone? (ja/nej)*

Q5: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Q6: *Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Q7: *Hvad er vigtigt for dig når du skal købe en ny smartphone?* (design, funktionalitet, anerkendelse?)

Intro: Så skifter vi fokus til smartwatches igen.

Q8*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?* (Situationer hvor du kunne have brug for lignende funktionalitet som din smartphone kan tilbyde, men hvor du ikke behøver at tage din telefon frem?)

Q9: *Hvis vi skulle prøve at se lidt på nogle specifikke funktioner, velvidende at du ikke har ejet et smartwatch, hvilke funktioner i et smartwatch kunne du så forestille dig at du ville gøre mest brug af?*

(Efter rangering): Jeg har nogle ting jeg godt kunne tænke mig at du forholdte dig til (hvor vigtigt er design for dig, hvor vigtigt er batterilevetid for dig, hvor vigtigt er 3G forbindelse for dig, hvor vigtigt er fitness tracking for dig?

Spørgsmål vedrørende *pains* (negative aspekter/udfald):

Q10: *Hvad holder dig tilbage for at købe et smartwatch? (Follow-up: hvad definerer du som "for dyrt", hvilke funktioner mangler det, hvordan skulle designet se ud etc.?)*

Q11: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?) – positivt, neutralt eller negativt? (hvorfor)*

Spørgsmål vedrørende *gains* (positive aspekter/udfald):

Q12: *Hvad ville der skulle til for at du ville overveje at købe et smartwatch?*

Q13: *Vil du prøve at beskrive det perfekte smartwatch, som du tror kunne give dig masser af værdi i hverdagen?*

Q14: *Kan du forstille dig nogle situationer hvor et smartwatch ville kunne erstatte din smartphone?*

Q15: *Afslutningsvist vil jeg spørge dig, om du kan se dig selv eje et smartwatch i fremtiden?*

Sidespørgsmål undervejs – rangering af *jobs, pains og gains*:

Q16: Jobs, pains and gains (f.eks. kommunikation, design, image, batterilevetid, notifikationer) – *På en skala hvor vi har væsentligt, moderat og uvæsentligt – hvor vil du så placere X?*

HUSK: at få spurgt respondenten om: batterilevetid, design, 3G/4G forbindelse og fitness tracking + at give disse attributter en score.

Q17: Hvor væsentligt er X i forhold til X – mere eller mindre væsentligt?

Outro: *Tusind tak fordi du ville deltage i vores interview.*

8.4. Coded interview transcripts (in Danish)

8.4.1. Interview #1

Respondent: Asger

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 26 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2920*

Interviewer: *Er du bekendt med hvad et 'smartwatch' er?*

Respondent: Semi.. Altså nu skal det siges at jeg går ikke selv med ur, men når jeg tænker på et smartwatch, så tænker jeg på et ur der kan holde øje med puls og andre sportsrelaterede ting. Men ja, jeg er ikke den store ur-kender.

Interviewer: (interviewer giver definition som ses i manuskript)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Det har jeg. Det er en Samsung Galaxy 6S.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Jeg bruger den til rigtig meget. Når jeg ikke er sammen med andre mennesker, så hører jeg f.eks. musik overalt. Uhm, på Spotify. Hvis jeg kører i transport så bruger jeg ofte YouTube til at se videoer, og så selvfølgelig ringe, Messenger og Snapchat bruger jeg også. Og Tinder. Jeg har ikke rigtig nogen spil. Så bruger jeg vejrapps. Det er lige hvad jeg kan komme på. Jeg læser selvfølgelig også nyheder, det bruger jeg normalt min bærbar til, men hvis jeg er på farten, så er det telefonen jeg bruger til at læse sådan noget.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Hmm.. Jeg vil sige nogle gange, når jeg skal i byen f.eks., så bruger jeg rejseplanen til at se tider på tog osv. Og da jeg studerede, brugte jeg også CBS' app til at finde vej rundt på campus. Måske faktisk bare navigation generelt, at finde vej. Og ellers kommunikation, at kunne ringe og sådan noget.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: At det ikke er en iPhone. Ej, jeg vil sige, muligvis størrelse, ellers kamera, og også batterilevetid.

Interviewer: *Jeg kunne godt tænke mig at spørge lidt ind til det med størrelse på skærmen, må den ikke være for stor, skal den have en vis størrelse til når du ser video, eller hvad tænker du på?*

Respondent: Det er faktisk skiftet lidt. Førhen var det vigtigt for mig at den var lille, men nu hvor jeg bruger den til YouTube osv. Så skal den helst ikke være alt for lille, men stadig kunne være i min lomme.

Interviewer: Hvor længe skal batteriet kunne holde eller hvor ofte er det okay at skulle lade den op?

Respondent: Du holdte min sidste telefon rigtig dårligt batteri, så jeg er måske lidt hærdet, men hvis bare den kan holde en dag og at jeg kan nøjes med at lade den op i løbet af natten når jeg sover, så er det fint. Min telefon har også det der fast chargeing, som gør at den lader vildt hurtigt op.

Interviewer: *Er det blevet så vigtigt for dig at det er noget en ny telefon skal have?*

Respondent: Ja det tror jeg helt sikkert, det ville være svært at skulle gå tilbage til ikke at have det.

Interviewer: *Så skifter vi fokus til smartwatches igen.*

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Altså som sagt, jeg er jo ikke rigtig ur-bruger.

Interviewer: *Hvis vi nu tænkte på et smartwatch som en erstatning eller forlængelse af din smartphone, altså at du har den samme funktionalitet på dit håndled, som du ellers ville have haft nede i lommen i din smartphone, om der så ville være nogle situationer hvor du ville tænke at det at have det på håndleddet ville være smartere?*

Respondent: Altså jeg kunne godt forestille mig at hvis jeg fik en form for vibration i hånden, når jeg fik en besked eller et opkald, og at jeg måske kunne tage den, altså når jeg også går med høretelefoner i, og så trykke på displayet eller et eller andet, for at tage den, det ville måske være meget smart. Det kommer lidt an på størrelsen nok. Jeg har ikke rigtig set et smartwatch, så jeg ved ikke om displayet er stort nok til at man kan læse mails osv. Det ville da ellers være meget smart hvis man kunne det.

Interviewer: *Jeg finder lige et hurtigt billede og linker til dig på Skype. (Sender Apple Watch på håndled til respondent).*

Respondent: Ja, okay, ja det kan jeg godt se, jamen det kunne jeg da godt forestille mig ville være meget smart hvis man bare kunne læse ting på den i stedet. Nu går jeg f.eks. også i fitness, og jeg kunne da også godt forestille mig, at det ville være langt lettere at skifte sang hvis man bare lige kunne klikke på håndleddet. Jeg kan selvfølgelig også bruge mine høretelefoner til at skifte nummer, men et smartwatch ville gøre det muligt at scrolle gennem flere sange og vælge netop den sang jeg gerne ville høre. Lige nu er jeg nødt til at tage min telefon frem når jeg vil vælge en bestemt sang.

Interviewer: *Er det ligegyldigt hvilket smartwatch det er, eller har du sammen overbevisning som du har med smartphone, skal det være den nyeste model?*

Respondent: Ja, absolut, det er helt det samme, det skulle være den nyeste og smarteste model.

Interviewer: *(nævner de funktioner der er blevet nævnt) – er der andre funktioner som du føler kunne være brugbart at have i et smartwatch.*

Respondent: For mig er det nok et spørgsmål om, om hvad et smartwatch kan tilbyde som min telefon ikke allerede kan. Altså det med musikstyring ville selvfølgelig blive lettere, men jeg kan ikke forestille mig andre ting som ville blive lettere med et smartwatch.

