



# Coffee not on the kitchen counter

Consumer interest in a drip filter coffee maker  
not staying on the kitchen counter and possible  
designs for it

Bachelor thesis Industrial Design  
Noor Reigersman  
Summer 2012



**PHILIPS**





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## Summary

Doortje van de Wouw has launched an idea at Philips named 'Coffee from a drawer'. Her idea was to hide a coffee machine in a drawer. This idea is based on the consumer insight that consumers like to have a coffee machine in their kitchen, but do not have space for it. Next to that most consumers have a wish to keep the surface as 'clean' and beautiful as possible. One possibility is to make the appliances smaller, but the most effective solution would be to have nothing on the kitchen counter at all.

The aim of this bachelor thesis was to explore whether similar coffee makers are already on the market, to investigate whether there is a consumer interest in a drip filter coffee maker not staying on the kitchen counter and finally to design possible embodiments of a drip filter coffee maker that will meet the discovered consumer interests. Existing coffee makers (no gadgets and no built-in devices) that are not or partly staying on the kitchen counter found on the Internet, are shown in figure 1. A consumer focus group of seven people showed interest in a drip filter coffee machine that is not placed on the kitchen counter. All consumers of the focus group indicated to prefer a less full kitchen counter, but wanted their frequently used kitchen appliances within reach, like their coffee machine. The focus group would like more space on the kitchen counter because firstly it is easy to clean, secondly because there is more cooking space on the counter and thirdly because it looks neat. All participants of the focus group were interested in a wall-mounted coffee machine. Requirements resulting from the focus group and general drip filter requirements resulted into three concepts for a wall-mounted drip filter coffee maker (Figure 2). These concepts were shown to twelve consumers during one-on-one interviews (In these interviews drawings of the use, installation and cleaning of the device, a sight model and the drawings in figure 2 were shown).

### *Coffee corner (90-100 euros retail price)*

Seven out of twelve participants chose the coffee corner from these three concepts. Three of them would like to have some adjustments. One participant considered buying the device because he soon got a new kitchen and maybe would buy a built-in coffee maker instead of this device. The three out of seven participants that would buy the coffee corner with some adjustments indicated to want the following:

- Two of the three participants would buy the coffee corner when the look of Wallaby was applied on it (colors, materials, form of jugs)
- One of the three participants indicated to want just a 'normal' board instead of a board with cupwarmer

Interesting is that two others of those seven participants that chose the coffee corner indicated that they rather would like to see the coffee corner with a Wallaby look. Another participant that chose the coffee corner liked Wallaby too and the last participant indicated he would rather like to see the board in black. The cupwarmer was very much liked by two out of the seven participants that chose the coffee corner. Four of the seven would not bother if it would contain a cupwarmer, but found it not necessary.

### *Coffee tower (75-85 euros retail price)*

Four participants chose the coffee tower, of which two of them would buy it with some adjustments: according to one the coffee tower should be more fragile and the other wanted the coffee tower to be shorter (with two instead of three jugs). The other two won't buy: they both did not have place for the coffee tower because they had kitchen cabinets everywhere and one of them also did not want to drill holes in her wooden wall.

### *Wallaby on the wall (112 euros retail price)*

One participant chose concept 3, but did not want to spend its retail price for it.

Because most participants chose the coffee corner and they all indicated to buy, to consider to buy or to buy it with some adjustments and because these adjustments will be feasible, it is recommended to further work out the coffee corner. In figure 3 a recommendatory drawing of the coffee corner is shown. Appendix F shows a SWOT analysis of the coffee corner.

While some participants especially liked the coffee corner because they found it 'new', 'innovative' or 'design like', another minority did not like this and rather would like to have a more 'traditional' coffee maker like the coffee tower and Wallaby. Recommended for Philips is to investigate if the coffee corner fits enough with the Philips brand or that a more traditional coffee maker on the wall will better address Philips' target group.

**Figure 1**

Coffee maker not or partly on the kitchen counter.



**Figure 2**

Concepts for a wall-mounted coffee maker. 1. Coffee corner. 2. Coffee tower. 3. Wallaby on the wall. Concept 1 and 3 contain a combined detachable water- and filter basket. Coffee drips in the lower jug. Concept 1 contains a cupwarmer.



**Figure 3**

Recommendatory drawings for the coffee corner. Below: three possible versions.



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## Preface

This report is written in the context of my bachelor thesis as completion of the bachelor study Industrial Design at University of Twente. The bachelor thesis is performed within the company Philips Consumer Lifestyle and is about the development of a coffee maker that will not stand on the kitchen counter. After doing research on existing coffee makers that do not stand on the kitchen counter, a focus group discussion was conducted to investigate if there is consumer interest for such a coffee maker. Furthermore, possible embodiments for a coffee maker hanging on the wall are designed and validated through one-on-one interviews with consumers. Subsequently, the designs are adjusted so that they better fit the consumers' requirements and wishes. Translating of consumer insights into a design is something that really interests me.

The assignment is supervised by Roel Steunenberg of Philips and by Geke Ludden of University of Twente. Hereby, I really want to thank Roel Steunenberg, for his pleasant cooperation, the weekly 'bilats' where he brainstormed with me and gave me helpful tips. Also I am grateful that he gave me the opportunity to perform my bachelor thesis at Philips. I also want to thank Geke Ludden for her helpful feedback and suggestions and the questions to see things from a different perspective. Furthermore, I want to thank Ana Maria Alvarez very much for her input in the consumer research parts of this thesis and the pleasant cooperation. Finally, I want to thank Bart Jan Zwart, Yde Venema, Mark van der Woning and Stefan Andreessen for their input in my design phase, Gert Jan Veenstra for the explanation about quality, Merijn Stam for his input in the consumer interviews, Wim Brevoord and Rik van Leusen for their help in calculating cost prices and all Philips' workshop employees for their help and suggestions in making sight models of the concepts.

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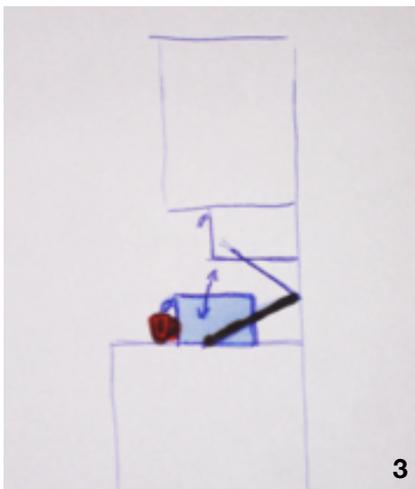
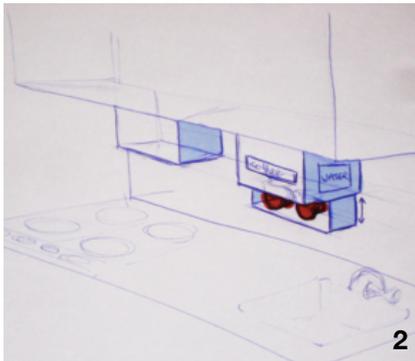
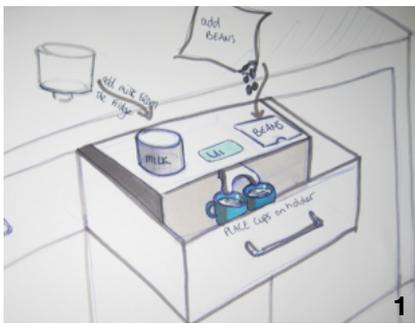
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Introduction

**Chapter 1**

**Figure 1.1**

Ideas of Doortje van de Wouw for locations for a coffee maker. 1. In a kitchen drawer. 2. On the wall next to the kitchen countertop (when the consumer would like to make a cup of coffee he/she could simply pull down the appliance so that it ends up directly on the countertop). 3. Fixed to the bottom of the cabinet. 4. Within a kitchen cabinet (not shown).



## Introduction

Doortje van de Wouw has launched an idea at Philips named 'Coffee from a drawer'. Her idea was to hide a coffee machine in a drawer. This idea is based on the consumer insight that consumers like to have a coffee machine in their kitchen, but do not have space for it. Next to that most consumers have a wish to keep the kitchen as 'clean' and beautiful as possible. One possibility is to make the appliances smaller, but the most effective solution would be to have nothing on the countertop at all. Figure 1.1 shows the ideas of Doortje van de Wouw for locations for a coffee maker.

The aim of this bachelor thesis was to explore whether similar coffee makers are already on the market, to investigate whether there is a consumer interest in a drip filter coffee maker not staying on the kitchen counter and finally to design possible embodiments of a drip filter coffee maker that will meet the discovered consumer interests. A plan of action is shown in Appendix A.

Existing and conceptual coffee makers that are not staying on the kitchen counter will be described in chapter two. By doing research on consumer reviews about these coffee makers on the Internet, a first impression will be given of consumers' opinions about the designs in general, the ease to install them and the amount of space the devices use. Chapter three describes a focus group that was executed to investigate if consumers would like to use a drip filter coffee machine that is not placed on the kitchen countertop and where they would like to place it outside the kitchen countertop. The results of this test will end up in requirements and wishes of the focus group for a new coffee maker. In chapter four, ideas are generated and ranked, resulting in three concepts. The focus in these concepts is on the design, use, installation, cleaning and volume of the device. Through one-on-one interviews with consumers a validation of these three concepts was done in chapter five. Finally conclusions and recommendations about the concepts will be given in chapter six.

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Existing coffee makers  
not on the kitchen  
counter

**Chapter 2**



## 2.1 Introduction

The aim of this chapter was to present an overview of existing coffee machines that are not placed on the kitchen counter. This has been done for three reasons: firstly to get insight in what is already on the market, secondly to explore what consumers think of these coffee machines and thirdly to get inspired by existing coffee machines before designing a new one. The overview was obtained by an internet study that looked at the websites of the device's brand and to various blog- and review websites. The second point, exploring what consumers think, was explored both with an internet study and a focus group. The next chapter addresses this focus group.

The following searching criteria were used:

1. Coffee machines that are not placed on the kitchen counter or take little space on the kitchen counter.
2. No 'gadgets' like an espresso machine of hand size for use on the table.
3. No built-in devices.

The first criterion has been based on a consumer insight from Philips that tells that consumers would like to have a coffee machine in their kitchen, but do not have space for it. For this reason also devices that take little counter space are studied. The second and third criteria are input from Philips: Philips does not make built-in appliances and gadgets. To obtain a broad overview of coffee machines, not only drip filter coffee makers will be presented, but also espresso and Senseo machines.

The machines found on the internet could be classified into four categories:

1. Coffee machines hanging on a wall.
2. Coffee machines fixed to a kitchen cabinet
3. Coffee machines partly on the kitchen counter
4. Folding coffee machines.

No coffee machines in a drawer were found on the internet. The working principle, price and pros and cons of the devices found on the Internet are discussed. Not all devices are (already) on the market, some are conceptual. It has to be said that not all pros and cons are weighted in the same way and that this internet study is an indication of the consumer's opinions: not all devices are equally reviewed and some reviews might be unreliable. The internet study ends up in a vision what consumers on the internet think of the devices.

## 2.2 Existing coffee machines not on the kitchen counter and their pros and cons

### 2.2.1 Coffee machines hanging on a wall

Espressione Luna Wall-mount Pump Espresso Machine<sup>1</sup> [Price between 390<sup>2</sup> and 520<sup>3</sup> euros]

The Espressione Luna is a one group pump espresso machine that can be wall mounted as you can see in Figure 2.1. According to fourteen reviewing customers on the website Amazon<sup>4</sup> the machine is reviewed with four out of five stars. Above all these customers chose this machine because of the good coffee it provides, its design is judged well too. One customer represented the view of the majority with the following quote: “This machine is powerful, sleek in design, makes a superb espresso PLUS it doesn't take up a lot of counter space...it takes up NO COUNTER SPACE”. Three customers had the same point of criticism about leaking water down the wall: “Beautiful design with brilliant space-saving implementation. How could I resist? I should have. The shots were always good until it started to leak hot water all down the wall and onto my countertop”. However, the installation is considered to be easy. A customer told the following about the installation: “It was easy to install the metal plate into the wall. After deciding where I wanted the machine, I placed the template on the wall, marked the point for the 4 holes, drilled the holes in the wall, inserted the raw plugs, fixed the stainless metal plate and screwed the plate into the wall. Then it was very easy to hook the espresso machine and fix it to the plate. This process took less than 10 minutes”. The question is however if all customers would drill holes in their walls. The espresso machine is mostly used at home or at the office. The pros and cons of the Espressione Luna summarized:

- + *Does not take up counter space*
- + *Sleek design*
- + *Good coffee flavor*
- + *Fast coffee preparation*
- + *Simple in use*
- + *Quiet*
- + *Easy to install*
- *Can leak against the wall*
- *Holes in the wall are needed*

Seppel Espresso Machine by Arvid Hausser<sup>5</sup> [Conceptual]

Arvid Hausser designed a porcelain espresso machine mounted on the wall with the idea of saving space on the kitchen counter and simplifying the operation of making coffee. The components are separately mounted and fully visible as you can see in figure 2.2. According to Hausser the process of coffee making is designed for users to understand. The design is conceptual and not for sale (yet) and therefore no reviews about the usage of this product were available. Though the Seppel Espresso Machine could be viewed on a lot of design- and trend blogs on the internet<sup>6-15</sup>. Here the design was reviewed by bloggers, but only bloggers who would like to have such a machine. A comment from Heloisa Righetto<sup>15</sup> represented the overall view of this bloggers: “I have to say that I have been thinking of buying an espresso machine for some time, and lack of space in my kitchen/dining room has been an issue. I love that it's wall mounted and I love even more that it's a beautiful piece of decoration”. However, because of no available reviews for example about the usage or installation of the product the comments are too one-eyed. Therefore possible pros and cons are estimated based on the reviews of the Espressione Luna:

- + *Decorative design*
- + *Does not take up counter space*
- + *Easy to install*
- *Can possibly leak against the wall*
- *Distinctive style/limited target group*
- *Holes in the wall are needed*
- *Conceptual design, so no information available about usage/technical aspects/installation/coffee/price*

Black Luk, wall-mounted Coffee Machine<sup>16</sup>. [Conceptual]

A Chinese designer named Song Ah Lee invented this device called the Black Luk. The designer does not reveal the secret of his concept. So no information has been provided about the specifications of the unit, nor how it works and what it takes to get a cup of coffee. As you can see in picture 2.3 the cylindrical coffee machine contains a cup that can be turned to prepare a cup of coffee. Like the Seppel Espresso Machine (Figure 2.2) the Black Luk is only reviewed in terms of design and not of usage, quality of the coffee and installation procedure for example because it is conceptual. On the website Yankodesign<sup>17</sup> the Black Luk has been discussed by eleven people. The comments on this blog could be divided into two types: one with respect to the

inside mug and one about the idea of the machine. As most of the bloggers on this website were enthusiastic about the idea of the Black Luk a blogger said: “Although the coffee in the picture doesn’t look like a good coffee at all, this wall mounted coffee making machine looks very cool”. The mug inside the machine is criticized by more than half of the bloggers: “Unfortunately the machine can deliver the coffee only in the small red airplane-like coffee cup” and “Clever. But is it compatible with other mugs?” were frequently written comments. The pros and cons of the Black Luk summarized:

- + *Decorative design*
- + *Does not take up counter space*
- *Can possibly leak against the wall*
- *Distinctive style/limited target group*
- *Holes in the wall are needed*
- *Conceptual design, so no information available about usage/technical aspects/installation/coffee/price*
- *Not compatible with other mugs*

Guy Ceder’s “Espresso Yourself”<sup>18</sup>. [Conceptual]

About Guy Ceder’s “Espresso yourself” conceptual design (Figure 2.4) no reviews were available. The device is being promoted on a design website<sup>18</sup> in the following words: “This coffee machine doubles as an aesthetic wall hanging when in standby mode. This hi-tech design comes with a sliding handle which on moving to the right side, exposes a room for inserting a capsule and on placing back to its original position, allows you to choose from the built-in red buttons, your cup of coffee”. Because this device is too indistinctly to understand at a glance, this device was not shown to a consumer focus group that is described in the next chapter. The pros and cons of the “Espresso Yourself” are:

- + *Decorative design*
- + *Does not take up counter space*
- *Can possibly leak against the wall*
- *Distinctive style/limited target group*
- *Holes in the wall are needed*
- *Conceptual design, so no information available about usage/technical aspects/installation/coffee/price*

Brew Express Built-in-wall Coffee Maker by Lance Larkin<sup>19</sup> (Price between 320 and 350 euros<sup>20</sup>)

Although the Brew Express (Figure 2.5) is a built-in coffee machine, this device was shown to the focus group

**Figure 2.1**

Espressione Luna Wall-mount Pump Espresso Machine



**Figure 2.2**

Seppi Espresso Machine by Arivid Hausser



**Figure 2.3**

Black Luk Wall-mounted Coffee Machine



to learn what the group thinks of a coffee machine that has being sold separate from the kitchen and has to be built in. This device should be installed in the wall and hooks directly to the water supply. On the website Homeclick<sup>21</sup> the Brew Express has been reviewed by eight customers from the United States. One customer reviewed that a part leaked against the wall and that the coffee does not stay hot. Pros according to the reviewers were that the Brew Express brews quickly (8), is easy to use (8), is easy to clean (7), is durable (3) and has a large pot (5). For installing the coffee maker a hole should be made in the wall in order to place him half in the wall<sup>22</sup> (Appendix B). The pros and cons of the Brew Express are:

- + *Does not take up counter space*
- + *Easy to use*
- + *Easy to clean*
- + *Brews quickly*
- + *Durable*
- + *Large pot*
- *Big hole in the wall needed*
- *Installation (mostly) by an installer*
- *Water tap and electricity outlet has to be nearby*
- *No space left on the kitchen counter for high kitchen appliances*

### **2.2.2 Coffee machines fixed to a kitchen cabinet**

Black and Decker Spacemaker Coffee Maker<sup>23</sup> [Price 65 euros<sup>24</sup>]

Black and Decker has produced several types of Spacemaker Coffeemakers. The Spacemaker that is still on the market is the SDC850 (Figure 2.6). On the website of Amazon<sup>25</sup> the device is 141 times reviewed. The SDC850 has been rated with 3.6 out of 5 stars. Most criticisms on Amazon were about the installation procedure, the carafe and the water reservoir. The only screws required for the cabinets that worked for some users were the longest ones, which they had to cut shorter by themselves. Another frequently written comment was that the carafe leaks in between the metal and the plastic when pouring. The water reservoir is too flat to correctly measure the right amount of water. Consumers bought this coffee machine mostly because of two of these (or both) reasons: they liked the space saving principle and they had good experiences with earlier Black and Decker coffee machines. Some precursors to this machine that are not being sold anymore are shown in Appendix B. A for this thesis im-

portant point of improvement of the Spacemaker Coffee maker is that the SDC850 is very high off the counter allowing for more counter space and since the carafe hangs from the unit: you do not have to leave it hanging thereby creating even more counter space. The pros and cons of the Spacemaker summarized:

- + *Does not take up counter space*
- + *Well experienced brand for many buyers*
- *Water reservoir to flat to correctly measure the right amount of water*
- *Carafe leaks when pouring*
- *Crass design appeals limited target group*
- *Installation can be difficult for on some types of kitchen cabinets*
- *Holes in a kitchen cabinet are needed*
- *No space left on the kitchen counter for other high kitchen appliances*
- *Kitchen cabinets are necessary*

The Brewmatic Built-In Coffee Appliance (BICA)<sup>26</sup>. [Price 560 euros<sup>27,28</sup>]

The drip filter coffee machine BICA (Figure 2.7) is being sold in the United States. The Brewmatic website<sup>29</sup> indicated only two internet shops where it is possible to buy the BICA. According to a reviewer on the website Epinions<sup>30</sup> the BICA is easy to use and clean and makes good coffee. This reviewer also cited that the BICA requires installation to a water source and it has to be plugged into an electrical outlet. The reviewer indicated that the price is very high and that he got it as a gift. A bottom line according to this reviewer was “If you love coffee and can afford it (or get as a gift), it is worth the time and trouble to install.”. The BICA can be installed on several ways as shown in Appendix B. The pros and cons of the BICA summarized:

- + *Less kitchen counter space needed*
- + *Sleek design*
- *Still uses space on the kitchen counter*
- *Installation (mostly) by an installer*
- *Holes in a kitchen cabinet are needed*
- *Space in the kitchen cabinet is needed for the water hose*
- *Water tap and electricity outlet has to be nearby*
- *No space left on the kitchen counter for other high kitchen appliances*

**2.2.3 Coffee machines partly on the kitchen counter**  
TopBrewer from Scanomat<sup>32</sup> [No price announced yet]

Danish company Scanomat has invented the Topbrewer, a coffee tap that can be controlled with a smartphone (Figure 2.8). The under counter installation (Appendix B) hides a multitude of components that allow for a variety of coffee drinks to be made on demand, including espresso drinks, thanks to its capability to store and froth milk. The TopBrewer is still under development, so no price has been announced yet<sup>33</sup>. The TopBrewer has been shown on a tradeshow in Milan already in December 2011. A movie on the website Imagzin<sup>34</sup> showed the reactions of around 50 people during this tradeshow. The reactions towards the Topbrewer were mostly “A machine of the future”, “An incredible design”, “Perfect” and “Innovative”. However, no reviews are yet available about the installation procedure and daily usage. Pros and cons of the TopBrewer are:

- + Sleek design
- + Less kitchen counter space needed
- + Can be controlled by a smartphone
- + Status symbol
- + Brews quickly
- Still uses space on the kitchen counter
- Installation (mostly) by an installer
- Hole in a kitchen counter needed
- One kitchen cabinet is needed to put the rest of the coffee machine
- Water tap and electricity outlet has to be nearby
- Not on the market yet, so no information available about usage/technical aspects/installation/price

#### 2.2.4 Folding coffee machines

IMO Coffee Maker by Alisson Wilson Stroher<sup>35</sup>. [Conceptual]

The IMO Coffee Maker (Figure 2.9) is a conceptual design from designer Alisson Wilson Stroher. The coffee maker has been reviewed on several design blogs<sup>35-42</sup>. According to these websites the IMO Coffee Maker has been designed to enrich the user with a unique coffee making experience. One of the most interesting features is an articulated arm that can be used in different positions to be used with containers of diverse heights. If the IMO Coffee Maker goes into production it will cost a “cool 100 euros” according to the website Designbuzz<sup>35</sup>. On the design blogs no negative points were written about this coffee machine, but only articles that promoted the IMO Coffee Maker. Only information given about how the IMO brews coffee is shown

**Figure 2.4**

Guy Ceder's Espresso Yourself



**Figure 2.5**

Brew Express Built-in-wall Coffee Maker by Lance Larkin



**Figure 2.6**

Black an Decker Spacemaker Coffee Maker



in Appendix B. Pros and cons of the IMO Coffee Maker are summarized:

- + *Less kitchen counter space needed*
- + *No installation needed*
- *Still uses space on the kitchen counter*
- *One cup of coffee made at a time*
- *Distinctive style/limited target group*
- *Extendable mechanism can be vulnerable*
- *Conceptual design, so no information available about usage/technical aspects/installation/coffee*

## 2.3 Conclusion

In conclusion can be said that the conceptual devices and devices that are on the market can be compared in terms of design, use of space and ease of installation. A comparison between conceptual devices and devices on the market can not be made for example with respect to coffee preparation and -quality, maintenance, life cycle and usage. Figure 2.10 shows an overview of the studied devices with on the X-axis the appreciation for the design of consumers on the internet and on the Y-axis the amount of unused space the device uses, or otherwise how efficient the device uses space. With unused space is meant the space that currently has not been used for storage of things or activities like cooking, for example a drawer, cabinet or kitchen counter. Figure 2.11 shows an overview of the devices with on the X-axis also the appreciation for the design, but on the Y-axis the ease of installation, for example if consumers only have to drill holes in the wall (+) or if there is needed an installer (-). The titles of the axes in figure 2.10 and 2.11 are chosen this way because most consumers on the Internet take into account the design, use of space and ease of installation of the coffee maker when giving their overall opinion about it.

Finally, this analysis learned that consumers on the Internet require a space saving coffee machine...

... To use space in the kitchen efficient (so using as less as possible space in the kitchen where currently can be cooked or can be putted other things).

... To be installable within a short time by themselves.

... Not to leak.

... To be simple in use.

... To be easy in cleaning.

... To be designed in a way they want to show it.

... To prepare good coffee in a fast way.

... To be durable.

**Figure 2.7**

Brewmatic Built-in Coffee Appliance



**Figure 2.8**

Topbrewer from Scanomat



**Figure 2.9**

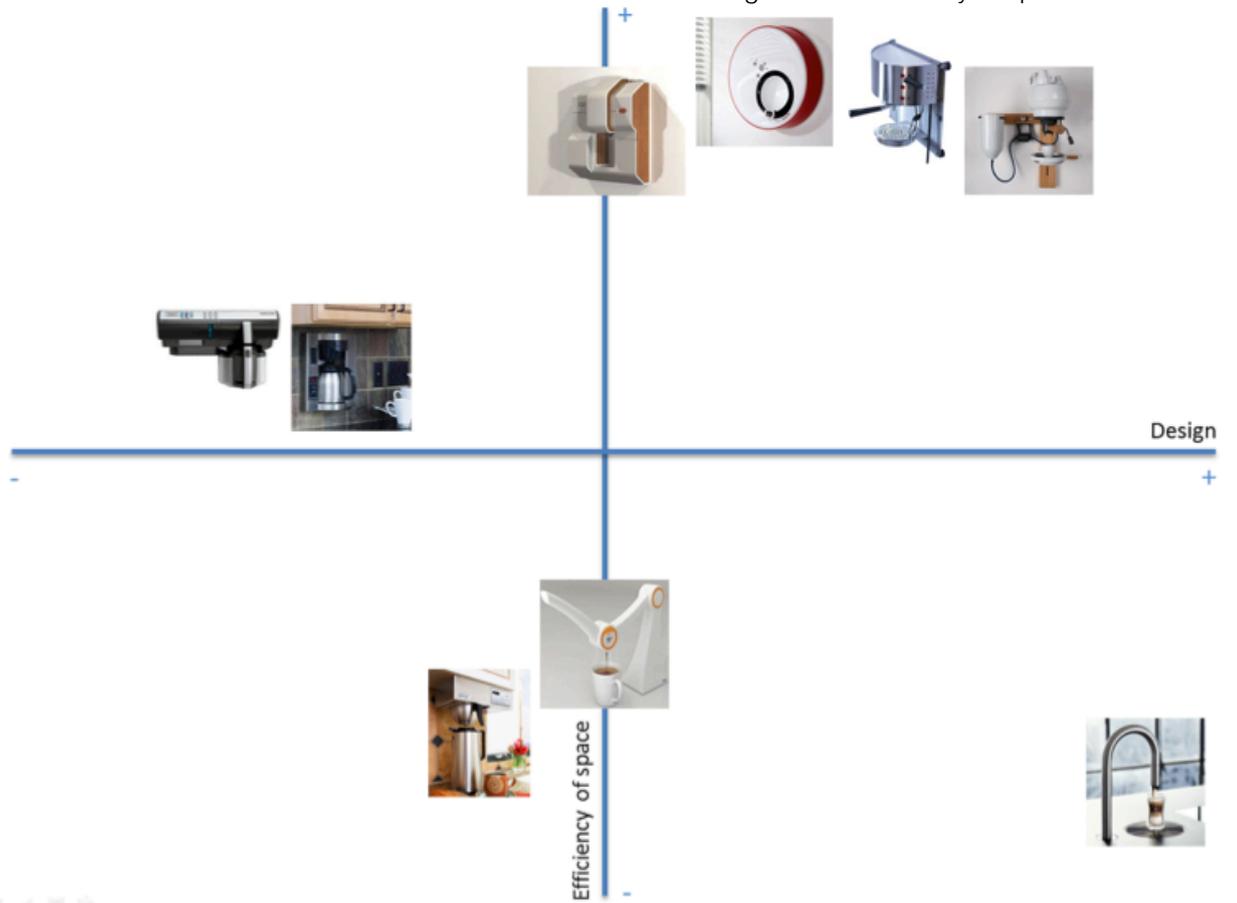
IMO Coffee Maker



Existing coffee makers  
not on the kitchen  
counter

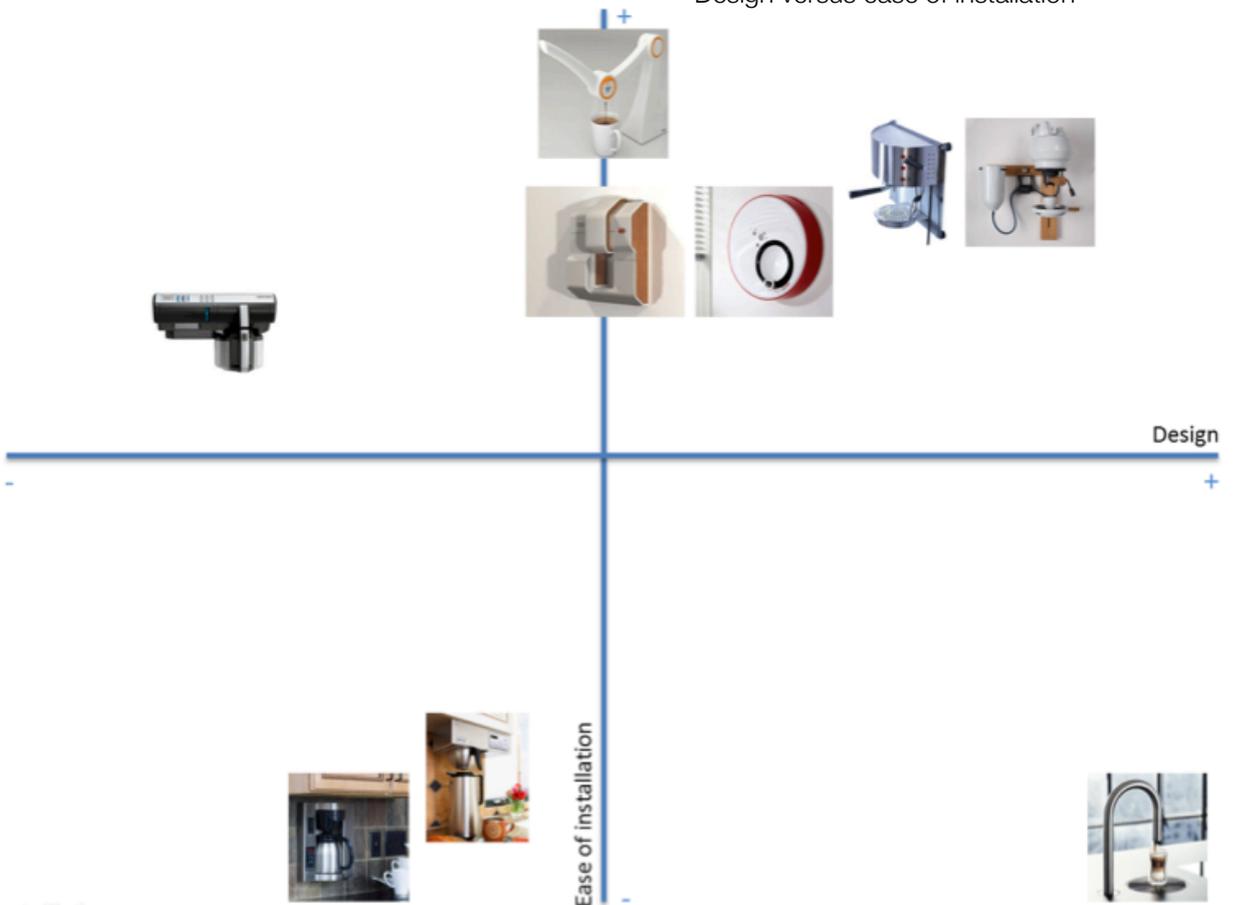
**Figure 2.10**

Design versus efficiency of space



**Figure 2.11**

Design versus ease of installation



**PHILIPS**

**Consumer interest in a  
coffee maker not on the  
kitchen counter**

**Chapter 3**

### 3.1 Introduction

A focus group was conducted to investigate if consumers would like to use a drip filter coffee machine that is not placed on the kitchen countertop and where they would like to place the coffee machine anywhere else but not on the kitchen countertop. The focus group consisted of seven participants. The results of this test were used for generating concepts that meet requirements and wishes inter alia of the focus group. A focus group was used for this research as a first input to determine demands and wishes of consumers. In figure 3.1 a list of advantages and limitations of focus groups are shown. Product Research Manager Ana Maria Alvarez gave feedback before and after conducting the focus group to minimize the last two limitations in figure 3.1. Of the five basic methods of market research (surveys, focus groups, personal interviews, observation and field trials<sup>43</sup>), focus groups is the most appropriate research in this analysis phase for a new design, because especially the discussion is important to come up with new ideas that users may not think of in a one-on-one interview. Usually multiple conversations with different groups are necessary for an informed answer to the research question. For this thesis one focus group is conducted because of the time constraints in this bachelor thesis.

## 3.2 Test protocol

### 3.2.1 Objective

The objective of the test was to validate if consumers of the focus group would like to use a drip filter coffee machine that is not placed on their kitchen countertop and to investigate where they would like to place a coffee machine anywhere else except on the kitchen counter.

### 3.2.2 Research questions

To reach the objective these research questions had to be answered:

1. What steps do consumers of the focus group take for making coffee?
2. What do the kitchens of the consumers look like?
3. To what extent the consumers would like to use a coffee machine that is not placed on their kitchen counter?
4. Why would the consumers like or dislike using a coffee machine placed anywhere else but not on the kitchen countertop?
5. Where would the consumers like to use a coffee machine anywhere else but not on their kitchen counter?
6. Why would the consumers like to use the coffee machine on the place resulting from question 5?
7. Where would the consumers dislike to use a coffee machine anywhere else but not on their kitchen counter?
8. Why would the consumers dislike placing the coffee machine on the place resulting from question 7?
9. What is the opinion of the consumers about existing coffee machines that are not being used on the kitchen counter?
10. Which of the in question 9 named coffee machines would the consumers want to buy?
11. A. [If there is an interest in a coffee machine not on the counter]: What are requirements and wishes of the focus group for a coffee machine not staying on the kitchen counter?  
B. [If there is no interest in a coffee machine not on the counter]: What are requirements and wishes of the focus group for a coffee machine, especially when looking at the volume of the coffee machine?

### 3.2.3 Hypotheses

Because this was an exploratory research no sharp hypotheses could be made.

### 3.2.4 Action standards

If the panel totally would not like the idea of placing a coffee machine not on the kitchen counter desk, then the panel could indicate if they experience other problems in the volume of coffee machines (so not only drip filter coffee machines, but also espresso and Senseo machines).

### 3.2.5 Next steps

The results of this test were used for generating concepts that meet inter alia the requirements and wishes of the focus group. These concepts are validated again through one-on-one interviews with consumers.

### 3.2.6 Panel

The focus group consisted of seven members from the Philips Consumer Panel. These are people from outside Philips. Several criteria are made for the panel as you can see in figure 3.2. The presence of the inclusion criteria included participation in the focus group and the presence of the exclusion criteria precluded participation.

### 3.2.7 Design of the test

All respondents were present during a two-hour discussion. The discussion consisted of five subjects:

1. Kitchen layout, coffee preparation, pros and cons of the participant's kitchens
2. Preference for an empty, half full or full kitchen counter
3. Idea of coffee machine not standing on the kitchen counter
4. Existing coffee machines not standing on the kitchen counter
5. Conclusion with requirements and wishes of the participants

A questionnaire and a time planning are illustrated in Appendix C. The inventory, test data, test location, test engineer and compensation per respondent are also shown here.

### 3.2.8 Final deliverables

The test resulted in a list with requirements and wishes and a vision of possible embodiments of a new drip filter coffee machine.

**Figure 3.1**

Advantages and limitations of focus groups<sup>43</sup>

| Advantages of focus groups   |
|--|
| <ul style="list-style-type: none"><li>• Quick, cheap and relatively easy to assemble</li><li>• Good for getting rich data in participants' own words and developing deeper insights</li><li>• People are able to build on one another's responses and come up with ideas they might not have thought of in a 1-on-1 interview</li><li>• Good for obtaining data from children and/or people with low levels of literacy</li><li>• Provides an opportunity to involve people in data analysis (e.g. "Out of the issues we have talked about, which ones are most important to you?")</li><li>• Participants can act as checks and balances on one another - identifying factual errors or extreme views</li></ul> |
| Limitations of focus groups  |
| <ul style="list-style-type: none"><li>• The responses of each participant are not independent</li><li>• A few dominant focus group members can skew the session</li><li>• Focus groups require a skilled and experienced moderator</li><li>• The data which results from a focus group requires skill and experience to analyze</li></ul>  |

**Figure 3.2**

In- and exclusion criteria for participants of the focus group

| Inclusion criteria   |
|--|
| <ul style="list-style-type: none"><li>• Having and using a drip filter coffee machine at home</li><li>• Coffee consumption ranging from 1-13 cups a day</li><li>• Having a kitchen</li><li>• Speaking Dutch</li><li>• Sex: 50% female &amp; 50% male (hard quota)</li><li>• Age: 20 – 40 (50%) &amp; 41 – 55 (50%)</li><li>• Responsible or co-responsible for the coffee preparation at home</li><li>• Responsible or co-responsible for the purchase of small kitchen appliances</li></ul> |
| Exclusion criteria   |
| <ul style="list-style-type: none"><li>• Working in any of marketing and journalism related areas</li><li>• Philips employees</li></ul>   |

## 3.3 Results

In this section the results from the discussion will be displayed in the order of the subjects described in paragraph 3.2.7.