Interviewer: *Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Altså musikstyring, notifikationer osv*.

Respondent: Musikstyring får nok en 8, notifikationer er nok det samme en 8'er. Måske en endda 9. Ellers kan jeg ikke rigtig se en grund til at have et smartwatch. Så kunne jeg lige så godt nøjes med et normalt ur.

Interviewer: *Skal vi prøve at sætte nogle ord på hvad det er der holder dig tilbage for at købe et smartwatch?*

Respondent: Altså generelt er det nok bare fordi at jeg ikke går med ur, det er ikke noget jeg gør mig i, jeg vil hellere bruge penge på noget tøj eller linende. Jeg forestiller mig at folk ikke køber ur fordi det er praktisk, men fordi det er et slags accessory.

Interviewer: *Så den skulle virkelig bringe noget værdi på bordet, som du ikke allerede har i din smartphone?*

Respondent: Ja, jeg har lidt svært ved at se hvad nyt den kommer med. Noget som min smartphone ikke kan.

Interviewer: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?*

Respondent: Det har jeg faktisk ikke rigtig tænkt over, det er ikke så ofte at jeg kigger på folks ure.

Interviewer: *Hvad hvis det bare er din første indskydelse når du lige tænker på folk med smartwatches?*

Respondent: Jeg har nok to typer: den ene er en sporty type eller en business type, som måske har travlt og brug for hurtigt at kunne se hvem der kontakter ham/hende. Og det den sporty type har jeg brug for alt det der fitness halløj. Jeg kunne da også godt forestille mig at folk der er meget modebevidste, måske sådan lidt trendsætter eller firstmover.

Interviewer: *Hvad alle andre begyndte at gå med smartwatch, tror du så at du ville hoppe med på bølgen*.

Respondent: Jeg tror faktisk at det ville være lige modsat. Det er også sådan jeg har det med Apples produkter. Jeg gider ikke rigtig mainstream produkter.

Interviewer: Tak for din deltagelse.

8.4.2. Interview #2

Respondent: Christian

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 26 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2720*

Interviewer: *Er du bekendt med hvad et 'smartwatch er?*

Respondent: Ja, et smartwatch er et digitalt ur der kan bruges til det meste som din smartphone også kan bruges til. Så vidt jeg ved, er forskellen mellem et smartwatch og en fitness tracker at der kan installeres third party apps på et smartwatch, hvorimod at en fitness tracker kommer med en forudbestemte funktioner som er målrettet folk der dyrker meget sport.

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Ja, jeg har en Samsung Galaxy 7 Edge

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Puha, jeg bruger den til meget. Udover de generelle ting som opkald, sms og andre kommunikations apps som skype og messenger, så bruger jeg den meget til YouTube videoer, til Reddit og til at læse diverse artikler og blogindlæg via forskellige apps. Så bruger jeg den til netbank, og overvågning af aktiekurser og valutakurser. Jeg tager også mange noter på min telefon, via Evernote. Så hører jeg måske, bruger fitness tracking, bruger navigation og meget mere. Jeg bruge den faktisk til ufattelig mange ting, nu hvor jeg tænker mig om.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Altså udover kommunikation generelt, som ellers ville have været ufattelig svært, så står jeg tit og skal bruge navigation eller information om tider på transportmidler. Hmm.. Og selvom at det ikke sker så ofte, så kan jeg også godt finde på at bruge google maps til at tjekke efter ting i mit nærområde.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Det har nok ændret sig lidt. Jeg tror min næste telefon bliver en iPhone. Ikke fordi at min Galaxy 7 Edge ikke er en fed telefon, men simpelthen fordi jeg savner Apples brugervenlige styresystem, og så tror jeg ikke at iPhones bliver lige så hurtigt langsomme i det, som Samsung gør. Selvom min telefon kun er et år gammel, så synes jeg allerede at den er blevet langsommere. Ellers så kan de fleste flagskibstelefoner jo mere eller mindre det samme i dag, det er vel mere bare et spørgsmål om hvilket styresystem man er mest vant til eller synes bedst om.

Interviewer: Så skifter vi fokus til smartwatches igen.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Jeg kan godt lide at kvantificere mit helbred, alt lige fra fitness monitorering til søvnanalyse. Så jeg ville få mulighed for at holde øje med alle de ting. Jeg har haft en rimelig simpel fitness tracker, men jeg stoppede med at bruge den, fordi der simpelthen ikke var nok værdi for mig at hente. Andre situationer, hmmm, det ville da også været meget smart med notifikationer, men jeg har egentlig ikke noget problem med at skulle se på min telefon for at se notifikationer. Ellers ved jeg ikke lige.

Interviewer: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?*

Respondent: Altså nu ser man jo klart flest mennesker med fitness trackers, men ja, hvad tænker jeg om folk med smartwatches. Det er måske stadig lidt gadget-agtigt, det er jo ikke fordi uret kan noget din telefon ikke kan, men for nogle mennesker er det måske bekvemmeligt at have nogle af de samme funktioner bare på armen. Jeg kunne godt fristes til at tro at mange af dem der går med Apple Watch har købt uret primært fordi det er et apple produkt.

Interviewer: *Hvad holder dig tilbage for at købe et smartwatch? (Follow-up: hvad definerer du som "for dyrt", hvilke funktioner mangler det, hvordan skulle designet se ud etc.?)*

Respondent: Jeg kan ikke rigtig se værdien i et eje et. Der mangler noget konkret værdi i form af funktionalitet som min smartphone ikke har. De er også for bulky, altså for tykke, jeg har ikke verdens største håndled, så det ser åndssvagt ud på mig. Det skal ned i samme tykkelse som klassiske ure. Plus mere eller bedre funktionalitet, som f.eks. hvis det kunne holde øje med hvor hydreret du er, det kunne være cool.

Interviewer: *Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Altså musikstyring, notifikationer osv. Vi kan starte med fitness tracking?*

Respondent: Fitness tracking er nok en 9'er, uden det ville det være begrænset om jeg gad have et.

Interviewer: Hvad med notifikationer?

Respondent: Hmm.. 8-9, også helt essentielt.

Interviewer: *(Efter rangering): Jeg har nogle ting jeg godt kunne tænke mig at du forholdte dig til (hvor vigtigt er design for dig, hvor vigtigt er batterilevetid for dig, hvor vigtigt er 3G forbindelse for dig?*

Respondent: Design, nok en 9'er, igen, hvis det er for tykt skal jeg ikke have det. Batterilevetid, altså hvis de havde fået lavet en ordentlig søvnmonitorering app, så ville jeg formentlig også bruge den om natten hvor jeg ellers ville lade det op, men hvis den har fast chargeing er det fint med én opladning i døgnet, det er dog maks, batterilevetid er en 7'er. 3G-forbindelse er hips som haps, hvis det stadig havde GPS tracking og bare kunne synkronisere med telefon efter, så er det en 5'er, hvis ikke, så er det en 9'er.

Interviwer: Tak fordi at du ville deltage.

8.4.3. Interview #3

Respondent: Henrik

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 30 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2800*

Interviewer: *Er du bekendt med hvad et 'smartwatch' er?*

Respondent: Jeg er ikke helt sikker på at jeg helt har forstået konceptet, jeg synes egentlig ikke at det er særlig smart. Det virker som en overflødig gadget på en eller anden måde. Uhm, jeg går ud fra at man kan se hvad klokken er, og så kan man vel måle sin puls, og hvis det er Apples, kan man vidst se om man har fået en SMS, men hvad skal jeg bruge det til, jeg kan jo bare tage min telefon frem hvis jeg får en SMS eller skal se hvad klokken, den bevægelse at skulle se på hånden eller tage sin telefon frem, det må sgu være det samme. Så jeg kan ikke rigtig se hvad den gør for mig.