### 3.3.1 Kitchen layout, coffee preparation, pros and cons of the participant's kitchens

Firstly, the participants made their own kitchen layout (Appendix C). With this they explained how they prepare their coffee and what their kitchen looks like (Figure 3.4). After this, the participants listed pros and cons of their kitchens (Figure 3.3).

Without telling about the idea of placing a coffee maker not on the kitchen counter, participants started telling about their kitchen in terms of space. It soon became clear that participants prefer lots of storage space (in drawers), a big kitchen counter and much floor space. Interesting for this research is that in the first fifteen minutes of the discussion a few participants indicated that their kitchen counter is quickly full. A quote from a participant about this was: "You don't use kitchen appliances that are not staying on your kitchen counter. I have a whole battery of devices on my counter." Two other persons said in response to this "I have to catch all the time devices out of my cabinets" To this another person said: "I would like to have more kitchen counter space also indeed". The above-mentioned quotes were a good bridge to the next topic of the discussion: do participants want an empty, half full or full kitchen?

### 3.3.2 An empty, half full or full kitchen counter

At the start of this new discussion topic three photos were shown: with an empty (A), a half full (B) and a full kitchen counter (C) (Appendix C). First comment on these photos was "Photo B doesn't have a coffee machine on it, does it?". None of the participants would like to have their kitchen like photo A: "Too sterile, there may well be lived in a kitchen" was a frequently heard comment. From that moment on the discussion was about photo B and C. Three participants chose for photo B provided that there would stay a coffee machine instead of a juicer. Four people chose for photo C, but under the condition that the devices that are now staying on the countertop will be put in the kitchen cabinets. So participants would like to have more working space on their kitchen counter but want their frequently used kitchen appliances within reach, like in this case the coffee machine.

When the group was discussing about the place he would like to put the coffee machine there were two other interesting outcomes. At first, one person said: "I dislike having everything on my kitchen counter. I also see how it looks. My coffee machine is nice to see, so I want to show it". Another person indicated to want the coffee machine next to the water tap.

### 3.3.3 Idea of coffee machine not standing on the kitchen counter

The question asked in the beginning of this part of the discussion was: "Imagine that your coffee machine would stand or hang somewhere except on the kitchen counter. Which place would you find it useful to place it then?" Five ideas came under discussion that will be explained in turn.

#### 1. *Under the table*

A first idea a participant inserted was to suspend a coffee machine under a table. The group soon did not like the idea. It should be on a practical height.

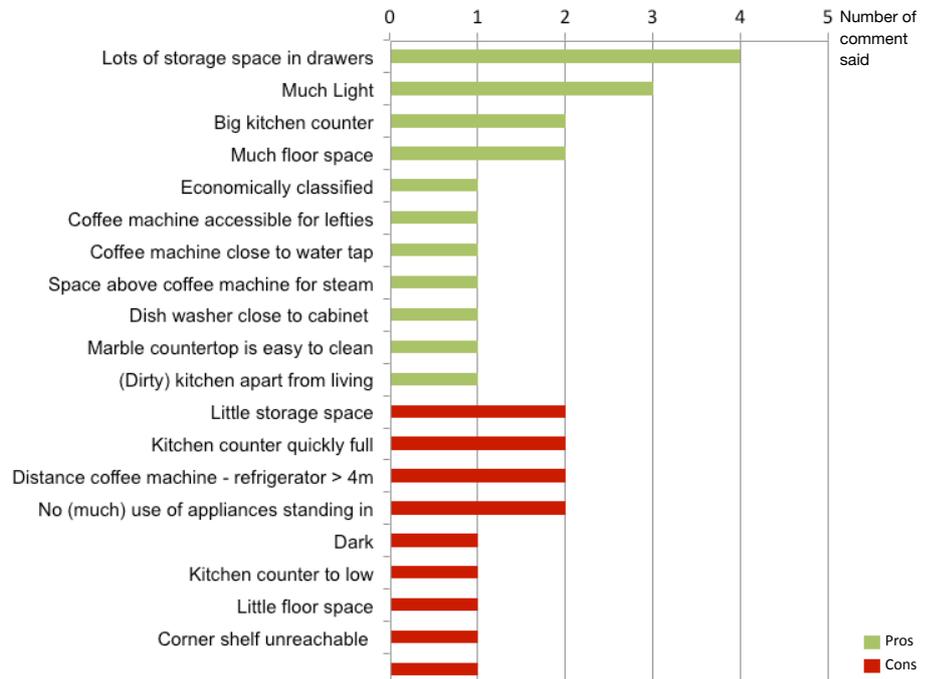
#### 2. *On the wall*

When a person came up with the idea of hanging a coffee machine on the wall there were some enthusiastic reactions. A reaction was: "If you have a big kitchen then it would be ideal. A wonderful designed device on a bare piece of wall. I see it all for me". Soon the participants set requirements for this "wall idea". The device should be compact, not protrude from the wall and a design you want to show. The filling process of water and coffee was also an issue: it should not leak on the wall. A solution submitted by a participant for this problem was to make a separate unit that can be taken off of the device for filling water and coffee on the kitchen counter. Another person suggested keeping little space open between the wall and the device. A second point of discussion was the installation procedure of such a wall-mounted device. None of the participants would bother to drill holes in the wall. A comment was: "Well, for a LCD screen you also drill a few holes in the wall." The maximum that people would do to install such a wall-mounted device would be drilling holes. You should install the device by yourself or by someone in your personal area with an "IKEA guide" like someone said. At least it should be stable of course. One person suggested connecting the device to the water supply, but the rest of the group did not like this. What people liked was that you could

install it by yourself and wherever you wanted. “You could also install it at your office” someone said. Three of the seven participants would immediately buy such a device. The other four were in for such a device, but only when the design would look good. None of the participants did not like the idea at all. The participants liked the idea of using empty space on the wall instead of using space on the kitchen counter. What someone also mentioned was: “It is also useful when you are cleaning your kitchen counter with a dishcloth”.

**Figure 3.3**

Pros and cons of the kitchens of participants of the focus group



**Figure 3.4**

A participant of the focus group explains how his kitchen looks like using his self made kitchen layout.



### 3. As a partition wall between living and kitchen

After more brainstorming, someone suggested to make a device like a wall between kitchen and living. This would be something like a built-in coffee machine in a partition wall. A reaction to this idea from another person was: "A friend of mine has such a built-in coffee machine. That is very impractical when refilling coffee beans. On birthdays she still picks up her old drip filter machine out of a kitchen cabinet. It has to be practical". None of the other participants liked this and finally the person who suggested it also did not like it.

### 4. In a drawer

When the brainstorming froze, I suggested to put a coffee machine in a drawer. The first reactions to this was: "Awesome, when you open the drawer a nozzle will come out of the drawer" and "Looks very funny to me". Another person said that she would rather like to have the device in a drawer than at the kitchen counter. But soon there were reactions like "That will become a mess". Another person said that you would easily close the drawer when he is messy: "It's just a drawer, hop, drawer shut". She proposed to put the coffee machine in an extendable cabinet because if you have it at eye level it will less quickly become a mess.

### 5. In an extendable kitchen cabinet

The participant explained this idea like this: you open the cabinet door, you pull out the device and then you can make your coffee". None of the other participants would like to have such an extendable device in a kitchen cabinet. Besides not every participant had top cabinets in the kitchen, this device would take up too much storage space and would be impractical according to the other participants.

Figure 3.5 shows a summary of the reasons why participants suggested a certain idea and why other participants liked or disliked the idea.

## 3.3.4 Existing coffee machines not staying on the kitchen counter

Next to the brainstorm session nine existing coffee machines not standing on the kitchen counter were shown (Figure 3.7). Firstly, it was asked if the participants would like to buy one and after that which one(s).

After a first reaction of surprise that there were already 'space saving' designs, the participants began to tell which devices they would like to have. Figure 3.7 summarizes the comments on each device.

## 3.3.5 Requirements and wishes of the participants

At the end of the discussion a list of requirements and wishes was made for a coffee machine not standing on the kitchen counter. All participants had a wall-mounted drip filter coffee machine on their mind. The coffee machine...

### [Design related]

...has to be rather wider than deeper or in other words: it must not protrude too much from the wall\*

...has to be medium sized (for eight cups)\*

...has to contain an as far as possible invisible electricity cord\*

...has to be designed in that way that you want to show it\*

...has to be designed sleek (sleeker than device 3 in figure 3.7)\*

...has to be customizable: there should be a possibility to choose different colors and possibly shapes\*

...has to be customizable with different coffeepots so that you could choose between different pots which can be put under the same coffee machine (e.g. glass pot or thermos)\*\*

...has to be universal or in other words: on the holes you drilled in the wall you should also have the possibility to place a device of another size\*

### [Installation related]

...has to be easy installable. Drilling holes in the wall is the maximum people would do with an "IKEA guide"

### [Use related]

...has to be simple to use: it does not have too many buttons and does not need a thick manual before use\*\*

...has to take into account left handed people\*\*

...has to be easy fillable with water and coffee\*\*

...has to contain separate units for filling water and coffee so that the filling process will be on the kitchen counter\*

### [Functionality related]

...has to have a long life: you do not install the device for one year\*

...has to be mobile or in other words: you should decide by yourself where it will be placed\*

- ...has the possibility to be taken off of the wall for repair purposes or cleaning the device\*
- ...should not leak against the wall\*

[Coffee preparation related]

- ...has to prepare coffee with a good temperature\*\*
- ...has to prepare coffee which strength should be properly adjustable\*\*
- ...has to prepare coffee in a short time\*\*

[Other]

- ...has to be energy efficient\*\*
- ...should not only have the possibility to prepare eight cups but also one cup\*\*

### 3.4 Conclusion

#### 3.4.1 Research questions answered

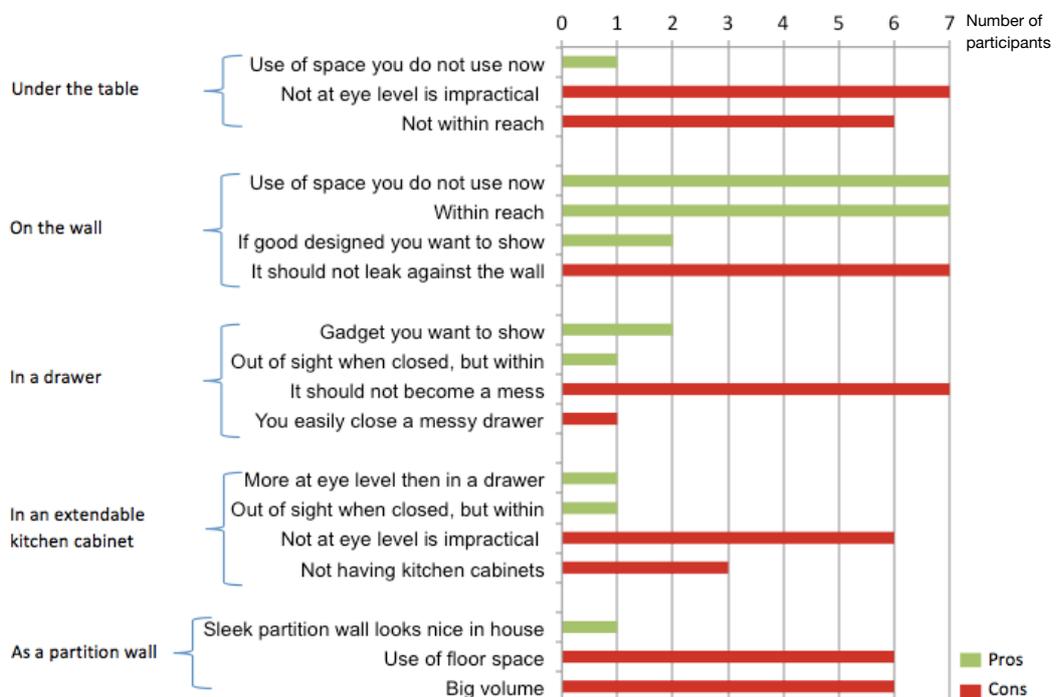
In the conclusion the research questions from paragraph 3.2.2 are answered based on the results from the discussion with the focus group.

1. *What steps do consumers take for making coffee?*  
The participants mostly indicated the same steps for making coffee like: filling water reservoir, taking filter, putting filter in filter holder, taking coffee, filling filter with coffee, putting coffee machine on, picking cups, filling cups with coffee and picking up the other “coffee supplies” shown in Appendix C.

2. *How do the kitchens of the consumers look like?* In Appendix C layouts are shown of the participant's kitchens. The coffee machine of six participants is placed next to the water tap. There was one participant with a separate coffee corner next to her kitchen.
3. *To what extent the consumers would like to use a coffee maker that is not placed on their kitchen counter?* There is interest in a coffee machine that is not placed on the kitchen counter. All consumers of the focus group indicated preferring a less full kitchen counter, but want their frequently used kitchen appliances within reach, like their coffee machine. The focus group was most interested in a wall-mounted coffee machine.
4. *Why would the consumers like or dislike using a coffee machine outside the kitchen counter?* Besides the coffee machine has to be within reach because of practical reasons, two participants said they want to show their coffee machine because of its good design. The focus group would like more space on their kitchen counter because firstly it is easy to clean, secondly because there is more cooking space on the counter and thirdly because it looks neat.
5. *Where would the consumers like to use a coffee ma-*

Figure 3.5

Reasons why participants suggested a certain idea and/or why other participants liked or disliked the idea.



ker outside the kitchen counter? The focus group was most interested in a wall-mounted coffee machine. Three participants would instantly buy such a wall-mounted device. The other four would first see the design but were open towards the idea.

6. *Why would the consumers like to use the coffee machine on the place resulting from question 3? Positive points of a wall-mounted coffee machine according to the focus group are:*
  - Coffee machine uses of space you do not use now (7 participants)
  - Coffee machine is within reach (7 participants)
  - If the machine is good designed you want to show it (2 participants)
7. *Where would the consumers dislike to use a coffee machine outside the kitchen counter? A negative point of a wall-mounted coffee machine was that all participants (7) feared that the machine would leak coffee against the wall.*
8. *Why would the consumers dislike placing the coffee machine on the place resulting from question 5? See figure 3.5.*
9. *What is the opinion of the consumers about existing coffee machines that are not placed on the kitchen counter? See figure 3.7.*
10. *Which of the in question 9 named coffee machines would the consumers want to buy? See question 9.*
11. *What are requirements and wishes of the focus group for a coffee machine not staying on the kitchen counter? Paragraph 3.3.5 shows the requirements and wishes of the focus group. The next chapter shows which requirements to what extent will be taken into account in this thesis.*

### 3.4.2 SWOT analyses of ideas

SWOT analyses are made of the ideas for placing a coffee machine that one or more consumers would buy or consider to buy (Appendix C). These SWOT analyses are made to get more insight in the opportunities and threats, also opportunities and threats which were not reflected in the focus group but which resulted from the competitor analysis (Chapter 1) or from common sense.

### 3.4.3 Chosen idea direction

Based on the results of the focus group and the SWOT analyses the design direction goes towards a wall-mounted drip filter coffee machine. Three participants of the focus group already indicated willing to buy a

wall-mounted coffee machine and four participants would consider but first wanted to see the design. In the SWOT analysis of the coffee machine hanging on a wall the strengths and opportunities outweigh the weaknesses and threats (Figure 3.6).

**Figure 3.6**

SWOT of a coffee maker on the wall. Sources are shown behind the sentences. [Ch.1] = Chapter 1 about existing coffee makers not on the kitchen counter. [Ch.2] = Chapter 2 about the focus group. [S] = based on sense and/or experience.

|   |   |
|---|---|
| No kitchen counter space needed for the device. [Ch.1,2]  | The electricity cord is clearly visible when no when the device is not suspended near an AC power. [Ch.2]   |
| Use of space that most consumers currently do not use. [Ch.2]   | Empty wall needed to hang up the device. [Ch.1]   |
| If it is within a radius of four meters from the water tap, then the coffee machine remains within reach in the kitchen. [Ch.2]             |   |
| <b>STRENGTHS</b>  | <b>WEAKNESSES</b>   |
| <b>OPPORTUNITIES</b>  | <b>THREATS</b>  |
| Consumers like to show their coffee machine if it is a design that appeals. [Ch.2]  | Consumers would not buy it because they fear that it will leak against their wall. [Ch.1,S]   |
| When consumers are convinced of a long-life of the device then they will take the effort to drill holes in the wall. [Ch.2]                 | Consumers would not buy it because you have to drill holes in the wall. [S]   |
| A trendy solution for making the electricity cord less distracting can make the design possibly trendier. [S]                               | Consumer would not buy it because the installation of the device will cost too much time and effort. [Ch.1,S]   |
| Making the machine that mobile that it could hang against the wall, below a cupboard and could stand on the kitchen counter or a stool. [S] | When the device is placed higher than kitchen counter high there may be a threat that consumers cannot prepare coffee user-friendly. [S]  |
| Making the installation that simple that consumers can install the device within ten minutes. [Ch.1]  | Not all home residents may be able to use the coffee machine user friendly when placed too high for them. [S]   |
| Using components from already existing Philips drip filter coffee machines. [S]   | When hang up against the wall perpendicularly to the kitchen counter it leaves too little space between the underside of the device and the kitchen counter to add value compared to a coffee maker on the kitchen counter. [S] |

**Figure 3.7**



Device 1:  
None of the participants would like to buy this machine, because it would add nothing: you still need kitchen counter space for the thermos.



Device 2:  
Same comment as to device 1.



Device 3:  
None of the participants liked the design of this coffee machine. A participant said to want such a device but then with another design. When asked if the participants would drill holes in the cabinet, no one felt that would be a problem.



Device 4:  
Not a participant would like to buy this coffee machine due to the design and the folding element.



Device 5:  
Two people would like to buy device 5 under the condition that it is no built-in device but as a release device on the wall. The sleek steel casing was liked by one participant and the fact that it is a drip filter coffee machine by all participants.



Device 6:  
The wall-mounted principle was liked by all participants. Four participants would like to buy device 6, 8 or 9. What the four participants liked about this design was the sleek steel casing of this device.



Device 7:  
The wall-mounted principle was liked by all participants, but this device was too much a black box: it was not understood how to prepare coffee.



Device 8:  
The wall-mounted principle was liked by all participants. Four participants would like to buy device 6, 8 or 9. Two of them said to prefer 8 because of the nostalgic design.



Device 9:  
Three participants liked this device because of its sleek and simple design, but would only buy this when they built-in a new kitchen in their house.