Interviewer: (Giver definition af smartwatch)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Ja, jeg har en iPhone 6S.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Jo, jeg bruger den primært til e-mails, privat. Så bruger jeg den til Facebook, og til at shoppe tøj. Så bruger jeg den til musik (Spotify), og kalenderfunktionen bruger jeg også meget. Og så selvfølgelig SMS og opkald, sådan generel kommunikation.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Navigation (transports) fra A-B, men også sådan nogle lidt mere ligegyldige ting som informationssøgning hvis man er midt i et argument, så er det meget smart lige at kunne slå det op på telefonen. Udover det, hmm, kan jeg ikke lige komme på.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Det er funktionalitet, pålidelighed, at den er intuitiv at bruge, det er også derfor at jeg altid går med iPhone, der skal ikke være for meget at sætte sig ind i, heller ikke at jeg skal til at overføre ting igen, iPhone synkroniserer bare – ja, det skal bare være let.

Interviewer: Så skifter vi fokus til smartwatches igen.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte? En situation hvor det ville være smart at have den funktionalitet som du har i din telefon, bare på armen?*

Respondent: Så skulle det være hvis jeg ikke havde fået min GPS med i bilen, så er det nok mere sikkert og nemmere at sidde og kigge på håndleddet i stedet for telefonen imens jeg kører. Uhmm..

Interviewer: *Der er ikke nogle situationer hvor det at tage din telefon op af lommen er besværligt ift. bare at kigge på armen?*

Respondent: Nej, altså, den ligger oftest ved siden af mig. Så det ville ikke være nemmere for mig at have et smartwatch.

Interviewer: *Helt konkret, hvad holder dig så tilbage for at købe et smartwatch?*

Respondent: Jeg kan ikke rigtig se hvad jeg skal bruge det til. Jeg kan ikke se hvordan den skulle komplementerer min telefon, jeg kan ikke se hvad den kan mere andet end at jeg kan se at den kan det samme, jeg har alligevel telefonen fremme, og så er skærmen på uret mindre, så jeg synes på en eller anden måde at det er en form for down grade.

Interviewer: *Hvad tænker du umiddelbart om folk der går med smartwatch?*

Respondent: Jeg tænker lidt at det er unødvendigt. Det er sådan lidt en trendbølge, hvor man måske i højere grad vil komme til at bruge det, vil vise at man er fit og tracker sin dagligdag og at man forsøger at optimere sig selv, ved at holde øje med hvor langt man har gået og sådan nogle forskellige ting. Det er måske mere symbolværdien at man går med den end et er det funktionelle som du får.

Interviewer: *Så uret er lidt en forlængelse af personen der går med uret?*

Respodent: Ja, det ville det være, en forlængelse af ens identitet.

Interviewer: *Hvilken type personer er det der går med smartwatch så?*

Respondent: Jeg vil sige at det er to forskellige typer, det er en sporty type og så er det en nørdede type.

Interviewer: *Nu var du selv lidt inde på det med design af telefonen, så jeg vil egentlig gerne hører hvordan et smartwatch skulle se ud rent designmæssigt (f.eks. størrelse) for at du ville overveje at købe det?*

Respondent: For mig er et armbåndsur først og fremmest en smykkegenstand, mere end det er noget funktionelt. Så det skulle være noget der kunne have den samme brandstyrke og designmæssige kvalitet som fra andre store mærker som Rolex, og den eksklusivitet som de mærker udstråler og i deres udformning, uden egentlig at kunne alt muligt mærkeligt, men så er vi jo egentlig bare tilbage ved det mere klassiske ur mere end det er et smartwatch. Men det er i hvert fald nogle af de elementer det ville skulle kunne. Der skulle være noget brand, noget luksuriøst over det, på en eller anden måde.

Interviewer: *Kunne du forestille dig på et eller andet tidspunkt, når der kommer 4G forbindelse i smartwatches og de kommer til at kunne fungere som selvstændige enheder, kunne det så give mening for dig at have et?*

Respondent: Det troede jeg faktisk at de havde – du synes jeg at de er endnu mere latterlige. For ja, det skulle det helt sikkert have.

Interviewer*: Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Så sådan noget som 4G forbindelse og at uret skulle kunne bruges selvstændigt, hvor væsentligt ville det være på en skala fra 1-10?*

Respondent: 7

Interviewer: *Hvad med det her med at det har en vis brandværdi?*

Respondent: Der er vi oppe i en 9'er.

Interview: *Hvad med den havde sådan noget som navigation?*

Respondent: Det er ret vigtigt, for det er ligesom der at jeg begynder at se at den har sin berettigelse og noget at bidrage med i min hverdag, så det må være 8.

Interviewer: *Tror du at vi når dertil hvor at du ville være klar til at skifte dit klassiske ur ud med at smartwatch?*

Respondent: Der skal gå langtid, for det første kommer det nok til at tage langtid går de har opbygget det brand der skal til for at jeg ville gå med det. Men man skal selvfølgelig passe på med hvad man siger, det er en anden tid vi lever i, så det taget måske ikke 100 år som det gjorde med Rolex.

Interviewer: *Hvad hvis det var noget alle begyndte at gå med og at det blev vildt trendy?* Kunne du forestille dig at du ville hoppe med på den bølge?

Respondent: Jeg skulle kunne se en idé med det, jeg følger sjældent trends.

Interviewer: *Jeg har lige nogle andre ting jeg godt kunne tænke mig at spørge ind til ift. funktionalitet. Sådan noget som batterilevetid, er det noget der er vigtigt for dig? Og ift. smartwatches, kunne så forestille dig et minimum antal dage at det skulle kunne holde?*

Respondent: Altså, kun nogle gange, jeg synes oftest at man er et sted hvor der er mulighed for at lade sin telefon op, så det er ikke noget jeg tænker vanvittig meget over. Ift. smartwatches, så vil jeg sige at nok skulle holde et par dage, det er ikke så stor en enhed, så jeg ville nok forvente at den kunne holde længere end en telefon, især hvis den ikke er på 4G og sådan noget.

Interview: *Hvad hvis det gik hen og blev en erstatning af din telefon, og at det var den du brugte i stedet for, hvor længe skulle batteriet så kunne holde?*

Respondent: Nej, så tror jeg det ville være fint nok med én dag, det ville være ligesom med telefonen.

Interviewer: *Hvor væsentligt er batterilevetid med udgangspunkt i skalaen fra før? Hvor væsentligt er det at den maksimalt lades op én gang i døgnet?*

Respondent: Det er nok 3. Hvis jeg kun havde den at lade op, ville det ikke være så væsentligt.

Interviewer: *Hvad med hele det her fitness tracking aspekt – hvor ville det være placeret på skalaen?*

Respondent: Det må være 2. Jeg synes det bliver for meget at mikro manage.

Inteviewer: Tak fordi at du ville deltage i vores interview.

8.4.4. Interview #4

Respondent: Joen

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 26 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2500*

Interviewer: *Er du bekendt med hvad et 'smartwatch' er?*

Respondent: Det er et device du har hånden ligesom et normalt ur, men bare med markant mere funktionalitet. Det nærmer sig funktionaliteten af en telefon, men er selvfølgelig også bare et ur. Så det har internetforbindelse, GPS og du kan kører apps fra det, det ville være sådan jeg ville definere det, måske du også kan høre musik fra det.