**PHILIPS**

**Concepts of a wall-  
mounted coffee  
maker**

**Chapter 4**

## 4.1 Introduction

This chapter addresses ideas for a wall-mounted coffee maker. Firstly, the general working principle of a drip filter coffee maker is explained shortly. As an input to the ideas a list of requirements was used that resulted from the analysis to existing coffee makers, the focus group and from existing requirements for a drip filter coffee machine (Appendix D). Via brainstorms by myself and brainstorm sessions with Philips employees several ideas came up. Thereafter, ideas are selected to work out by means of a list of ranking criteria. Finally these ideas resulted in three concepts. From each concept a context drawing, a sight model and drawings of installing, using and cleaning the device will be shown.

## 4.2 Working of a drip filter coffee maker

Before showing the concepts, a short description will be given of the working principle of a dripfilter coffee-maker. The exploded view in figure 4.2 gives an overview about the main components of a dripfilter coffee-maker. This basic architecture is an example. Other dripfilter coffeemakers have a little different architecture. For all dripfilter coffee machines the main functions are similar (Figure 4.3). The section view from the Basic dripfilter coffeemaker in figure 4.1 shows the composition of the different components together.

In “Koffie zetten, een vak apart” J.F. Geisler explains the working principle of a drip filter coffee machine as follows: “The working principle from the dripfilter coffeemaker is communicated tubes (figure 4.4). After the filling the water container is in the same time the complete system filled with cold water. The one way valve (purple coloured triangle) is open for the cold water. If the user switches the pump on the system is heated up. The heater is heating up the cold water in the pump. The water expands because of the heat. The hot water wants to escape. The only open direction is to the jug because the one way valve blocks the direction to the water container.” The coffee- and water flow in Philips’ new coffee maker Wallaby is shown in figure 4.5. This new coffee maker has a combined water- and filter holder.

For this thesis it was important that the components of a dripfilter coffeemaker would fit of course. The largest components that had to fit in the device were the basic pump module (BPM) (Appendix D), the filter holder, the water basket, the thermos jug, the spout (Appendix D) and the spout pipe. In Wallaby the thickness of the casing where the BPM is inside is 40 mm. The conical filter holder has an upper diameter of 140 mm for three to eight cups. For three to eight cups at least 1,3 L water has to fit in the water basket and in the thermos jug. Furthermore, the principle of the communicated tubes had to be right in the concepts and distance 2 to 3 (Figure 4.9) should be as short as possible to brew the hottest coffee. In Appendix D the components are indicated in each of the three concepts. The three concepts will be explained in paragraph 4.4.

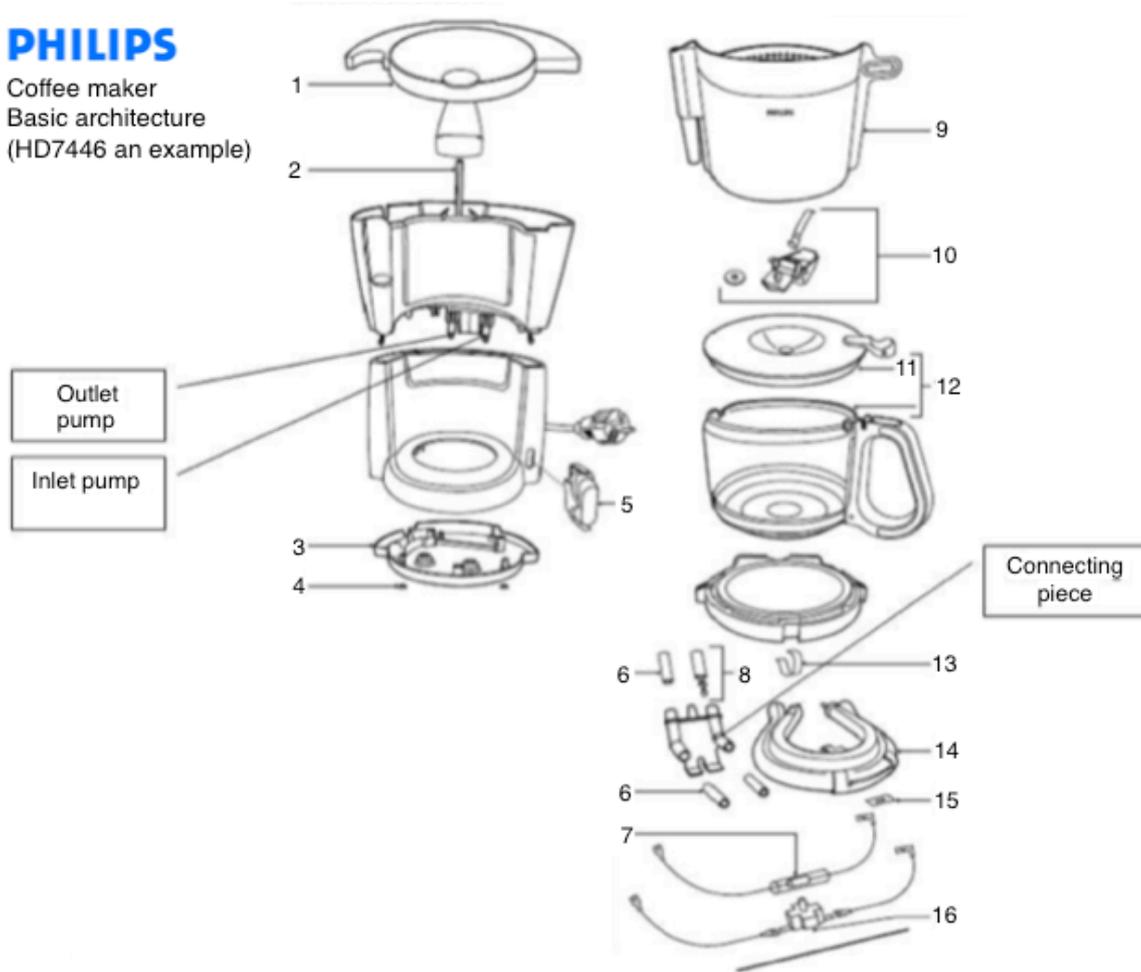
**Figure 4.1**

Section view of a basic drip filter coffee maker<sup>44</sup>.



**Figure 4.2**

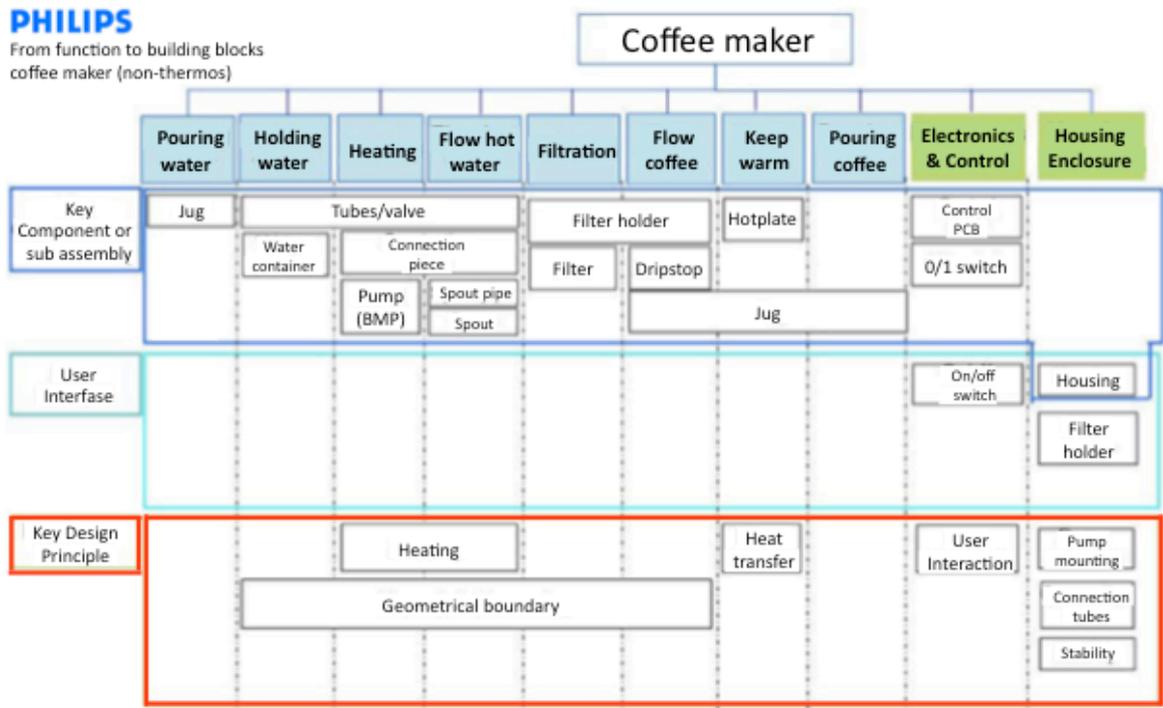
Dripfilter coffee maker architecture<sup>44</sup>.



- |               |                            |                           |
|---------------|----------------------------|---------------------------|
| 1. Tanklid    | 7. Fuse assy               | 13. Leaf assy             |
| 2. Spoutpipe  | 8. Valve + hose piece assy | 14. Basic pump module III |
| 3. Base       | 9. Filter printed          | 15. Speednut              |
| 4. Foot       | 10. Dripstop assy          | 16. Thermostat            |
| 5. Switch     | 11. Jug lid                |                           |
| 6. Hose piece | 12. Jug + lid              |                           |

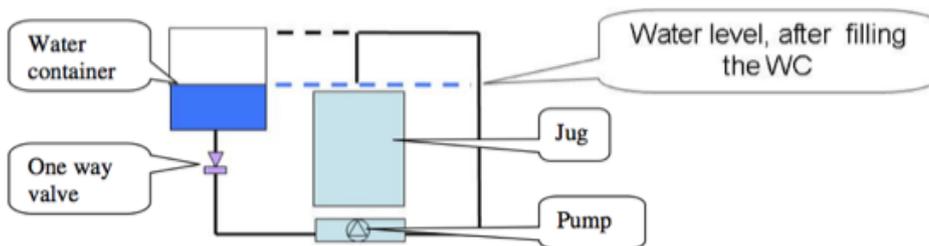
**Figure 4.3**

Building blocks of a drip filter coffee maker (Non-thermos)<sup>44</sup>.



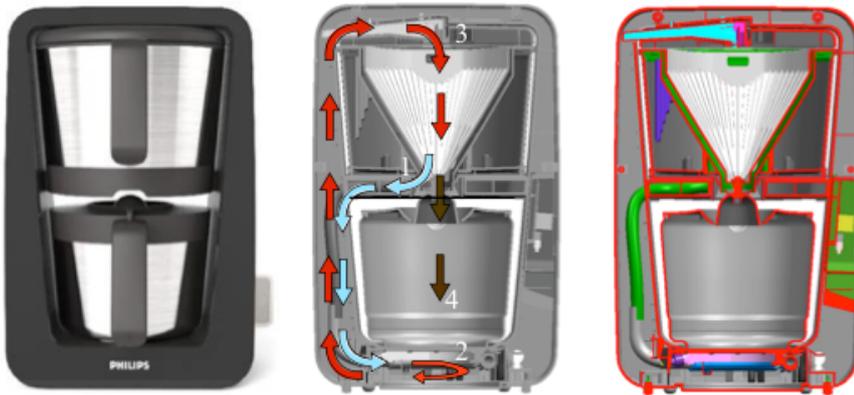
**Figure 4.4**

Working principle drip filter coffeemaker: Communicated tubes with pressure changes during heating<sup>45</sup>.



**Figure 4.5**

Left: Philips' Wallaby. Middle: Water- and coffee flow 1. Filling basket with water. 2. Water heated in basic pump module (BPM). This BPM has a double function: keeping the coffee (jug) warm and warming up water. 3. water flow through filter. 4. Coffee in thermos jug. Right: Section view of Wallaby.



### 4.3 Ranking ideas

Brainstorming for a wall-mounted coffee machine resulted in two idea directions: ideas for a brand new coffee machine that will hang on the wall and ideas for an accessory for Philips' new coffee maker "Wallaby" (figure 4.1). The Wallaby was chosen because of its detachable water and coffee fill basket, which was a requirement that resulted from the conducted focus group. An accessory to hang up a coffee machine could be a low-budget option for Philips to make it possible for consumers to hang a coffee machine on the wall.

**Figure 4.6**

Philips new coffee maker "Wallaby"



During brainstorming a list of ranking criteria was made (Figure 4.7). These ranking criteria resulted from the focus group and the analysis of existing coffee makers (e.g. 'Efficiency of space') and from meetings with Philips employees (e.g. 'Time to market') . The ideas will be ranked bad, average or good relative to each other. Appendix D clarifies the definitions of bad, average and good. An idea selection was made by ranking the ideas by myself, using the criteria in figure 4.7 and by sessions with the Philips team (Appendix D). These two ways to rank ideas led to three concepts: concept 1 resulted from idea 8, idea 9 led to concept 2 and concept 3 resulted from a combination of idea 1, 2 and 4. First the ideas are described. Thereafter an idea ranking oversight is shown. For safety reasons all designs are implemented with a thermos jug instead of a glass jug.

Figures 4.8a to 4.8i show some of the ideas that were generated during brainstorming.

**Figure 4.7**

Ranking criteria.

| Ranking criterion                       | Specified   |
|---|---|
| <b>1. Time to Market</b>                | Availability of competences   |
| <b>2. FSP Appliance</b>                 | Cost price  |
| <b>3. Value for consumer</b>            | Sales price in market   |
| <b>4. Fit with Philips brand</b>        | Is it Sense and Simplicity?<br>(Solutions that are advanced, easy to use, and designed around the needs of all Philips' users and customers). |
| <b>5. Usability</b>                     | Ease of use   |
|   | Clean ability   |
|   | Ease of installation  |
| <b>6. Design flexibility</b>            | Design freedom of concept: how much can we still change the design within this concept?   |
| <b>7. Efficiency of space</b>           | How much currently used space will be saved?  |
| <b>8. Safety</b>                        | How safe is the concept when used by the consumer?  |
| <b>9. Unique Market Proposition</b>     | Is it unique or already in market?  |
| <b>10. Ease to communicate benefits</b> | Does the consumer understand what the concept is meant for?   |







Finally, expert reviews by Philips employees of several disciplines led to a selection of ideas that will be developed into three concepts. A diary in Appendix D shows which appointment was when, with who and about what. Figure 4.9 shows a ranking line where the ideas are putted on. The ideas are ranked with the ranking criteria of figure 4.7. In Appendix D the ideas are ranked according these ranking criteria. Hereby, all ranking criteria are weighted equally. The circled ideas in figure 4.9 were chosen after the expert reviews with several disciplines within Philips and are worked out into three concepts.

Idea 8, the coffee corner on the wall, was chosen because of the following reasons:

- This design is of all ideas the most sense and simplicity
- The board has a double functionality: putting cups on it and warming the cups
- This design is not just a normal coffee machine that hangs on the wall, but a special one
- When asking Philips employees their top 3, all put this design in the first place
- This design would be technically feasible (with the heating element in the board)

Several things had to be worked out in this idea. At first the protruding volume had to be minimized as far as possible and the exact measurements had to be made clear to get a better impression. Also, the attaching of the jugs should be clarified and the materials of the device must be determined. Finally the installation, cleaning and use of the device had to be clarified.

The second concept is a combination of idea 1, 2 and 4. Reasons to work out a combination of these ideas were:

- The clamping of idea 2 was liked: the consumer has to trust that the jugs are secured
- The flatness of idea 1 was liked
- The device in idea 4 is more a whole by the casing around the device than the other ideas that exist more out of separate parts

So in within this concept these points of ideas 1, 2 and 4 had to be combined in a good way. The materials and

exact measurements had to be clarified, as well the installation, cleaning and use of the device.

Reasons to work out idea 9 for an accessory for Philips' new Wallaby were:

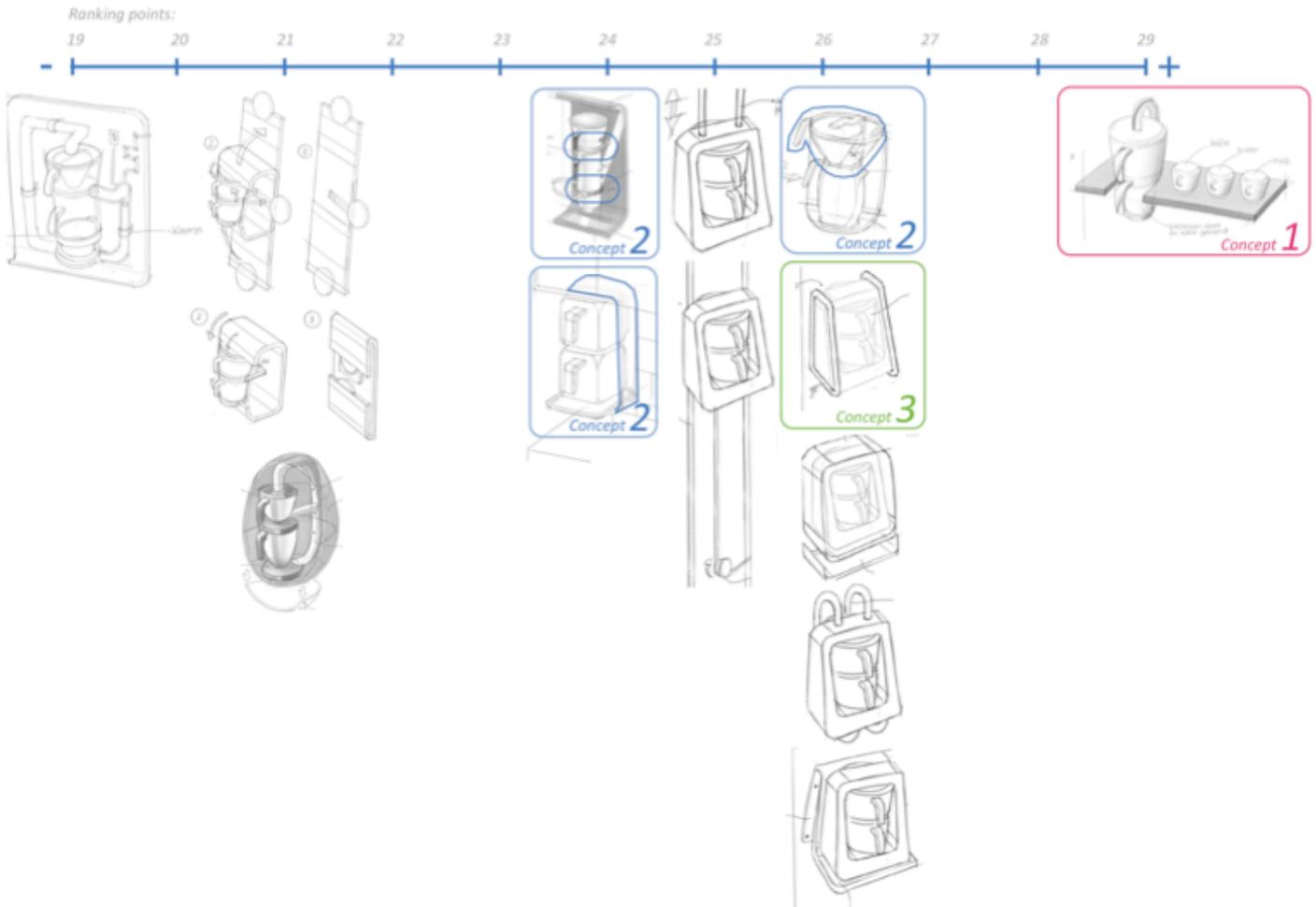
- This idea is a simple and fast way for Philips to hang a coffee machine on the wall
- The attachable water/filter basket of Wallaby fits to the requirements resulted from the focus group

How exactly the pipes would fit around Wallaby had to be found out. Here also materials and exact measurements should be determined. At least the installing, cleaning and use of the device had to be made clear.