Interviewer: (interviewer giver definition)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Det gør jeg, en iPhone 6S, og jeg har også en Galaxy et eller andet som arbejdstelefon.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Primært, udover at jeg selvfølgelig ringer fra den, så bruger jeg den rigtig meget til at lytte til musik, jeg har en app der hedder ”Musi” som gør at man kan streame musik fra YouTube, uden at streame videoen, for at spare på data, det er KLART det jeg bruger min telefon mest til. Og ellers bruger jeg i begrænset omfang Snapchat, messenger og SMS. I ny og næ bruger jeg også maps eller til at slå ting om med. Jeg sidder f.eks. ikke og læser nyheder i flere timer. Jeg bruger den til gengæld til lidt forskelligt underholdning som Reddit. Arbejdstelefonen bruger jeg kun til mail og opkald.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Jeg prøver at komme i tanke om noget konkret udover de åbenlyse som kommunikation. Hmmm.. Altså i løbet af en dag, det ved jeg ikke rigtig, men til tider bruger jeg den til at finde restauranter, barer, toiletter osv. Men det er ikke noget der sker super ofte. Det er det samme med navigation, det er ikke noget der sker super ofte, men ja, til at finde ting i nærområdet når man er ude.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Mit sidste telefonkøb var en Windows phone, dengang var det helt sikkert pris, men nu hvor at jeg har fået fuldtidsjob, så er pris ikke rigtig et ”problem” længere. Men jeg har slet ikke følt mig fristet til at købe iPhone 7, og hvorfor har jeg ikke det, hmm.. Jeg tror at hvis jeg føler min telefon begynder at blive langsom, så kan jeg finde på at lede efter en ny. Det er egentlig sjovt, jeg ville nok ikke gå ud at købe en Android, nok fordi at jeg har vænnet mig til iPhone. Jeg tror ikke at jeg ville gide at sætte mig ind i Android. Og faktisk, så er der nok også et gram af prestige, nu hvor jeg har penge.. Jeg ville nok ikke købe noget outdated, det skulle være det nyeste, både fordi den holder længere, men også fordi der er et specielt image forbundet med at have den nyeste model.

Interviewer: *Så telefonen bliver lidt mere en forlængelse af dig selv om karakter lige pludselig.*

Respondent: Ja helt klart.

Interviewer: *Så skifter vi fokus til smartwatches igen.*

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Ja helt sikkert! F.eks. når jeg er ude at løbe, så er det ekstremt frustrerende at skulle løbe med en telefon på armen, det er besværligt at skulle få den ned i den der lomme, og det er

svært at starte Endomondo op og ikke mindst at skifte musik. Som jeg også var inde på før, så er 95% af mit brug forbundet med at lytte til musik – og det kunne jeg jo lige så godt gøre fra et smartwatch.

Det er faktisk begyndt at blive et problem med alle de enheder jeg render rundt med, det er ikke særlig praktisk.

Interviewer: *Så lidt i forlængelse af det du siger der – så skulle smartwatchet være et 'stand alone produkt', altså at det ikke behøver en smartphone for at få forbindelse til internettet. Det skal have en eller anden form for 3G forbindelse. Skal produktet kunne fungere alene?*

Respondent: Ja, det synes jeg. Sådan ville jeg klart mene at det gav mest værdi. Fremfor endnu en gadget, så jeg har to telefoner OG et smartwatch. Der er mange devices lige pludselig, og hvad jeg bruger dem til ville blive lidt udvasket – fordi hvad ville jeg så egentlig bruge min smartphone til..

Interviewer: *Hvad med sådan noget som notifikationer, at du kan se hvem der ringer eller hvad folk skriver til dig.*

Respondent: Nææ, det er faktisk rart at man kan lægge tingene væk.

Interviewer: *Er det ligegyldigt hvilket smartwatch det er, eller har du sammen overbevisning som du har med smartphone, skal det være den nyeste model?*

Respondent: Ja, absolut, det er helt det samme, det skulle være den nyeste og smarteste model.

Interviewer: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?*

Respondent: Jeg synes det er ret kikset. Jeg synes ikke rigtig det har fundet sin berettigelse endnu, man skal stadig have sin telefon med sig og sådan noget. Jeg kender også kun én som har et smartwatch, og han er også sådan firstmover, privilegeret nørd.. Men selvom det var en super tjekket gut, ville jeg nok stadig føle at det var lidt fjollet. Jeg ville helt sikkert ikke tage det på hjem til en sød pige, men jeg har f.eks. intet problem med at tage min iPhone frem.

Interviewer: *Kunne du egentlig se dig selv eje et om fem år?*

Respondent: Ja ja, sagtens.

Interviewer: *Så den værdi uret skaber er ikke tilstrækkelig ift. hvor kikset det er?*

Respondent: Nej præcis.

Interviewer: *Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Altså musikstyring, notifikationer osv.*

Respondent: Ja okay, så lad os sige at musik og musikstyring får 10, 'stand alone' får også 10, løb får 7.

Interviewer: *De tre jeg umiddelbart har highlightet som funktioner der er vigtige for dig er: fitness tracking, 3G/4G netværk og musikstyring – er det korrekt?*

Respondent: Ja præcis.. Øhmm, og nu hvor jeg tænker lidt, så kunne det også være fedt med en eller anden SoMe integration, altså hvis snapchat også fungerede på smartwatchet, jeg ville nok ikke gå ind og tjekke Facebook, men det kunne være meget fedt at se og sende Snapchats, men er ikke lige så vigtigt, det ville nok være en 5'er. Det ville blive lidt mere trendy på en måde, hvis der var en fed måde at dele snaps på.

Interviewer: *Skulle det være noget eksklusivt for smartwatches?*

Respondent: Nok bare at det var nemmere. Hvis jeg f.eks. var sammen med en der pludselig modtog en snap på uret, det ville være jeg nok synes var meget cool, så måske det ville få mig til at overveje at købe et også. Men ja, funktionaliteten mangler lidt for at jeg ville kaste mig ud i at købe et, jeg synes ikke rigtig at værdien er der endnu. Igen, det mangler lidt sin berettigelse.

Interviewer*: Så hvis vi lige skulle prøve at nævne de ting igen, som afholder dig fra at købe et smartwatch, så synes du det er kikset..*

Respondent: Ja, og det mangler noget funktionalitet som min smartphone ikke har.

Interviewer: *Hvis vi skulle prøve at gøre det samme og give de her ting en score ift. graden af hvor meget de enkelte ting afholder dig fra at købe et smartwatch.*

Respondent: Hmm.. Det der med det er kikset får nok 8. Og det her med at den ikke kan noget som min telefon ikke kan, altså at det mangler funktionalitet (får 9), altså, sagen er den at jeg tror ikke det nogensinde kommer til at kunne noget som en smartphone ikke kan, så det ender med at være en trend eller et spørgsmål om status eller prestige der gør, at jeg ender med at købe et smartwatch.

Interviewer: *Så du tror heller ikke at smartwatches kommer til at kunne gøre noget lettere end en smartphone kan? Og at det bliver en grund til at skifte eller bare købe et smartwatch.*

Respondent: Jo, det kunne sagtens tænkes. Altså hvis den giver mig mega meget værdi i dagligdagen ville jeg nok være klar til at gå på kompromis med at det er lidt kikset.

Interviewer*: Hvad med det her stand alone, hvilken score ville du give det?*

Respondent: Det er nok omkring en 8'er. I sær fordi at det hænger meget sammen med hvad jeg ville bruge den til, altså at streame musik. Så det kræver jo 3G netværk.

8.4.5. Interview #5

Respondent: Sebastian

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 27 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2000*

Interviewer: *Er du bekendt med hvad et 'smartwatch' er? - Kan du beskrive et smartwatch for mig?*

Respondent: En smartphone på armen.

Interviewer: *Kan du måske kommer ind på noget der adskiller en smartphone fra et smartwatch?*

Respondent: I og med at smartwatchet sidder på kroppen, så åbner det op for nogle muligheder som en smartphone ikke har, altså bedre fitness tracking.

Interviewer: (interviewer giver definition på smartwatch – se manuskript)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Jeg har en iPhone 7.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: 9GAG, Tinder, SMS, Facebook/Messenger, Instagram, Spotify (musik), Netflix/HBO via Chromecast. Jeg konsumerer sjældent videounderholdning på selve telefonen, jeg caster det til TV. Så ringer jeg selvfølgelig også.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Kommunikation, åbenlyst. Musikafspilning. Og det der med at jeg ikke behøver at tænde min computer for at bruge Chromecast. Jeg bruger den selvfølgelig også til navigation og transport. Bare alt hvor det gælder om at komme fra A til B.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Æstetik og brugervenlighed. Og det er både i software og hardware.

Interviewer: *Hvad er god brugervenlighed for dig?*

Respondent: At jeg ikke skal tænke over det, når jeg bruger det. Altså at det er intuitivt.

Interviewer: *Rent æstetisk, hvad er så en pæn telefon og er sådan noget som størrelse vigtigt?*

Respondent: Størrelse er ikke vigtigt. En stor skærm er fint men ikke afgørende. Udseendemæssigt skal det være minimalistisk – rene linjer gode materialer. Generelt set bare en høj kvalitet.

Interviewer: *Er pris en faktor når du køber telefon?*

Respondent: Ikke ved telefon, nej.

Interviewer: *Så skifter vi fokus til smartwatches igen*.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Ja, den ville kunne erstatte min telefon helt, eller næsten. Det kunne være federe at have musikstyring på hånden, og så er der selvfølgelig fitness tracking, selvom at jeg ikke tror at jeg ville komme til at bruge det. Jeg lytter meget til Podcast, så at kunne styre hvad man lytter til ville være fedt. Ellers bruger jeg mest min telefon til at holde mig opdateret med hvem der har kontaktet mig, og ikke nødvendigvis at svare, det gør jeg normalt fra min computer – så der føler jeg godt at en smartwatch ville kunne overtage noget funktionalitet fra min smartwatch.

Interviewer: *Hvilke opgaver tror du ikke at et smartwatch ville kunne løfte ift. en smartphone?*

Respondent: Skrive beskeder. Hvis der var noget der hastede ville man kunne lave en voice recording, men det ville være begrænset hvor meget besked du kan skrive. Dette kunne

selvfølgelig løses med et godt tale-til-tekst program eller app. Hvis der var en god tale-til-tekst app ville jeg nok godt kunne overveje delvist at skifte min smartphone ud. Informationssøgning er nok også lidt åndssvagt ift. en telefon egentlig, igen betinget af at tale-til-tekst ikke fungere, eller en super version af Siri.

Interviewer: *Hvad med skærmstørrelsen?*

Respondent: Jeg ville ikke købe et smartwatch med for stor en skærm. Det må ikke være større end det er i dag f.eks. Det må måske godt være lidt større i bredden, men det må ikke være tykkere end det er nu.

Interviewer: Ville det være et problem hvis man ikke kunne ændre på udseendet af uret efter at man har købt det?

Respondent: Nej, det ville være ligegyldigt. Bare der er nogle versioner at vælge i mellem når man skal købe det, så man kan vælge noget der passer til en.

Interviewer: *Jeg kunne rigtig godt tænke mig hvis vi prøvede at rangerer de forskellige ting du har nævnt ift. deres væsentlighed på en skala fra 1-10.*

Interviewer: Lad os starte med fitness tracking?

Respondent: Jeg er tæt på at sige 0, jeg tror simpelthen ikke at jeg ville få det brugt.

Interviewer: *Så var du inde på det med notifikationer, at blive holdt opdateret med hvem der har taget kontakt til dig, hvor vigtigt ville det være?*

Respondent: Det er essentielt, det skal det have, så det er en 10'er.

Interviewer: *Hvad med informationssøgning?*

Respondent: Det er en 5'er.

Interviewer: *Hvad med skærmstørrelse – altså at den ikke bliver for stor.*

Respondent: Altså det er mindre vigtigt end notifikationer, men nok en 8-9 stykker.

Interviewer: *Nu har vi nok været lidt inde på det, men hvad er det der holder dig fra at købe et smartwatch i dag?*

Respondent: Opsummeret, så synes jeg ikke at teknologien er klar ift. det min telefon giver mig. Det er både når det kommer til batteri, at den skal kunne holde længe nok på en 3G-forbindelse til at jeg kan bruge det uden telefonen. Hvis jeg kunne få 4G forbindelse på et smartwatch med den rette størrelse, med musikstyring, med at kunne tage opkald via Bluetooth headset, kunne skrive

beskeder med tekst-til-tale, basically bare erstatte telefonen – så ville jeg nok købe et. Men jeg ville nok have en telefon samtidig, bare ikke bruge det samtidig.

Interviewer: *Hvad er minimum for hvor længe batteriet skal kunne holde?*

Respondent: Jeg skal bare kun skulle lade det én gang om dagen.

Interviewer: *Ift. de scorer du har givet de andre ting, hvor ville batterilevetid så lægge henne?*

Respondent: Altså minimalt kunne holde én dag er en 10'er i væsentlighed. Jeg ville som sagt slet ikke overveje at købe det, hvis det skulle lades mere end én gang i døgnet.

Interviewer: *Hvad med 3G forbindelse?*

Respondent: Jeg ville slet ikke købe et smartwatch hvis ikke det havde 3G forbindelse, så det må også være en 10'er.

Interviewer: *Hvad er fordelen ved at få et smartwatch fremfor en smartphone?*

Respondent: Det er at kunne slippe af med den klods man render rundt med i lommen.

Interviewer: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?*

Respondent: Hmm.. Folk der går med Apple Watch, har jeg en forestilling om er Apple fanboys. Folk der går med Samsung Gear har jeg svært ved at forstå hvorfor de vil udsætte sig selv for at rende rundt med sådan en kæmpe klods på armen. Jeg føler lidt at dem der køber Apple Watch gør det for et slags (fashion) statement, og dem der køber Samsung Gear er måske fordi de går meget op i sport eller noget. Men så kunne du jo lige så godt købe en fitness tracker. Jeg kommer i hvert fald ikke til at købe et smartwatch så længe det bare er en forlængelse af din telefon – det virker sgu for gadgety.

Interviewer: *Så du kunne godt forestille dig at du kommer til at eje et smartwatch, men først når det er et selvstændigt produkt?*

Respondent: Ja præcis, jeg kommer helt sikkert til at eje et, det bliver bare først når teknologien er modnet lidt og at det bliver en selvstændig enhed som man også kunne bruge som nøgle og dankort osv.

8.4.6. Interview #6

Respondent: Paul

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 30 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2300*

Interviewer: *Kan du beskrive for mig hvad et smartwatch er?*

Respondent: Ja, det en simple udgave af min smartphone. Samme funktionalitet og sådan, bare i en simpel udgave på din hånd. Så er der vidst også lidt bedre mulighed for at overvåge puls og sådan noget.