Furthermore, idea 3 with its coffee experience was found nice at first sight, but soon there was concluded that hanging the device on the wall *and* giving consumers an extra experience by lights was too much and not sense and simplicity. The folding coffee machines (idea 5 and 6) also raised positive reactions in the beginning because of its funniness. However, it was reminded a camping coffeemaker and moreover, you still save no space in the kitchen, because the jugs still should be put in a cupboard. Besides, to make the folding technique would be hard. Idea 7 with its oval casing would take in too much space. The idea of more installation options of idea 4 was found unnecessary: when consumers buy a coffee machine that can hang on the wall, they would not place it below the cupboards. When putting a heating element in the back plate of idea 2, the plate would become much thicker than on the drawing which won't give a nice view. Drilling holes on the ceiling (idea 14) will be harder than holes in the wall: people won't do that. The rails of idea 11 would become a big scaffold on the wall which would take up too much space and the extra benefit of adjusting the height would not be big enough. From all ideas for an accessory for Wallaby, idea 9 was liked the most.

**Figure 4.9**

The circled ideas resulted from the expert reviews with several disciplines within Philips and will be worked out into three concepts. The ideas are also being ranked with a list of ranking criteria (Appendix ?).



## 4.4 Concepts

### 4.4.1 Concept 1 – Coffee corner on the wall

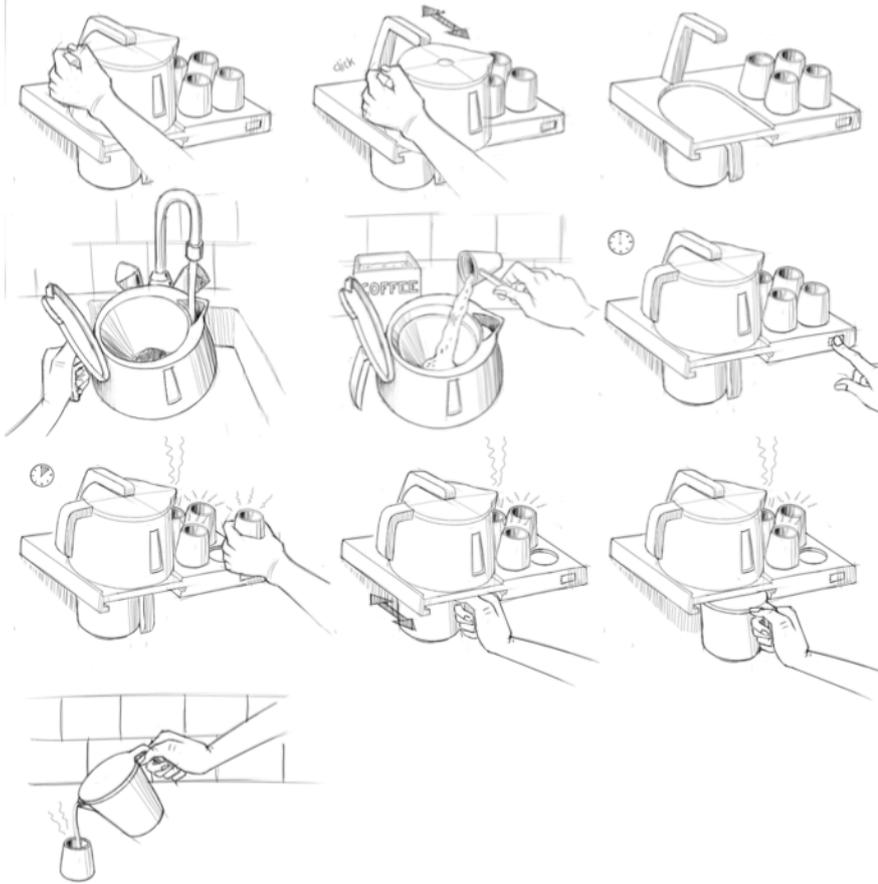
Figures 4.12 to 4.15 show concept 1 in context and the installation-, the using- and cleaning procedure of the coffee corner. The upper jug (the water/filter basket) is made less voluminous than the Wallaby water/filter basket by placing the water opening partly next to the jug with a spout. The jug is placed to the side to reduce the protruding volume. The cups and jugs are made in the same style to make it a set. The plastic board has got a wood printing. The retail price of this coffee maker would be between 90 and 100 euros. In Appendix D a cost price calculation is shown. Photos of a sight model and dimensional drawings of this concept are shown in Appendix D.

#### Figure 4.12

Drawing of concept 1 in context. Water and coffee are fillable in the detachable upper jug. Coffee drips in the lower jug. The jugs and pipe are made of stainless steel, the board of plastic and the cups of porcelain. The board contains a cupwarmer to warm up the cups.

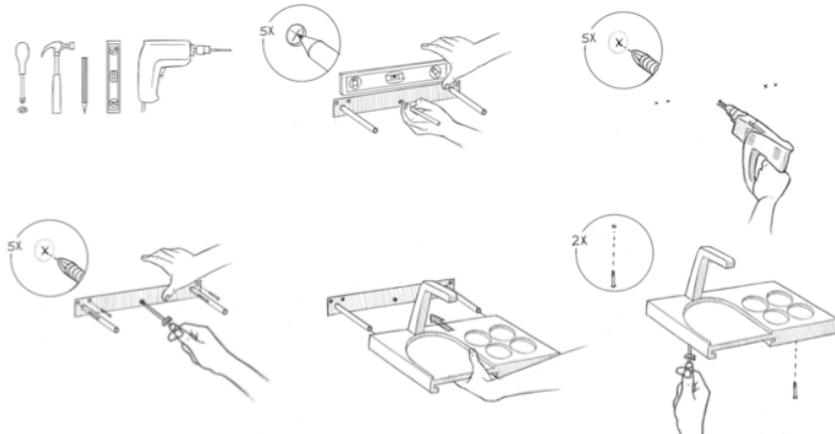


Concepts of a wall-mounted coffee maker



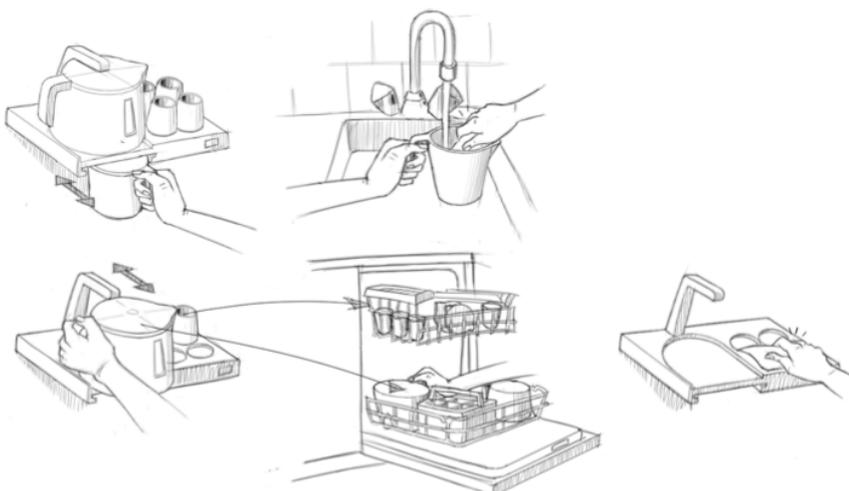
**Figure 4.13**

Daily use of concept 1. Coffee and water will be filled in the upper jug and while the coffee is brewing, the cups will be warmed up.



**Figure 4.14**

The installation procedure of the coffee corner with a hidden mounting bracket. The installation procedure is shown in 'IKEA style', which the conducted focus group indicated would like to have.



**Figure 4.15**

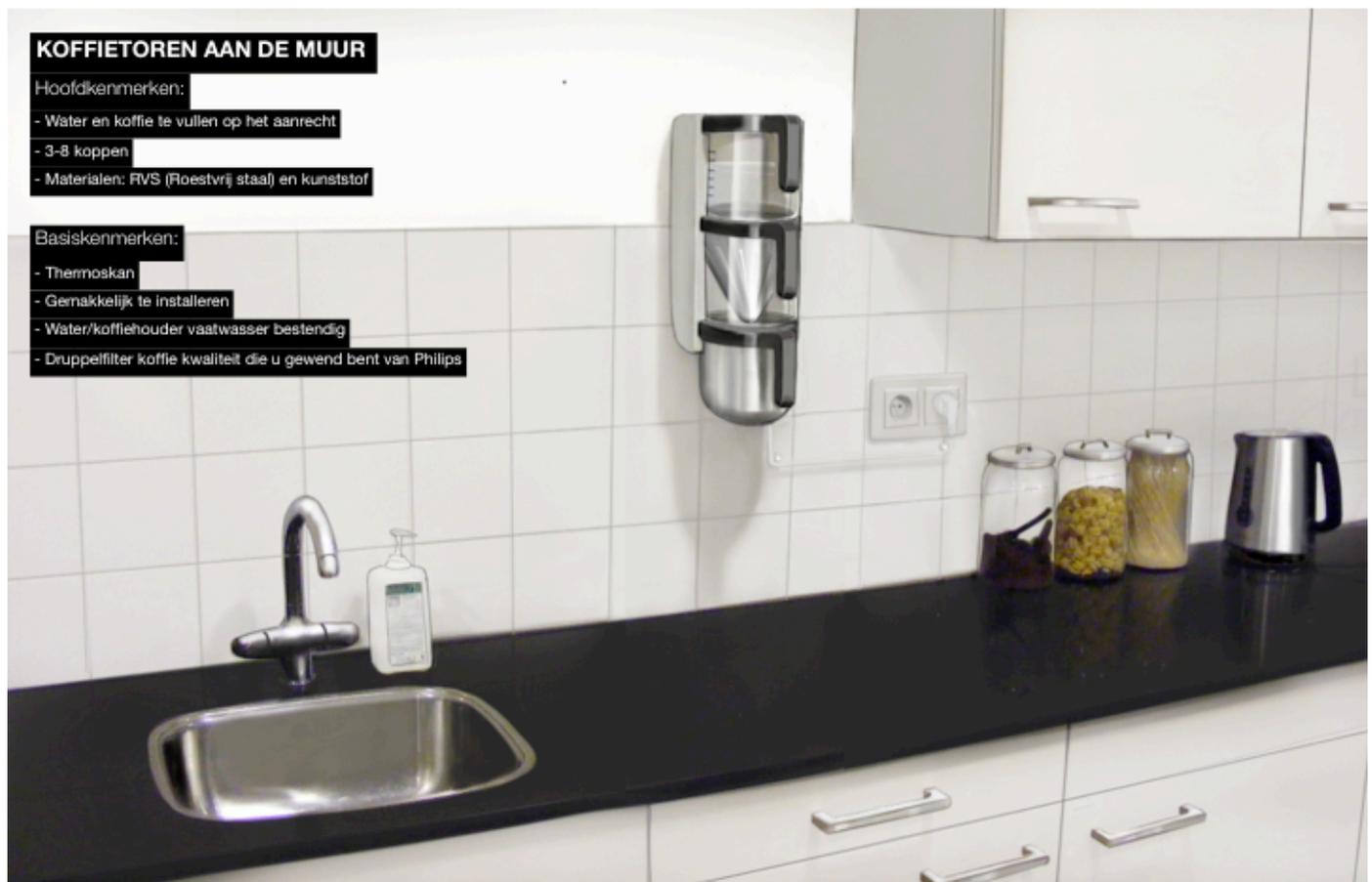
Cleaning procedure of concept 1. The cups and the water/filter basket are dishwasher proof. The thermos jug and the board have to be hand washed.

#### 4.4.2 Concept 2 – Coffee tower on the wall

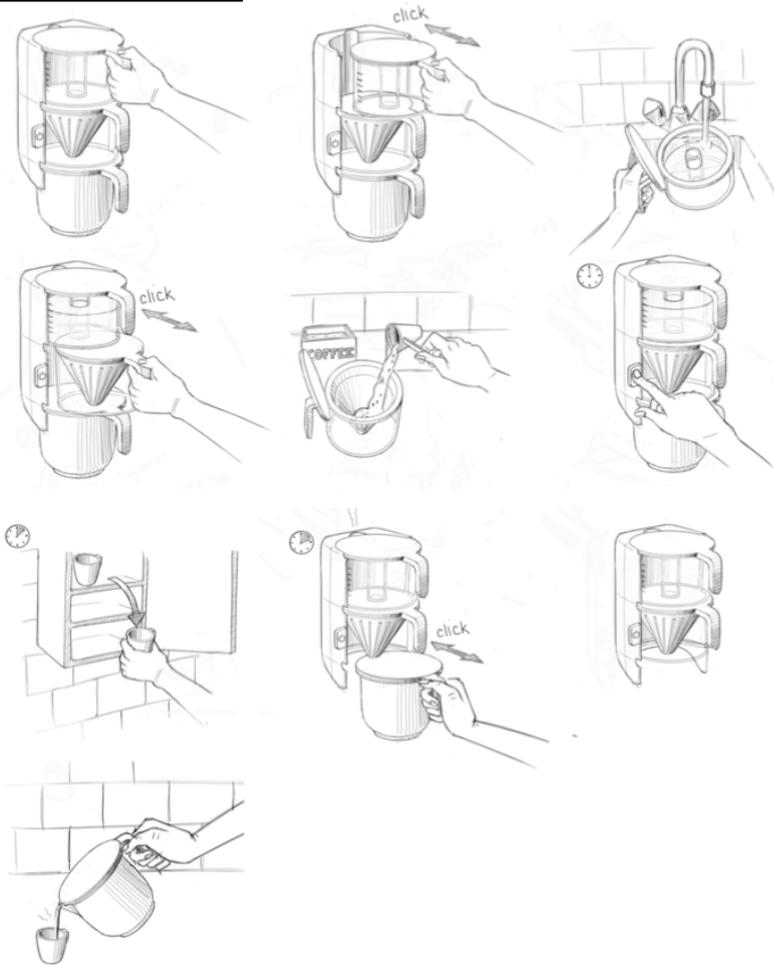
Figures 4.16 to 4.19 show concept 2 in context and the installation-, the using- and cleaning procedure of the coffee corner. Here the detachable water and filter baskets are made separately instead of combining them, because then the protruding volume decreases. A plastic casing envelops three hanging jugs. Materials that will be applied to this design are stainless steel and plastic. The retail price of this coffee maker will be between 75 and 85 euros. In Appendix D a cost price calculation is shown. Photos of a sight model and dimensional drawings of this concept are shown in Appendix D.

**Figure 4.16**

Drawing of concept 2 in context. Water and coffee are fillable in two separate detachable jugs. Coffee drips in the lowest jug. The water jug is made of transparent plastic, the filter jug of transparent plastic and stainless steel and the coffee jug of stainless steel. The handles and casing are made of plastic. The upper two jugs are transparent to let the coffee machine look less bulky.

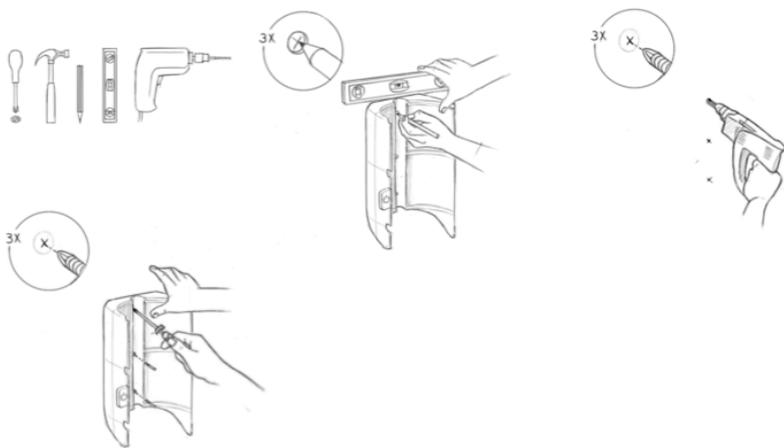


Concepts of a wall-mounted coffee maker



**Figure 4.17**

Daily use of concept 2. Coffee and water will be filled in two detachable, separate jugs.



**Figure 4.18**

The installation procedure of the coffee tower. The installation procedure is shown in 'IKEA style', which the conducted focus group indicated would like to have.



**Figure 4.19**

The installation procedure of the coffee tower. The installation procedure is shown in 'IKEA style', which the conducted focus group indicated would like to have.

#### 4.4.3 Concept 3 – Accessory for Wallaby

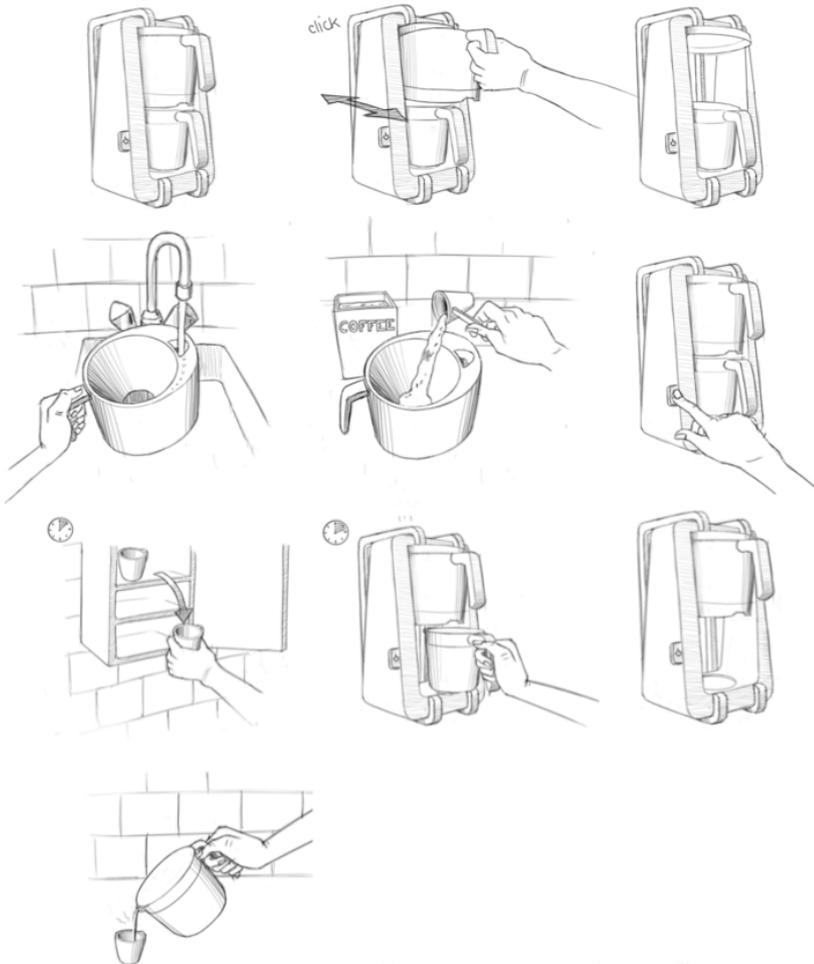
Figures 4.20 to 4.23 show concept 3 in context and the installation-, the using- and cleaning procedure of the coffee corner. An accessory is made for Philips' new coffee machine 'Wallaby'. The bracket could be bought separately from the coffee maker. The retail price of this coffee maker would be between 100 euros for the coffee maker and 12 euros for the accessory. In Appendix D a cost price calculation is shown. Photos of a sight model and dimensional drawings of this concept are shown in Appendix D.

**Figure 4.20**

Drawing of concept 3 in context. Water and coffee are fillable in the detachable upper jug. Coffee drips in the lower jug. The bracket is made of stainless steel, the jugs of plastic and stainless steel and the casing of plastic.

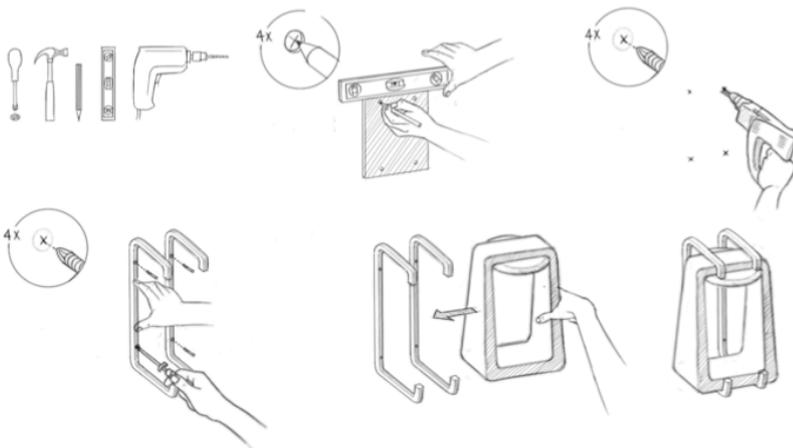


Concepts of a wall-mounted coffee maker



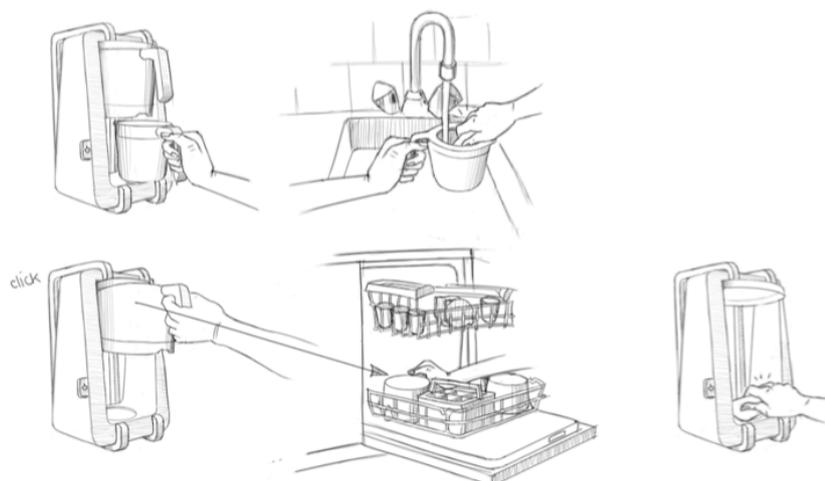
**Figure 4.21**

Daily use of concept 1. Coffee and water will be filled in the upper jug.



**Figure 4.22**

The installation procedure of concept 3. The installation procedure is shown in 'IKEA style', which the conducted focus group indicated would like to have.



**Figure 4.23**

Cleaning procedure of concept 3. The combined water- and filter jug is dishwasher proof. The thermos jug and the casing have to be hand washed.

**PHILIPS**

**Validation of the  
concepts**

**Chapter 5**

## 5.1 Introduction

An earlier conducted focus group indicated that there is an interest in a wall-mounted drip filter coffee machine. Another test was executed to investigate if consumers would like to use (one of) the developed concepts of a drip filter coffee machine that will hang on the wall. The test was executed by twelve one-on-one interviews. The results of this test were used for making recommendations for possible further development of (one of) the concepts.

Figure 5.1 shows a list of advantages and limitations of one-on-one interviews. Product Research Managers Ana Maria Alvarez and Merijn Stam gave feedback before and after conducting the interviews to minimize the last two limitations in figure 5.1. Usually multiple one-on-one interviews are necessary for an informed answer to the research question. For this thesis twelve interviews were conducted because of the limit of time in this bachelor thesis. These twelve interviews gave an indication of what consumers like and dislike within the developed concepts and if they have interest to buy.

## 5.2 Test protocol

### 5.2.1 Objective

The objective of the test was to validate if consumers would like to buy (one of) the developed concepts of a drip filter coffee machine that will hang on the wall and to make recommendations for possible further development.

### 5.2.2 Research questions

1. What do consumers think of the design of the concepts?\*
2. What do consumers think of the using procedure of the concepts?\*
3. What do consumers think of the cleaning procedure of the concepts?\*
4. To what extent would consumers take the effort to install these concepts?
5. Where would the consumers most like to hang each coffee machine in their own houses? And would they actually hang one of the developed coffee machine on this place?
6. To what extent do consumers agree with the price they have to pay for the developed coffee machines?
7. To what extent would consumers buy one of the developed coffee machines?

### 5.2.3 Hypotheses

Because this is an exploratory research no sharp hypotheses could be made.

### 5.2.4 Next steps

The results of this test were used for making recommendations for possible further development of the concepts. These recommendations were made in the form of new sketches and text.

### 5.2.5 Panel

Twelve members of the Philips Consumer Panel from outside Philips are interviewed. Several criteria were made for these participants as you can see in figure 5.2. The presence of the inclusion criteria included participation in the focus group and the presence of the exclusion criteria precluded participation.

### 5.2.6 Design of the test

An interview took up one hour. The interview consisted of eight subjects per concept:

1. Using procedure
2. Cleaning procedure
3. Model/volume of the device
4. Place where the device could hang in the participant's kitchen
5. Price
6. Buying intent

To make the test sample randomly all sequence combinations of concepts were presented to the participants (so to the first participant concept 1, then 2 and then 3 and to the next participant concept 3, then 2 and then 1 etc.) A questionnaire is shown in Appendix E. Appendix E shows the inventory, test data, test location, test engineer, compensation per respondent and planning.

### 5.2.7 Final deliverables

The test resulted in a list with pros and cons of the concepts. These lists is used for recommendations about the design in the form of text and new sketches of the concepts.

## 5.3 Results

General reactions towards a wall-mounted coffee maker were positive for eleven participants. Participants found it ideal that you can keep your kitchen counter clean in this way, that there would not arise circles on the kitchen counter, that you do not get a short circuit and that you have more work space on the kitchen counter. However, a participant asked if it would be solid to hang a coffee maker on the wall and another participant noted that if once the coffee was installed the place of it was permanent. The participant who was not positive did not like to drill holes in her wooden wall and she did not like the high replacing of the jugs because that would be too heavy for invalids and elderly according to her. Next, the specific reactions towards the three developed concepts are given.

\* Which part(s) would consumers like to see different and how would they like to see this/these and which part(s) do they appreciate in the concept?

**Figure 5.1**

Advantages and limitations of one-on-one interviews<sup>46</sup>.

| Advantages of one-on-one interviews  |
|--|
| <ul style="list-style-type: none"> <li>• Good cooperation from respondents</li> <li>• Interviewer can answer questions about survey, probe for answers, use follow-up questions, and gather information by observation</li> <li>• Special visual aids and scoring devices can be used</li> <li>• Illiterate and functionally illiterate respondents can be reached</li> <li>• Interviewer can prescreen respondent to ensure he/she fits the population profile</li> </ul> |
| Limitations of one-on-one interviews   |
| <ul style="list-style-type: none"> <li>• High costs</li> <li>• Longer period needed in the field collecting data</li> <li>• May be wide geographic dispersion</li> <li>• Follow-up is labor intensive</li> <li>• Not all respondents are available or accessible</li> <li>• Questions may be altered or respondent coached by interviewers</li> <li>• Need for highly trained interviewers</li> </ul>  |

**Figure 5.2**

In- and exclusion criteria for participants of the focus group.

| Inclusion criteria  |
|---|
| <ul style="list-style-type: none"> <li>• Having and using a drip filter coffee machine at home</li> <li>• Coffee consumption ranging from 1-13 cups a day</li> <li>• Having a kitchen</li> <li>• Speaking Dutch</li> <li>• Sex: 50% female &amp; 50% male (hard quota)</li> <li>• Age: 20 – 40 (50%) &amp; 41 – 55 (50%)</li> <li>• Responsible or co-responsible for the coffee preparation at home</li> <li>• Responsible or co-responsible for the purchase of small kitchen appliances</li> </ul> |
| Exclusion criteria  |
| <ul style="list-style-type: none"> <li>• Working in any of marketing and journalism related areas</li> <li>• Philips employees</li> <li>• Rejecting the idea of a normal (drip filter) coffee machine that is placed on the wall</li> <li>• Participants of the earlier conducted focus group</li> </ul>  |

### 5.3.1 Coffee corner on the wall

#### *First impression*

“How does it work?” was the first thing that ten out of the twelve participants asked. Most of them were pointing to the lower pot with the question what function that pot has and thought that the pot on top was the thermos. The first impressions towards this design were very diverse: while some liked this design very much at first sight (six participants), others found this design to sleek or apart for them (three participants). Often used words for this design were: “sleek”, “modern”, “different”, “new”, “special”, “funny” and “apart”. One person did not see the advantage of a wall mounted coffee machine at all because lifting a pot above your head is too heavy according to her and she does not have the space for it. Three participants said directly to like the idea that it is kind of a furniture or in other words; a real coffee corner with those cups on it. One person disliked that the cups are in sight. Three participants indicated that they do not like the yellow color of the board. A participant also pointed out that this design probably could be placed on the wall below the cupboards.

#### *Installation*

All participants said that they could install this device by themselves or by a close. Eleven of the twelve participants did not bother about drilling holes in their walls. The participant who did not like the idea of a coffee machine on the wall at all would not drill holes, because she has got a wooden wall in her kitchen and she rather did not want to hang anything on it. Two participants that would hang the device on a ‘normal’ wall in her house said that if they had tiles they would think twice before they would drill holes. Two other participants suggested that the holes for this device can be drilled in the joints of the tiles and that it would not be a problem then. However, what needs to be added is that two participants indicated that the device should have a long life (not defect within the year for example) and two other participants mentioned that a new device should be able to hang using the same holes, like a new coffee machine or a kettle. The hidden mounting principle was appreciated.

#### *Use*

After showing the using procedure drawing it was clear for all participants how the device will work. In this use drawing there are three things that stand out: the com-

bined water and coffee basket, the cupwarmer and the idea of using a board between the two jugs.

The reactions towards the cupwarmer were very diverse. Four participants very much welcomed the cupwarmer and would like to have one. For the other eight participants the cupwarmer did not add value, but for most of them it would not bother if so. For the participants who very much liked the cupwarmer the fast decreasing temperature of the coffee sounded familiar. A participant said that especially in winters the cupboards with the cups in it cool down much. Another participant said that when he makes three cups of coffee with his coffee machine the coffee is not yet completely on temperature in comparison with brewing a whole pot of coffee. Another participant suggested to make two versions of this design: one without and one with a cupwarmer (the luxurious version according to him). The participants for whom the cupwarmer did not add value found their coffee warm enough. Most of these participants rather liked the idea of a board where you can put things on like cups or sugar than that it has a cupwarmer. Other comments from participants were that the coffee machine should not consume more power with this cupwarmer than a normal coffee machine and that the cups and board should not become too warm, so that you can easily pick up a cup and children could not burn their fingers when touching. While there were enthusiastic reactions towards the cups and pots that belong together, a few participants asked if you can put your own cups on the board too.

All participants liked the filling of water and coffee on the kitchen counter: “I like this, because now I have to pull my Krups machine every time away under my cupboards to fill it with water” was a participant’s comment. A frequently asked question was: “How big is the opening for filling water?” After saying that that will be four centimeters long, filling water under the water tap probably would not be a problem according to them. The participants liked the combined water and coffee basket because of its compactness and because you only have to perform one action instead of two (filling water and coffee apart). Two participants asked how tough it is to replace the basket on a level higher than kitchen counter height. This could be hard for elderly according to them. Two participants said that it looks handy, but that it doesn’t matter if water and coffee filling is apart in two pots or combined.

### Cleaning

All participants found cleaning of this device as user-friendly. They found it a pro that the combined water and coffee basket is dishwasher proof and found it fine that the thermos can be hand washed. None of the participants saw problems in cleaning the part that remains on the wall. The hardest to clean were the edges on the shelf according to the participants. Three participants asked how dirt the board will become. They thought it would be mainly dust and a few water drips that you have to clean. It is found a pro that the board is cleanable on eye level. One participant liked that the water from a cleaning cloth is not dripping down that much as with concept 2 (paragraph 5.3.2). One participant suggested making the board of stainless steel to emphasize the sterility, and making the pots partly of stainless steel and partly of plastic.

### Volume model

Figure 5.3 shows a model of concept 1. Six of the participants first reactions towards this device's model were "Beautiful", or "I like it". Except two participants, all liked the volume and compactness of this design: it doesn't stick out much and has no frame what makes it more fragile (than concept 3 that has a black frame, see paragraph 5.3.3). For the two other participants the design should be without the cup part, so with half of the board because it is too much fuss according to them. One of these participants stayed with her point that picking the top can will be too heavy when the device is hanging between the cupboards and kitchen counter and she says that she cannot get to it well when clea-

ning. Two other people also suggested leaving the cup part away, but yet would buy it themselves with the cup part.

Two participants started talking about the hanging principle of the lower jug: one liked this more than the standing principle of concept 3 and one asked if the jug is good enough fixed this way. One person said that it is not good usable for left handed. A participant, who

**Figure 5.3**

Model of concept 1, the coffee corner.



**Figure 5.4**

Drawings are being reviewed by a participant.



found this design too modern, would like to have this design with the look of concept 3: the handles, the colors and the form of the jugs. Another participant also liked to have the board in black. Many participants came back to the design: again the people who liked this design appreciated the idea of a coffee corner and some say that it is an eye-catcher. Also here a participant suggested that you can switch the cupwarmer off so that you can put herbs, sugar or coffee milk on it for example. This participant liked that it has a double functionality this way. Other comments from people who liked the design were: it looks sleek, it is a design piece, it becomes an integral part of the kitchen because of the board, it is special, new and unique. The person who found the board nice but found the rest to be sleek for him: “the board breaks the whole a bit” according to him. One participant found the board “weird”. Some participants noted that this design has more flexibility: except this design can be hung on an empty wall, it could also be hung between the cupboards and the kitchen counter.

#### Place

In Appendix E the participant’s photos of their kitchens are shown with an arrow to the place where they should hang concept 1. This device would participants hang, if possible, on an ‘empty’ wall and otherwise on the wall below the cupboards (Figure 5.5). All participants were pointing to a place where the device will hang above a kitchen counter or table. To the question how high they would hang the device, they indicate a

high of 15-20 centimeters above the kitchen counter or table, measured from the bottom of the lower jug, so that you can still easily clean underneath. Most participants preferred to hang the coffee machine not directly next to the gas stove due to the splashing. A few people that would like to hang the device below the cupboards asked how much steam will come from the machine. They would leave a few centimeters between the upper jug and the bottom of the cupboards. One participant indicated that she did not have space for the device (picture 4 in Appendix E) and that she would not hang anything on her wooden wall. Three participants said that they have more than one place where they could hang this machine. According to a participant this device could be placed lower than the other two concepts: when you should hang these two lower it wouldn’t be right instinctively. Another participant would hang this device more in sight (see picture 12a) than the other two designs: the other two are more functional according to him and this device may be seen. A SWOT analysis of this concept is shown in figure 5.6.

**Figure 5.5**

Participant 2 would hang the coffee corner below the cupboards (A). Participant 5 would hang the coffee corner on an ‘empty’ wall (B).