Interviewer: (interviewer giver definition)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Ja, en iPhone 6.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Jeg bruger den til musik, streaming på spotify og youtube. Så bruger jeg den også til arbejdsrelaterede ting som mails, opkald, slack og andet kommunikations. Så læser jeg også nyheder og sådan noget, går lidt på Reddit. Så bruger jeg den til en begrænset mængde social media.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Altså kommunikation generelt selvfølgelig. Jo, også navigation og information om transport, altså alt med at komme fra A til B.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Hmmm.. Nææ, der er ikke rigtig nogen funktionalitet i et smartwatch som jeg ikke har i min smartphone. Jeg ved ikke om der er noget der ville være lettere, det tror jeg faktisk heller ikke, måske hvis jeg dyrkede noget sport, så ville det være smart, men det gør jeg ikke rigtig såå.. Jeg har meget svært ved at forstille mig at det at have tingene på mit håndled skulle gøre være smartere, faktisk.

Interviewer: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?*

Respondent: Nu har en af mine gode venner tilfældigvis et smartwatch, men det virker mere som om at han bruger det som et slags fashion accessory end at det er for funktionaliteten, egentlig. Jeg tror måske mere at det er folk som enten er meget gadget interesserede eller vil bruge det som et slags (fashion) statement.

Interviewer: *Ville det så give mening at man kunne ændre udseendet på sit smartwatch?*

Respondent: Ja, ligesom du jo i princippet kan med normale ure. Smartwatches ligner ret meget hinanden, så det ville give fin mening hvis man kunne ændre designet.

Interviewer: *Hvad er det der afholder dig fra at købe et smartwatch?*

Respondent: Altså udover at funktionaliteten mangler, så er det også et problem at forbindelsen mellem smartwatches og din telefon tapper batteriet vildt hurtigt. Og ja, så er der det med designet.

Interviewer: *Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Altså musikstyring, notifikationer osv.*

Respondent: Indbygget 3G/4G netværk er en 10, jeg tror kun at jeg ville købe det hvis det kunne erstatte min smartphone, men for at gøre det skulle det også kunne noget mere. Batteriet skulle kunne holde minimum et døgn, men det er også 10, jeg er meget på farten, det ville ikke give mening for mig at have et device der ikke kunne holde en hel dag. Ift. design, så er det også ret vigtigt, nok 7.

Interviewer: *Kunne du se dig selv eje et smartwatch i fremtiden?*

Respondent: Nej, det tror jeg faktisk ikke.

Interviewer: *Hvad hvis det blev mainstream og alle andre begyndte at gå med et?*

Respondent: Det ville jeg være ligeglad med. Der ville skulle noget andet til, altså det skulle give mig en værdi som ikke var at finde i min smartphone.

Interviewer: *Noget vi ikke rigtig har talt om er pris, hvor meget ville du være klar til at give for et smartwatch?*

Respondent: Det kan jeg slet ikke forholde mig til, for jeg ville højest sandsynligt slet ikke købe et, da jeg ikke gider have endnu en dims der kan det samme som min smartphone.

Interviewer: Tak fordi at du ville deltage i vores interview.

8.4.7. Interview #7

Respondent: Sejr

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 30 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2000*

Interviewer: *Er du bekendt med hvad et 'smartwatch' er? – Kan du beskrive et smartwatch for mig som du ser det?*

Respondent: Det er et ur der er smart, så funktioner som GPS og sådan, så har den jo en forbindelse af en art, noget WiFi, måske en 4G forbindelse, altså forbindelse til internettet.

Interviewer: (interviewer giver definition)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Jeg har en iPhone 6S.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Jeg bruger den primært til sociale medier, opkald, SMS, alt det klassiske. Så bruger jeg den til at holde øje med aktiekurser, nyheder, vejret, og i stor grad navigation, mail, kalender osv.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Ja, mange gange, man kan jo sige at det er et helt kontor man render rundt med i lommen, så der er selvfølgelig alle de åbenlyse som kommunikation og sådan. Nogle mere specifikke situationer kunne være lommeregner, lygten, kamera til at tage billeder af noter. Overførsel af penge og netbank, køb af billetter, så kan jeg styrer lys i min lejlighed. Der er faktisk ret mange situationer hvor jeg bruger den.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Altså jeg valgte iPhone 6 fremfor 7 fordi den manglede jackstik og fordi at jeg ikke synes den var de ekstra 1500 kroner værd. Ellers så er det brugervenlighed fremfor alt, jeg har selv været android mand tidligere, men er gået over til iPhone fordi jeg synes det andet var noget rod. Så jeg har en ret konservativ tilgang til UI/UX, det skal bare virke og være let, så skal det være intuitivt. Hastighed, operativt system, let at navigere i. Et godt kamera er også vigtigt. Det er sådan set det. Og selvfølgelig så skal den have alle de her standard ting som 4G forbindelse osv.

Interviewer: Så skifter vi fokus til smartwatches igen.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Ja, på cyklen, navigation med google maps, det er pisse irriterende at sidde med mobilen når man cykler, og der er ringe enhåndshåndtering på en cykel. Altså alt det der med at kunne se SMS'er, tage opkald, ja bare notifikationer generelt, det ønsker jeg absolut ikke, derfor

har jeg også en sportstracker som ikke har den funktionalitet, simpelthen fordi når jeg tage ud at løbe gider jeg ikke at se på SMS'er og alt muligt andet fis, og jeg nyder muligheden for at kunne lægge sin telefon fra sig. Så for mig personligt, ville det være et helvede at havde et smartwatch der hele tiden larmede. Jeg er sådan en der ikke har notifikationer på mine Apps fordi at jeg aktivt vil tage valget om at tilgå det i stedet for at blive forstyrret.

Interviewer: *Hvad var grunden til at du købte en fitness tracker?*

Respondent: Det er for at kunne tracke ruten, længde og hastighed. Der er ikke musikstyring i, jeg løber heller aldrig med iPhone. Min telefon kan også godt tracke, men jeg gider ikke løbe med en af de der lommer, så det var fordi at det var mere bekvemt med en fitness tracker.

Interviewer: *Hvad er det der holder dig tilbage for at købe et smartwatch?*

Respondent: De er for chunky og for grimme, jeg er æstetiker, så med det design der er nu, ville funktionaliteten ikke kunne veje op for det utilstrækkelige design. Og jeg er desuden bekymret for batterilevetiden, jeg har allerede så mange ting der skal lades op hele tiden, fordi hvis jeg skulle have et smartwatch skulle det helt klart have 4G forbindelse, eller kan jeg ikke se noget formål med at have et.

Interviewer: *Hvad skulle minimum for hvor længe et smartwatch skal kunne holde så være?* Hvis det også også har en 3G forbindelse.

Respondent: Ca. hver 3-4 dag. Så skulle det kunne fungere som en erstat af din telefon. Så længe at det ikke kan være en erstatning, så fungerer det simpelthen ikke at det skal lades op hver dag. Det er der jo ikke nogen idé i.

Interviewer: *Hvor stort skal et smartwatch være? Både i forhold til selve displayet med også tykkelsen? Du kan eventuelt overveje det ift. et Apple Watch?*

Respondent: For mig er ure et accessory der symboliserer en masse ting. Dem der render rundt med de store ure, det er visse typer, om man vil. Og hvis man ser på Apple Watch, så synes jeg det er for stort, de har misforstået tykkelsen.