**Figure 5.6**

SWOT analysis of the coffee corner resulting from one-on-one interviews with consumers.

|  |   |
|--|---|
| <p><b>Design</b><br/>         Idea of a real coffee corner on the wall was liked (7)<br/>         Board adds value for consumers (7)<br/>         Consumers are very much welcoming the cupwarmer (4)<br/>         This device with cupwarmer does not consume more power than one without (2)<br/>         Consumers like that the design is a set (2)<br/>         Consumers are satisfied with volume: they like the compactness and that it has no frame (like concept 3) (10)<br/>         Combined water- and coffee basket looks compact (3)</p> <p><b>Installation</b><br/>         Installable by the consumer selve or by a close (12)<br/>         Consumers would drill holes in their kitchen (11)<br/>         Holes in the wall can be drilled in the joints of the tiles</p> <p><b>Use</b><br/>         Filling of water and coffee on the kitchen counter (12)</p> <p><b>Cleaning</b><br/>         Combined water and coffee basket dishwasher proof (12)<br/>         Consumer won't bother to clean the part that remains on the wall (11)<br/>         Board is cleanable on eye-level and water from a cleaning cloth will not drip down (as in concept 2 and 3) (1)</p> <p><b>Place</b><br/>         Device could be placed below the cupboards and on an empty wall (11)</p> <p><b>Price</b><br/>         Participants who chose this device would average spend more than the calculated retail price for this design (7)</p> <p style="text-align: right;"><b>STRENGTHS</b></p> | <p><b>Design</b><br/>         Consumers do not see how the device will work at first sight (10)<br/>         Design is too sleek/modern for some consumers (2)<br/>         Cup part is too much for consumers, they rather would like to leave half of the board away (1)<br/>         Consumers don't like yellow color of the board (3)</p> <p><b>Installation</b><br/>         Consumers don't want to drill holes in a 'special' wall (tiles or wood) (1)</p> <p><b>Use</b><br/>         For left-handed more difficult to use (2)</p> <p style="text-align: right;"><b>WEAKNESSES</b></p>   |
| <p style="text-align: center;"><b>OPPORTUNITIES</b></p> <p><b>Design</b><br/>         New and different design in comparison to existing coffee machines (12)<br/>         Two versions of the board could be introduced: one with and one without a cupwarmer or with an on/off button for the cupwarmer (2)<br/>         Consumers like to put their sugar, milk, herbs or other stuff on the board.(2)<br/>         Device is an eye-catcher/ a design piece consumers want to show<br/>         Different kinds of color combinations could be offered<br/>         Consumers who found this design too modern would like to have this design with the look of Philips new Wallaby (form of jugs, colors, handles) (1)</p> <p><b>Installation</b><br/>         Other devices or new coffee machines that can hang on the wall should be able to hang into the same holes (2)</p> <p><b>Use</b><br/>         After introducing how the device works, the working principle is clear for consumers (12)</p> <p><b>Cleaning</b><br/>         Consumers think that the board only will contain dust and a few water drips that you have to clean (3)</p>   | <p style="text-align: center;"><b>THREATS</b></p> <p><b>Design</b><br/>         Cupwarmer does not add value for consumers (8), but does not bother (6)<br/>         Consumers have to be sure that the device has a long-life<br/>         When cups are not available anymore and board is not compatible for other cups, consumers would find it a pity (1)</p> <p><b>Use</b><br/>         Board and cups should not become too warm (3)<br/>         Opening for filling water has to be big enough so that filling water is easy (5)<br/>         Replacing water and coffee basket on a level higher than kitchen counter height should not be too heavy (especially for invalids and elderly). (2)<br/>         Lower jug should be fixed good enough to ensure that it couldn't fall (1)</p> <p><b>Cleaning</b><br/>         Consumers want the less possible edges in the board so that it is easy cleanable.<br/>         Board could become dirtier than consumers are expecting</p> |

### 5.3.2 Coffee tower on the wall

#### *First impression*

First words that arose by participants were: “apart”, “ingenious”, “sleek”, “different”, “futuristic” and “modern”. Two participants found this design an eye-catcher. Seven consumers said finding the design nice or beautiful at first sight. One of these seven said the coffee tower looks especially nice in the homelab kitchen. The transparency of this concept was also discussed. Two consumers disliked the transparency of the water and filter holder and would rather see an enclosed design to let it look less messy. Thought, when another consumer saw this design she liked the transparency because “you can see the water and coffee flow”. Another participant said to like the combination of glass with stainless steel. One person liked that you can immediately see that this is a coffee machine in contrast to the coffee corner. Although, one consumer said she did not see immediately how the device would work, but that she liked it. The roundings in this design were appreciated by a consumer. The white material could better be black according to a participant “to let it look more luxurious”. “Looks expensive” was another participant's first comment. Four participants started talking about the flexibility of placing this design. According to them this design was more difficult to place and they did not know if this design would fit in their own kitchens. Three participants found this device very tall. One of these three said to find this a scaffolding and another of these three said that it would be better if this device should have two levels instead of three. Another person said this design has better proportions than Wallaby on the wall because this design looked more compact according to him.

#### *Installation*

Like the coffee corner all participants said they could install this device by themselves or by a close. About the holes that have to be drilled in the wall participants said the same as for the previous concept in fact. Eleven of the twelve participants would not bother to drill holes, but two of them said the device should have a long life before they would drill holes and two other participants said that a new device should have the possibility to hang on the same holes. Two participants said that they would hang this device on a painted wall and if they should hang it on the tiles they would reconsider if they want to drill holes. Thought, one of them added that the holes for this device could be drilled in

the cement between the tiles. The same participant as with the previous concept indicated that she does not want to drill in her wooden wall. One participant gave a tip: the lower hole should be made banana-shaped “so that the drill has space to run away”.

#### *Use*

Four items were under discussion during showing the using procedure drawing: the filling of water and coffee on the kitchen counter, the apart baskets for water and coffee, the sliding of the jugs and the design in general. Filling water and coffee on the kitchen has been found handy. One participant said that it is also handy that it does not matter in which order the jugs can be replaced and another person said that filling in the machine itself is especially difficult for left-handed. Six participants argued that the combined water and coffee basket is handier than apart. Pros of the combined water and coffee basket are: it takes fewer steps (1), it costs less effort to clean (1) and it is more innovative (2). One participant liked that the coffee and water baskets are apart from each other because the filling hole for water is bigger than.

The sliding of the jugs is also a point that is cited by participants. According to a participant the click that you hear when sliding a jug is very important to get an impression of the quality. Another person said that the lower jug has to be replaced carefully and that you have to hear a click than. The standing jug of the Wallaby looked saver to her. “The sliding is a nice system” another participant said. For another person the hanging or standing of the lower jug (Wallaby) does not make sense. The same person as with the previous concept said that the high action of replacing the jugs could be difficult for less mobile people.

Again the design has been judged. One participant said that this design makes him eerily reminiscent of a camping kit. It is obvious that some participants liked the previous design more because they found that design more innovative, while others liked this machine more because “it looks like a normal coffee maker” according to them. The innovativeness of the previous concept is due to the cupwarmer and combined water and coffee basket according to a participant. He found the cupwarmer “the egg of Columbus”. On the other hand, for another participant the previous concept was too different and she rather liked this “normal” coffee

maker. Beside the two persons named at 'first impression, four other persons liked the transparency combined with stainless steel in this design. They liked that you can see the process of brewing coffee then. Nevertheless, one of these three participants was afraid that you can see calcification after a while.

### *Cleaning*

Cleaning this device was considered easy. But, participants did have some comments. The casing that remains on the wall was discussed the most. All participant said that cleaning of this part is doable. However, three participants asked how dirty this casing would become and one of them assumed that it will only become a little dusty. The ridges were pointed out as most difficult to clean, but for none of the participants these would be a problem. That this concept has little ridges and is more tight than concept 3 (Wallaby on the wall) was found a pro. One participant noted that when his device will be cleaned with a wet dishcloth, the water falls down on the kitchen counter. According to her this device could be better hung above the kitchen counter instead of on an 'empty' wall. Two participants found it a disadvantage that in this concept three jugs have to be cleaned instead of two. Another participant was afraid that the transparent plastic would get a dirty layer on it after cleaning by dishwasher.

### *Volume model*

Figure 5.6 shows a model of concept 2. Seven people found the device too long: the device should not add value when placed on the wall below the cupboards.

Cleaning the kitchen counter would become more difficult a participant said. Another participant asked how much steam would come out of the device since he would like to hang it below the cupboards. One participant likes this device but suggested to let the device have two instead of three jugs and then she would like it very much. She also suggested slide all the handles to one side. One person that liked the coffee corner at first, would now rather choose concept 1 "the coffee corner" because of the volume. He did not choose at

**Figure 5.6**

Model of concept 2, the coffee tower.



**Figure 5.8**

Drawings are being reviewed by a participant.



first sight the coffee corner because he did not like the small opening for water filling. Another participant (of those six who found the device too long) liked to hang the coffee tower on the wall before seeing the model, but not anymore after seeing it. Yet another participant found the design very nice but would like to see the device smaller in length. This length was too tall for in his house. He also said that the device is not something you hang in the corner. This may be seen (he liked the materials and the visible coffee brewing process). Wallaby at the other hand he would hang more in a corner because it looks more industrial and functional according to him.

The other five participants said the device was big, but not too big. One person found this design chiquer and less bulky than Wallaby. She liked concept 2. However, she added that for tall people like her replacing the upper jug would not be a problem but for short people could be difficult. Two other participants of these five also compared this device with Wallaby: the coffee corner was found more compact and smaller than Wallaby. However, one of these two people said she liked

Wallaby more than this device because Wallaby would look more solid and robust. She said that if you have a good corner for it, then it does not matter that Wallaby takes more space.

#### Place

In Appendix E the participant's photos of their kitchens are shown with an arrow to the place where they should hang concept 2. Five participants said they did not have a place in their kitchens to hang this device. Most of them have cupboards above their kitchen counter. For this device all participants indicated one place in contrast to concept 1 that could hang on more places in some participant's kitchens. For example, participant 11 could hang the coffee corner on two places in his kitchen, but the coffee tower just on one place because otherwise he could not close the doors of the cupboards (Figure 5.9). A SWOT analysis of this concept is shown in figure 5.10.

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#### Figure 5.9

Participant 11 could hang the coffee corner on two places in his kitchen (A and B), but the coffee tower just on one place (A) because he could otherwise not close the doors of the cupboards. He would hang the coffee corner rather on place B.



**Figure 5.10**

SWOT analysis of the coffee tower resulting from one-on-one interviews with consumers.

|   |  |
|---|--|
| <p><b>Design</b><br/> Consumers see how the device will work at first sight (11)<br/> The visible water and coffee flow was liked/the combination of transparent plastic with stainless steel (6)<br/> Roundings were liked (2)<br/> Device looks more compact than Wallaby (2)<br/> Device looks less bulky than Wallaby (1)</p> <p><b>Installation</b><br/> Installable by the consumer self or by a close (12)<br/> Consumers would drill holes in their kitchen (11)<br/> Holes in the wall can be drilled in the joints of the tiles</p> <p><b>Use</b><br/> Filling of water and coffee on the kitchen counter (12)<br/> Opening for filling water that big that filling is easy (1)<br/> Easy to use for left-handed</p> <p><b>Cleaning</b><br/> Water and coffee baskets dishwasher proof (12)<br/> Consumer won't bother to clean the part that remains on the wall (11)</p> <p><b>Price</b><br/> Participants who chose this device would average spend more than the calculated retail price for this design (4)</p> <p style="text-align: right;"><b>STRENGTHS</b></p> | <p><b>Design</b><br/> Consumers don't like color of white casing (1)<br/> Device found too tall by consumers (7)</p> <p><b>Installation</b><br/> Consumers don't want to drill holes in a 'special' wall (tiles or wood) (1)</p> <p><b>Use</b><br/> Consumers prefer a combined water and coffee basket (11)</p> <p><b>Place</b><br/> Little flexibility in the place to install the device (not placeable on wall below cupboards)</p> <p><b>Cleaning</b><br/> Consumers dislike to clean three jugs instead of two (2)</p> <p style="text-align: left;"><b>WEAKNESSES</b></p>  |
| <p style="text-align: center;"><b>OPPORTUNITIES</b></p> <p><b>Design</b><br/> Device is an eye-catcher/ a design piece consumers want to show<br/> More like a 'normal' coffee machine (3)<br/> Consumers would like the device if it had two jugs instead of three or if it was shorter (3)<br/> Slide handles to one side to minimize protruding volume (2)</p> <p><b>Installation</b><br/> Other devices or new coffee machines that can hang on the wall should be able to hang into the same holes (2)<br/> Making the lower hole banana shaped to make it easier to install ("the drill has space to run away then") (2)</p> <p><b>Cleaning</b><br/> Consumers think that the casing on the wall only will contain dust and a few water drips that you have to clean (3).</p>   | <p style="text-align: left;"><b>THREATS</b></p> <p><b>Design</b><br/> Device makes consumer eerily reminiscent of a camping kit (1)<br/> Consumers have to be sure that the device has a long-life<br/> Not innovative enough. Consumers like the coffee corner more because its innovativeness<br/> Calcification on transparent plastic</p> <p><b>Use</b><br/> Replacing water and coffee basket on a level higher than kitchen counter height should not be too heavy (especially for invalids and elderly) (2)<br/> Replacing the upper jug could be more difficult for short than for tall people (1)<br/> Lower jug should be fixed good enough to ensure that it couldn't fall (1)</p> <p><b>Cleaning</b><br/> Consumers want the less possible edges in the device so that it is easy cleanable.<br/> Board could become dirtier than consumers are expecting<br/> When his device will be cleaned with a wet dishcloth, the water falls down on the kitchen counter or floor. (more than with concept 1) (1)<br/> Consumer afraid for dirty layer on transparent plastic after cleaning by dishwasher (1)</p> |

### 5.3.3 Accessory for new coffee machine

#### *First impression*

At first there was told that this is coffee maker with an optional accessory to buy so that it can be hung on the wall. Four people's first impression towards the device were about the black framework. They found this "massive", "bulky", "rough" and "very present". One of them said she likes the non existing framework of concept 1, however, she likes the materials of Wallaby. In a shop she would walk by this device and with the coffee corner she would remain. Another of them said that the black framework should match with your kitchen, but that she likes it. Yet another participant found that the black framework and the accessory should be twice as small than now. She also told that this device was actually kind of a compromise between concept 1 and 2.

The design was liked at first sight by three participants for several reasons: one person liked that the filter is not visible here and he also liked the combination of stainless steel with black plastic which give the device a luxurious appearance. Another liked especially the big handles. Another participant liked the roughness and said that the accessory looked very solid. He used the word "industrial" to qualify the design.

Three participants said something about the height: from "this one can hang below the cupboards" to "I like this height more than that of concept 2". Furthermore, the concept was better proportioned than the tower according to a participant. The height of replacing the jugs was liked by a participant and the the lower jug was nicer than in concept 1 according to a participant who found that in the coffee corner the lower jug 'hanged a little bit weird below the board'. When asking if they would buy the accessory later or at the same time as the device, all participants said to hang the coffee machine directly on the wall. One person asked how he device would work and another said "it looks like two thermos jugs". Another participant liked that this device is small compared to the coffee maker she has now.

#### *Installation*

About whether or not drilling holes in the wall and the ability to install the device the same was said as with concept 1 and 2. What stands out is that two people noticed that this device would be more difficult to install: the small width ensures that there is less possibility to set the device. There is less possibility to drill

wrong and there is no banana-shaped form possible in the accessory. One person said that she would first put the device on the kitchen counter, then scan what the best place for it would be and then install it on the wall. A participant also saw that the holes for this device could not be drilled in the joints of the tiles.

#### *Use*

About the combined water- and coffee basket the same was said as with concept 1 about filling on the kitchen counter, the size of the filling opening and the innovativeness. Three points has to be added to this. At first, one participant feared that the water would slosh on the wall when replacing (because the lack of a lid). Secondly, two people asked how the water level can be seen. After telling that the water will be indicated with the dots on top they found this handy. Thirdly, three consumers who saw concept 2 before this concept found the combined water- and coffee basket nicer to see than apart baskets for water and coffee. According to another consumer this design was the most normal one, like a coffee maker that you now have. She would rather see a more special design like the other two concepts.

#### *Cleaning*

Most participants did not see problems in cleaning the device, but some of them did have some comments. There was asked particularly for the participants' opinion about cleaning the part that remains on the wall (without the jugs). According to three participants the cleaning of this part will be just like any other coffee maker and they thought it wouldn't get that dirty. While a participant said the remaining part is easy to reach for cleaning, the other said that it is not when the device will hang on the wall below the kitchen cupboards. This last person also said that the coffee corner (concept 1) would be easier to clean because less parts remain on the wall than with this concept. Another participant compared this coffee maker with concept 2: concept 2 would be easier to clean than this concept because of the less sharp edges of concept 2.

One participant said it is handy that the device can be slide out of the bracket, but he also found that there is enough space to reach it when the device is placed in the brackets. Another person noted that because this water- and coffee basket does not have a lid the wall could become dirty. A participant also would hang this device rather on the tiles than on a wallpapered wall

because the back side is open. If he would hang it on a wallpapered wall he would attach plexiglass on the wall behind the device.

#### Volume model

Most participants (10) found the design “big”, “bulky” or “robust”, in particular the black casing and the bracket. Two participants found it too big and would not buy it for that reason. On the other hand, two others liked the robustness. Others (8) did not bother about the volume, but some of them gave some comments: one participant rather would like 3-8 cups (concept 1 and 2) on the wall than 3-10 cups (this concept). Another person also said 3-8 cups is enough and this person and another indicated they liked the device more if handles, bracket and black casing were more fragile. The obliquity of the black frame was liked by a participant because it should make the device less colossal.

Remarkable is that three participants, who saw concept 1 before this concept, indicated here that they liked the coffee corner more. Reasons were: the volume is nice of this concept, it is more innovative, the design has more flexibility in placing and it contains a cupwarmer. Concept 3 was more seen as a ‘normal’ coffee maker by these participants. A participant who saw the concept 2 before this concept indicated she liked the less protruding volume of concept 2 more than that of concept 3 even though concept 2 could brew less cups. One person found it a pro that this coffeemaker could brew 3-10 cups instead of 3-8 cups and did not bother about the volume.

#### Place

Figure 5.11 shows a model of concept 3. In Appendix E the participant’s photos of their kitchens are shown with an arrow to the place where they should hang concept 3. Six participants said they did not have a

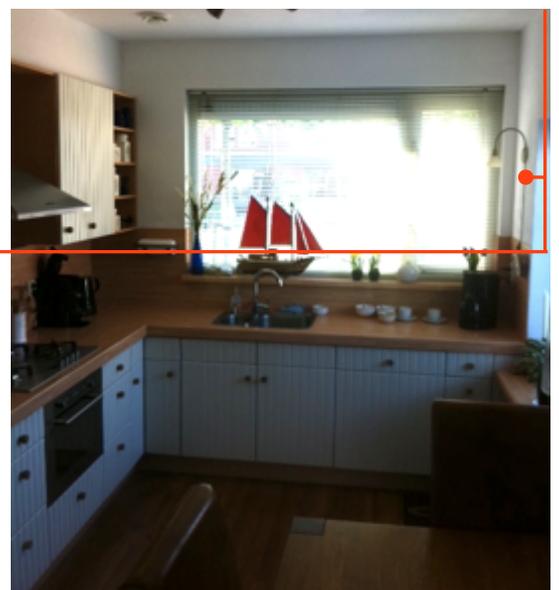
**Figure 5.11**

Model of concept 3, accessory for Wallaby.



**Figure 5.12**

Left: Participant would not hang concept 3 here, while she would hang concept 2 here (b). Concept 1 she would hang below the cupboards. Right: Participant would install concept 3 here, but she doubted if she would like the side view.



place in their kitchens to hang this device. Most of them have cupboards above their kitchen counter. One of them would place this device on the kitchen counter (with the bracket), the others would hang it on the wall. One of them wouldn't place it in his kitchen because the look of this device does not fit with his kitchen. Remarkable is that in two participants' kitchens the side of the device is within sight when entering the kitchen (participant 3 and 8). They don't like the side view of the device that much and therefore one of them would not hang the device on that place, while they would place concept 1 or 2 there (Figure 5.12). For this device all participants indicated one place in contrast to concept 1 that could hang on more places in some participant's kitchens. A participant said he would hang this concept more in a corner than the other two concepts because this device would look functional and the other two design like (Figure 5.13). A SWOT analysis of this concept is shown in figure 5.11.