Interviewer: *Så hvad skulle der til designmæssigt for at du ville overveje at købe et smartwatch?*

Respondent: Det skulle redesignes totalt, lige nu er sådan lidt nerdy/geeky, øhhm, og det er ikke nået dertil hvor det er blevet en pæn accessory der har en eller anden troværdighed overfor dets funktion. Jeg har set nogle der begynder at blive okay pæne, der har større tro mod funktionen, jeg tror også at det er Garmin der har nogle dyre modeller, men det er også mere dykkerure, men det er bare et helt andet sportssegment det henvender sig til, jeg tror jeg ville kører en mere klassisk stil, og det er de bare overhovedet ikke nået til endnu.

Interviewer: *Hvad tænker du om folk der går med smartwatch (er der et specielt image forbundet med det at gå med smartwatch?*

Respondent: Igen, et ur er et symbol, det fortæller en historie om den person der går med, det begynder at blive mere funktionelt, men i bund og grund behøver man jo ikke at gå med det, du kunne bare se på din telefon i lommen. Og når jeg tænker på folk der går med Apple Watch, så ja, så er det nok lidt geeks typen, de vil gerne være med på bølgen, men funktionelt er det sådan lidt ligegyldigt måske. Og så er der selvfølgelig andre segmenter hvor det har en anden signalværdi. Jeg tror at hvis man var sportsinteresseret, så ville man gå ud og købe et Garminur til samme pris, så jeg tror mere at det er de lidt geeky typer.

Jeg tror simpelthen ikke på fitness-delen i de nuværende Apple Watches. Det kan godt være at det virker, men du skal lade det op én gang i døgnet og du render rundt og sveder på det – der er lidt et mismatch synes jeg.

Interviewer*: Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Du sagde f.eks. navigation og Google Maps, hvor ville det være placeret henne på en væsentlighedsskala?*

Respondent: Øhm, hvis forudsætningen er at det er pænt, så er navigation absolut noget af det vigtigste, så det er en 7-8.

Interviewer*: Hvad med designet? Hvordan ville det være placeret ift. navigation på 7-8?*

Respondent: Det ville være en 10'er.

Interviewer: *Så er der det her med fitness tracking?*

Respondent: Hmm.. Det er igen hvad man køber det for, men lad os sige at jeg køber det for generelt brug, så ville det nok være en 6'er.

Interviewer: *Kan du forestille dig at du havde et smartwatch til generelt brug og en fitness tracker til sport?*

Respondent: Ja, det tror jeg at jeg ville. Ved mindre at jeg kunne mute notifikationer, så ville jeg måske bruge det til hverdagsting plus fitness.

Interviewer: *Hvad med notifikationer og det at kunne læse beskeder og se hvem der ringer, hvor væsentligt er det?*

Respondent: Det er meget smart, men igen, hvis jeg har min telefon i lommen, så er det lidt ligegyldigt, forudsætningen er at det kan udskifte min telefon, så er det selvfølgelig ekstremt

vigtigt at den også har funktioner. Som accessory er det nok en 3'er eller 2'er, men som erstatning ville det være en 10'er.

Interviewer: *Hvis vi skulle prøve at rangerer de faktorer der har gjort at du ikke har købt det? Vi kan starte med batterilevetid?*

Respondent: Jeg tror at jeg ville være villig til at spare funktionalitet væk for en øget batterilevetid, så det er nok en 8'er. Design ville jeg derimod ikke gå på kompromis med.

Interviewer: *Hvad med 3G eller 4G forbindelse?*

Respondent: En 7'er.

Interviewer: *Kunne du godt forstille dig på et eller andet tidspunkt i fremtiden, at et smartwatch kommer til at erstatte din telefon?*

Respondent: Det kan jeg sagtens se. Så hurtigt som det går med at mindske størrelse og forøge funktionalitet, og så med et nano simkort, så tror jeg da sagtens at man kunne presse rigtig meget ned i smartwatch, nok til at det erstatter telefonen. Og jeg kunne ikke forestille mig at der går særligt mange år, 1 elle 2 år måske.

Interviewer: Tak for din deltagelse.

8.4.8. Interview #8

Respondent: Simon

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent: 32 år

Interviewer*: Hvilket postnummer bor du i?*

Respondent: 2100

Interviewer: *Kan du prøve at give mig en beskrivelse af hvad et smartwatch er i dine øjne?*

Respondent: Det er et slags ur med noget udvidet funktionalitet som pulsmåling og sådan noget.

Interviewer: Det lyder meget rigtigt – den definition vi har skrevet ned er (giver vores definition).

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Ja. En iPhone 6.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Jeg bruger den nok mest til Facebook og nyheder. Jeg skriver selvfølgelig også SMS'er og ringer og alt sådan noget. Så bruger jeg min kalender meget. Ja, det er nok det jeg bruger den mest til. Jo, jeg bruger den også til at tjekke vejret, på DMI's app.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Altså den gøre selvfølgelig kommunikation en hel del mere ubesværet, det er klart. Hmm.. Hvad ellers.. Nogle gange kan jeg godt stå og mangle nogle oplysninger om et eller andet, så er det jo rart at have google lige ved hånden. Ja, der er sikkert andre situationer også, men det kan jeg ikke lige komme på.

Interviewer: Det er helt fint - *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Altså jeg køber for det meste ny telefon når den anden er 2-3 år gammel, så synes jeg den begynder at blive langsom. Det er altid iPhones jeg køber, dem kender jeg efterhånden for godt til at jeg ville gide at skifte til noget andet. Jeg har også haft en Sony, men ift. iPhone, så synes jeg ikke om systemet, det er ikke lige så brugervenligt. Jeg også ret prisbevidst, så jeg køber normalt telefonen når den kommer på tilbud.

Interviewer: Så skifter vi fokus til smartwatches igen.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Nu kender jeg jo ikke så meget til det, men det kunne sikkert være meget smart med alt det der pulsovervågning og sådan noget, det ville jeg nok synes var meget sjovt. Jeg tror ikke at

jeg ville være den store fan af notifikationer og sådan noget, at mit håndled hele tiden vibrerede, det gad jeg ikke.

Interviewer: *Hvad med sådan noget som batterilevetid og design, er det noget du går op i?*

Respondent: Jeg er jo vant til at lade min telefon op hver aften, jeg bruger den også som alarm, så det er meget naturligt for mig at den bare bliver smidt i opladeren ved siden af sengen. Design går jeg ikke super meget op i, jeg synes iPhones er meget pæne og god kvalitet, jeg kan ikke lide hvis der er for meget plastik, det virker billigt. Men jeg har et cover på min telefon, fordi jeg er lidt for god til at tabe den og sådan.

Interviewer: *Hvad holder dig tilbage for at købe et smartwatch?*

Respondent: Jeg ved bare ikke rigtig hvad jeg skulle bruge den til, så er der mange andre ting jeg hellere vil bruge penge på, hvis jeg skal være helt ærlig. Det kan være at der kommer noget funktionalitet en dag, som gør at jeg ikke kan leve uden, lidt ligesom med smartphonen, men lige nu er det bare en gadget.

Interviewer: *Hvad tænker du om folk der går med smartwatch?*

Respondent: Jeg kender ikke nogen der ejer et smartwatch tror jeg, eller jo, måske en. Hmm.. Hvad tænker jeg, jeg tænker at det vil er folk der gerne vil være med på den nyeste mode eller trend, folk der altid skal have den seneste dims, om det så er nyeste iPhone eller nyeste iPad. De er vel sådan lidt trendsættere. Måske det også er nogen der dyrker meget sport, løb i sær, så de kan overvåge forskellige ting bedre. Det er nok hvad jeg tænker.

Interviewer: *Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Der er tre ting jeg gerne vil spørge ind til, batterilevetid (hvis vi siger at den skal lades op én gang i døgnet, design (som f.eks. skærmstørrelse) og fitness tracking?*

Respondent: Okay, jo, hmm. Batterilevetid er nok 7. Altså, jeg kan ikke rigtig huske hvordan de ser ud, så det er lidt svært at svare på med design, men skærmen skal selvfølgelig hverken være for stor eller for lille, det nok også 7, fitness tracking synes jeg er en 8'er.

Interviewer: *Hvad med 3G forbindelse – altså at uret fungerer uden din telefon?*

Respondent: Det er rigtig vigtigt, nok 9 eller måske endda 10.

Interviewer: *Hvad ville der skulle til for at du ville overveje at købe et smartwatch?*

Respondent: Igen, der skulle komme en eller anden funktionalitet som min smartphone ikke har.

8.4.9. Interview #9

Respondent: William

Interviewer:

Først og fremmest tak for at du vil deltage i vores interview.

Interviewet bliver foretaget som led i et kandidatspeciale og omhandler smartwatches. Hvis du undervejs har kommentarer eller spørgsmål, så skal du endelig sige til.

Afslutningsvist skal jeg gøre opmærksom på at interviewet lyd bliver optaget, for at muliggøre efterfølgende transskribering. Optagelserne kan muligvis blive udleveret til Copenhagen Business School, såfremt de efterspørger det. Optagelserne vil blive gemt indtil efter det mundtlige forsvar af specialet i midt oktober, hvorefter de vil blive slettet. Dine demografiske oplysninger samt fornavn vil fremgå i opgavens bilag og muligvis også analyse (såfremt dette er i orden med dig). Er du indforstået med dette?"

Interviewer: *Hvor gammel er du?*

Respondent*: 25 år*

Interviewer*: Hvilket postnummer bor du i?*

Respondent*: 2300*

Interviewer: *Er du bekendt med hvad et 'smartwatch' er?*

Respondent: Ja, det er et digitalt ur som der kan installeres forskellige apps på til alle mulige formål. Det er vel egentlig bare en slags smartphone til håndleddet. Der er jo også noget der hedder fitness trackers, men de er vel mest til bare fitness og sport, selvom der selvfølgelig også er et ur på, og de kan vise notifikationer, men displayet er vidst ikke lige så stort som på et apple watch. Det nok sådan jeg ville beskrive et smartwatch og forskellen.

Interviewer: Det lyder meget rigtigt – den definition vi har skrevet ned er (giver vores definition)

Interviewer: *På trods af at interviewet omhandler smartwatches, så vil jeg gerne starte et lidt andet sted, jeg kunne godt tænke mig at høre lidt om hvordan du bruger din smartphone til dagligt.*

Interviewer: *Så for god ordens skyld skal jeg lige sikre mig, at du ejer en smartphone?*

Respondent: Jep. iPhone 7.

Interviewer: *Kan du fortælle mig hvad du typisk bruger din smartphone til i løbet af en dag?*

Respondent: Ehh.. Musik, Snapchat, Messenger, Instagram, Facebook, ja altså sociale medier, så læser jeg nyheder i sær sportsnyheder, jeg bruger faktisk også mit kamera en hel del. Hvad ellers, så bruger jeg YouTube. Det tror jeg er det jeg bruger den mest til. Da jeg studerede brugte jeg den også til at tjekke studierelateret ting.

Interviewer*: Kan du tilfældigvis nævne nogle situationer i løbet af en dag, hvor din smartphone hjælper dig med at løse et problem eller en udfordring, som ville have været svært at løse uden?*

Respondent: Altså kommunikation generelt, ville jeg nok have haft svært ved ellers, men det ved jeg ikke om er et problem. Jeg står til gengæld tit i en situation hvor jeg skal finde et eller andet i nærheden af mig, eller skal finde hjem med offentlig transport, der har min telefon reddet mig mange gange.

Interviewer: *Hvad er vigtigt for dig når du skal købe en ny smartphone?*

Respondent: Bare den nyeste iPhone. Altså ikke at jeg altid køber den nyeste iPhone, men når jeg skal skifte telefon, så er det altid til den nyeste iPhone.

Interviewer: Hvorfor?

Respondent: Jeg har haft iPhone siden 3'eren, kender ikke til Android, og er fint tilfreds med hvad iPhone kan.

Interviewer: Så skifter vi fokus til smartwatches igen.

Interviewer*: Kan du komme i tanke om nogle situationer i dagligdagen hvor et smartwatch kunne komme dig til nytte?*

Respondent: Det ville da være belejligt ikke at skulle tage sin telefon frem hver gang den vibrerer, men at man bare kunne tjekke sit smartwatch i stedet. Jeg får ret mange notifikationer fra sociale medier, og det er i 8/10 tilfælde bare noget halv ligegyldigt, men jeg er jo nødt til at tjekke for at se om det er nogen der forsøger at komme i kontakt med mig. At skifte nummer (musik) og sådan noget ville formentlig også blive lettere, meget lettere.

Interviewer: *Hvad med sådan noget som batterilevetid og design, er det noget du går op i?*

Respodent: Jeg tænker at de fleste devices som man bruger flere gange i løbet af dagen, skal lades om én gang i døgnet, og sådan er det jo bare, men hvis den ikke kan holde en hel dag, så er det et problem. Ift. design, så skal det bare være sort og ikke "skrige" for meget, jo mere neutralt jo bedre.

Interviewer: *Hvad holder dig tilbage for at købe et smartwatch?*

Respondent: Jeg har faktisk overvejet det, jeg har haft en fitness tracker, men det er ikke synderligt meget jeg motionerer, så det blev bare en skridttæller til sidst. Jeg ved faktisk ikke hvad der holder mig tilbage, måske at den mangler noget funktionalitet som jeg ikke har tænkt over. Det har nok også noget med prisen at gøre, jeg synes måske ikke at jeg har nok brug for det til at betale 2000 kroner.

Interviewer: *Hvad tænker du om folk der går med smartwatch?*

Respondent: Altså, det er jo stadig ret nyt med smartwatches, men man ser rigtig mange med fitness trackers efterhånden, synes jeg, hvad tænker jeg, hmm.. Altså jeg ved ikke om det er folk med smartwatches eller fitness trackers, men det er oftest folk der ligner de går op i fitness der har dem på. Ellers tænker jeg at det er de samme mennesker som altid køber den nyeste iPhone når den udkommer, altså folk der skal have det nyeste nye.

Interviewer: *Kan vi prøve at rangere vigtigheden eller væsentligheden af de funktioner du har nævnt på en skala fra 1-10 (hvor 10 er meget væsentligt og 0 er helt uvæsentligt)? Altså musikstyring, notifikationer osv.*

Respondent: At kunne styrer musik får 9, notifikationer er helt sikkert en 10'er.

Interviewer: *Hvad med 3G forbindelse?*

Respondent: Jeg tænker at jeg altid ville have min telefon med, så det er nok kun 5.

Interview: *Og design af uret? Både størrelse og udseende?*

Respondent: Hmm.. Altså det er klart at det også har en betydning, måske 7, eller deromkring.

Interviewer: *Hvad ville der skulle til for at du ville overveje at købe et smartwatch?*

Respondent: Et vanvittig godt tilbud, eller en eller anden funktion som kun smartwatchet havde.

Interviwer: *Hvad ville et vanvittig godt tilbud være?*

Repsodent: En tusse for et Apple Watch (1000 kr.), så ville jeg sgu nok købe det.

Interviewer: Tak fordi at du ville deltage.