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**Figure 5.13**

Participant would install concept three in a corner (A), while he would place concept 1 and 2 within sight (B).



**Figure 5.11**

SWOT analysis of the coffee tower resulting from one-on-one interviews with consumers.

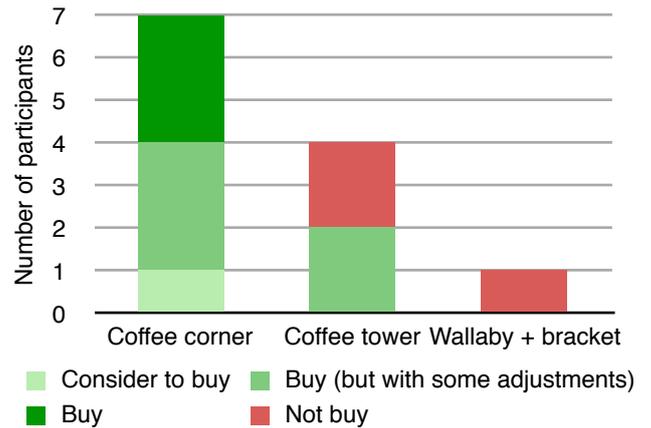
|   |  |
|---|--|
| <p><b>Design</b><br/>Materials: black plastic in combination with stainless steel liked (12)<br/>Design looks solid (2)<br/>Combined water- and coffee basket looks compact (3)</p> <p><b>Installation</b><br/>Installable by the consumer selve or by a close (12)<br/>Consumers would drill holes in their kitchen (11)</p> <p><b>Use</b><br/>Filling of water and coffee on the kitchen counter (12)<br/>Easy to use for left-handed<br/>3-10 cups possible instead of 3-8 cups (1)</p> <p><b>Cleaning</b><br/>Water and coffee baskets dishwasher proof (12)<br/>Consumer won't bother to clean the part that remains on the wall (11)</p> <p style="text-align: right;"><b>STRENGTHS</b></p> | <p><b>Design</b><br/>Design found too big on the wall (2)</p> <p><b>Installation</b><br/>Consumers don't want to drill holes in a 'special' wall (tiles or wood) (1)<br/>Holes in the wall can not be drilled in the joints of the tiles (mostly)<br/>Almost no possibility to drill wrong in the wall because of the limited width of the pipes &amp; no banana-shaped hole possible in small pipes</p> <p><b>Use</b><br/>Water could slosh on the wall when replacing water- and coffee basket because of the lack of a lid</p> <p><b>Place</b><br/>Little flexibility in the place to install the device (placing below the cupboards does not give much extra value compared with a standing coffee maker)</p> <p><b>Cleaning</b><br/>Difficult to reach all edges when placed below the cupboards (1)<br/>More edges to clean than concept 1 or 2 (2)<br/>Because the open back side of the device consumers feared that the wall can get dirty (1)</p> <p style="text-align: right;"><b>WEAKNESSES</b></p> |
| <p style="text-align: center;"><b>OPPORTUNITIES</b></p> <p><b>Design</b><br/>More like a 'normal' coffee machine<br/>Rather less cups (3-8) than more volume on the wall (1)</p> <p><b>Installation</b><br/>Other devices or new coffee machines that can hang on the wall should be able to hang into the same holes (2)</p> <p><b>Cleaning</b><br/>Consumers think that the casing on the wall only will contain dust and a few water drips that you have to clean (3)<br/>Coffee maker can be silde out of the bracket to clean (1)</p>  | <p style="text-align: center;"><b>THREATS</b></p> <p><b>Design</b><br/>Consumers have to be sure that the device has a long-life<br/>Not innovative enough. Consumers like the coffee corner more because its innovativeness<br/>Design found big/bulky/robust (10), especially because of the black frame.</p> <p><b>Use</b><br/>Replacing water and coffee basket on a level higher than kitchen counter height should not be to heavy (especially for invalids and elderly) (2)</p> <p><b>Cleaning</b><br/>Consumers want the less possible edges in the device so that it is easy cleanable.<br/>Board could become dirtier than consumers are expecting</p>   |

## 5.4 Conclusion

Figure 5.12 shows which device the participants chose and why, what they would spend for it and the buying intent of the participants. Figure 5.13 shows an overview of the buying intent. The seven participants who chose the coffee corner would average spend up to 129 euros for this (calculated sales price: 90 – 100 euros). The four participants who chose the coffee tower would average spend up to 106 euros for this (calculated sales price: 75 – 85 euros). Wallaby with bracket was chosen by a 28 year old man that did not want to spend more than 25 euros for a drip filter coffee maker.

**Figure 5.13**

Buying intent for the three concepts. For example: seven out of twelve participants chose for the coffee corner. Three of them would like to have some adjustments (like the materials of Wallaby applied on the coffee corner). One participant considered buying the device because he soon got a new kitchen and maybe would buy a built-in coffee maker instead of this device.



**Figure 5.12**

Conclusion at the end of each interview.

| Ppn | Which one did he/she choose | What were comments to this device?   | What would he/she spend? | What were comments to the price of this device?  | To what extent would the consumer buy the device?   |
|-----|-----------------------------|--|--------------------------|--|---|
| 1   | Coffee corner.              | He would like to have the look of Wallaby applied on the coffee corner (colors + materials).<br>He liked the cupwarmer very much.  | 90-100 euros             | When the feeling (sound + feeling when replacing jugs) would be good he would spend more than this. He would spend 70 euros to Wallaby with bracket. The cupwarmer is a pro according to him.  | He would certainly buy the coffee corner, with the look of Wallaby (colors, materials).                                   |
| 2   | Coffee tower.               | Nice model, nice eye-catcher.<br>But he did not have space in his kitchen for it (cupboards everywhere).<br>If he would move into another house he would buy it.   | 80-100 euros.            | -  | If he would move into another house he would buy it, but now he did not have space in his kitchen (cupboards everywhere). |
| 3   | Coffee corner.              | She would like to have the look of Wallaby applied on the coffee corner (form of jugs + materials + colors)<br>She liked that this one was not bulky by the board. She likes the board. Cupwarmer does not bother her but is not necessary. The cupwarmer is not a reason why she should not buy it. | 90 euros.                | Because you have that board she would spend more to this device than to Wallaby with the bracket (70 euro).<br>112 euros she would not spend to Wallaby but to the coffee corner she would do. | She would buy it with the look of Wallaby applied on the coffee corner.   |
| 4   | Coffee tower.               | This device does not fit in her house.<br>She also doesn't want to drill holes in her wooden wall. She thought replacing the jugs would be too difficult for invalids. She would rather use Senseo.  | 150 euros.               | Wallaby would be 125 euros and the coffee corner also 150 euros.   | She would not buy it, because she did not want to drill holes in her wooden wall and she had no place for it.             |
| 5   | Coffee corner.              | Doubted between Wallaby and coffee corner. Wallaby because: more cups.<br>Coffee corner because: better to clean, nice design. Cupwarmer does not bother her but is not necessary. The cupwarmer is not a reason why she should not buy it.  | 150-180 euros.           | If the coffee corner would have the look of Wallaby (materials) she would spend more than 150 euros.   | She would certainly buy it for the price.   |

**Figure 5.12**

Continuation of the conclusion at the end of each interview

|    |                |  |                |   |   |
|----|----------------|--|----------------|---|---|
| 6  | Coffee corner. | Doubted between Wallaby and coffee corner. She rather wanted the coffee corner without cupwarmer and just with a 'normal' board. She liked the form + materials of Wallaby.  | 80 euros.      | She would spend 60 euros for Wallaby with bracket. That the coffee corner is a little cheaper than Wallaby does not give the decisive that she liked the coffee corner more. She would also buy it for 20 euros more. | She would buy it, but she rather would like the coffee corner without a cupwarmer and just a board.   |
| 7  | Coffee corner. | Liked board. And maybe she will appreciate the cupwarmer after a while. She liked big opening for water filling of the coffee tower. While she was enthusiastic about Wallaby she liked the coffee corner more because it is more special. Wallaby is more classic. He would be best without cups according to her.  | 150 euros      | For Wallaby and the coffee tower she would spend 125 euros. The cupwarmer does not cause that difference in price.  | She would buy the coffee corner. When her present coffee maker would fail, she would buy the coffee corner. She likes the wall-mounted principle very much.   |
| 8  | Coffee tower.  | He liked that this coffee machine is more one piece. He liked this design. But he liked the volume of the coffee corner more. If the design of the coffee tower would not be made smaller then he would choose for the coffee corner. He liked the apartness of the water and coffee jug, the bigger filling opening.  | 100 euros.     | He would spend 100 euros for Wallaby and 70 euros for the coffee corner.  | If the coffee tower will be made a little more fragile then he would buy the coffee tower.  |
| 9  | Coffee tower.  | She found the volume of the coffee corner looking good without the cup part. She would rather want to have two jugs in the coffee tower instead of three so that it is not that tall. She liked the materials stainless steel with black plastic. She did not like the black frame of Wallaby.   | 50-75 euros.   | She would spend the same to Wallaby. She would not spend 112 euros to Wallaby with bracket.   | She would buy the coffee tower if it had two jugs instead of three. 85 euros she also would spend to it.  |
| 10 | Wallaby.       | He liked that this device is also placeable on the kitchen counter. But he would hang the device directly. He did not bother about the volume and liked the colors.  | 25 euros.      | He thought it will cost about 100 euros, but he would not spend that. His current coffee maker cost 25 euros and he never bought a coffee maker more expensive.   | He would not buy the coffee maker because he found it too expensive.  |
| 11 | Coffee corner. | First he was enthusiastic about the coffee tower, but later about the coffee corner. He liked the type of stainless steel more of the coffee tower (see drawing). He liked the volume (the width) of the coffee corner and the design. The handles should be made smaller according to him. He liked the cupwarmer very much. A black board would fit better in his kitchen. | 130-135 euros. | He would spend 110 euros for the device if it would not contain a cupwarmer.  | He would buy the coffee corner, certainly for that price.   |
| 12 | Coffee corner. | He suggested making more versions (more colors of the board). In his kitchen wood or black would fit.  | 150 euros.     | But the board should not be dirty yellow he said.   | He would consider buying this device. Soon he would get a new kitchen. He doubted if he would buy a built in coffee maker or this one then. He added: but the built-in coffee maker will be at least 700 euros and I am the only one in the house who drinks coffee... So this one definitely makes a chance. |

**PHILIPS**

**Conclusions and  
recommendations**

**Chapter 6**

The aim of this bachelor thesis was to explore what coffee makers similar to Doortje van de Wouws idea (Figure 1.1) are already on the market, to investigate to what extent there is a consumer interest in a drip filter coffee maker not staying on the kitchen counter and to design possible embodiments of a drip filter coffee maker that will meet the discovered consumer interests. Existing coffee makers (no gadgets and no built-in devices) that are not or partly staying on the kitchen counter found on the Internet are:

- Two kinds of drip filter coffee makers hanging below a kitchen cabinet
- Two kinds of espresso machines mounted on the wall
- An extendable Senseo machine on the kitchen counter (conceptual)
- Partly wall built-in drip filter coffee maker
- A coffee tap on the kitchen counter.

A focus group of seven people did show their interest in a coffee machine that is not placed on the kitchen counter. All consumers of the focus group indicated preferring a less full kitchen counter, but wanted their frequently used kitchen appliances within reach, like their coffee machine. The focus group would like more space on their kitchen counter because firstly it is easy to clean, secondly because there is more cooking space on the counter and thirdly because it looks neat. The focus group was most interested in a wall-mounted coffee machine. Three participants would instantly buy such a wall-mounted device. The other four would first like to see the design but were open towards the idea. Requirements resulting from the focus group and general drip filter requirements (Appendix D) resulted into three concepts for a wall-mounted drip filter coffee maker. These concepts were shown to twelve consumers during one-on-one interviews.

#### *Coffee corner*

Seven out of twelve participants chose the coffee corner from these three concepts. Three of them would like to have some adjustments. One participant considered buying the device because he soon got a new kitchen and maybe would buy a built-in coffee maker instead of this device. The three out of seven participants that would

buy the coffee corner with some adjustments indicated to want the following:

- Two of the three participants would buy the coffee corner when the look of Wallaby was applied on it (colors, materials, form of jugs)
- One of the three participants indicated to want just a 'normal' board instead of a board with cupwarmer

Interesting is that two others of those seven participants that chose the coffee corner indicated that they rather would like to see the coffee corner with a Wallaby look. Another participant that chose the coffee corner liked Wallaby too and the last participant indicated he would rather like to see the board in black. The cupwarmer was very much liked by two out of the seven participants that chose the coffee corner. Four of the seven would not bother if it would contain a cupwarmer, but found it not necessary.

#### *Coffee tower*

Four participants chose the coffee tower, of which two of them would buy it with some adjustments: according to one the coffee tower should be more fragile and the other wanted the coffee tower to be shorter (with two instead of three jugs). The other two won't buy: they both did not have place for the coffee tower because they had kitchen cabinets everywhere and one of them also did not want to drill holes in her wooden wall.

#### *Accessory for Wallaby*

One participant chose concept 3, but did not want to spend its retail price for it.

Because most participants chose the coffee corner (seven out of twelve) and they all indicated to buy, to consider to buy or to buy it with some adjustments and because these adjustments will be feasible the coffee corner is recommended to further work out. In figure 6.1 a recommendatory drawing of the coffee corner is shown. In this new design the 'Wallaby look' is applied on the coffee corner by combining stainless steel with black plastic and by rounding some corners. Because some participants would like to use the board for putting down other things than cups, there are two versions of the coffee corner: one with and one without a cupwarmer. An on/off button on the cupwarmer is not chosen because then an electric heater is needed which will consume extra power. Now the water needed for the cof-

fee will be warmed up in the board and, in the cupwarmer version, also used to warm up the cups. Namely, participants indicated they would like to have a cup-warmer in the board if it would not cost extra power. Furthermore what could be noticed is that ten out of twelve participants did not see at first sight how the coffee corner would work. Therefore, the coffee jug and the water/filter basket are placed on the same way now, parallel to each other. In this way the spout of the coffee jug is visible so that people will recognize the lower jug as a jug and the two jugs are more related to each other so that consumers can see that coffee can flow from the upper basket to the lower jug. How the jugs will be replaced (left- and right-handed friendly) then is shown in Appendix F. It has been decided not to make the upper basket more look like a filter holder: firstly because the upper 'real' jug makes the device really look like a 'cosy' coffee corner and secondly because the volume can be reduced by placing the water opening 'outside' the conical cylinder. Also not been chosen is to make the basket transparent so that the filter holder can be seen, because participants feared that the transparent plastic would calcify. At least, instead of four 'cup-holder holes' there are no notches in the new design anymore but a stainless steel railing around the board. Thus, cups or other stuff would not fall easily from the board. So in both versions (with and without cupwarmer) this railing will be applied. Participants namely indicated to want as less as possible edges in the board. Above that, the board will now be compatible for all kinds of sizes cups. The notch for the filter- and water basket is kept, because that will ensure consumers that the basket is placed well and solid. Appendix F shows a SWOT analysis of the coffee corner that was made after the one-on-one interviews. The fat green threats or weaknesses are decreased in the new design. More test are needed to decrease the black threats and weaknesses like user tests to investigate the filling of water in the upper basket and the ease of placing the jugs (on a level higher than kitchen counter height).

While some especially liked the coffee corner because they found it 'new', 'innovative' or 'design like', others did not like this and rather would like to have a more 'traditional' coffee maker like the coffee tower and Wallaby. Recommended for Philips is to investigate if the coffee corner fit enough with the Philips brand or that a more traditional coffee maker on the wall will address

Philips' target group. In the case that a more traditional coffee maker on the wall will address Philips' target group more the following recommendations can be made:

- Two instead of three jugs below each other (because installing below the kitchen cabinets is possible then). Above that all participants of the conducted interviews liked the combined filter- and water basket.
- Closed, non transparent jugs, because participants of the conducted interviews feared otherwise for calcification despite some liked the transparency.
- Screws must be placeable in the joints of tiles.
- Selling a wall-mounting accessory within the same box as the device itself. None of the participants of the conducted interviews understood why he or she would buy an accessory apart from or at another time than the device.
- Making the basket and jug much as possible 'free in space'. So not surrounded by a frame. Most participants found the frame of Wallaby on the wall too big or too bulky on the wall.
- The less as possible edges in all parts of the device, especially in the casing part that will remain on the wall.

**Figure 6.1**

Recommendatory drawings for concept 1, the coffee corner.



**PHILIPS**

Appendices

## Appendix A

### • Plan of action

#### Plan of action

Coffee maker not on the kitchen counter

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 Client: Philips Consumer Lifestyle  
 Drachten

### 1. Actor analysis

#### General objective of Philips

As a market oriented company Philips strives for simplicity with technology that is advanced and user friendly, so that his products improve the lives of consumers. This point of Philips is summarized in the words 'Sense and Simplicity'. So the mission of Philips is: improving people's lives through meaningful innovation. Philips' vision is to make the world healthier and more sustainable through innovation. The goal is to improve the lives of 3 billion people a year by 2025. Philips owns three properties that promote the objective: eager to win, take ownership and team up to excel.

#### Business Activities of Philips

With main focus on Health and Well-being, Philips serves professional and consumer markets through three overlapping sectors: Healthcare, Lighting and Consumer Lifestyle. Throughout the portfolio, Philips demonstrates his innovation capacity by translating customer insights into meaningful technology and applications that improve the quality of people's lives.

Key business areas of Philips Consumer Lifestyle are:

- Health & Wellness
- Domestic Appliances
- Coffee
- Personal Care
- Audio Video Multimedia and Accessories

With over 1,500 employees Drachten is one of the largest locations of Philips Consumer Lifestyle. In Drachten Philips' shavers are developed and produced. A host of other

Consumer Lifestyle products are also developed in Drachten such as beard and hair trimmers, vacuum cleaners, Senseo coffeemakers, the PerfectDraft home tap and the Wake-up Light.

#### Expertise of Philips

Today, Philips is one of the biggest global players in consumer lifestyle in terms of turnover.

The unique competitive advantage of Philips is the combination of a powerful global brand, an insightful understanding of people, an extraordinary competence in technology and design, and the many synergies with Philips' channels, partners and supply chain.

For Philips, technology is not produced for technology's sake. Philips is taking the consumer lifestyle much further, making home life more enjoyable and reflecting the consumer's holistic interest in better well-being.

Philips delivers deeper experiences in touch with the social and emotional needs of his customers in their homes: from a cup of coffee in the morning, to a relaxing evening with an Aurea TV. Whether it's using the best sonic technology to care for your teeth or latest shaving skin care technology, Philips products are designed around their users and aim to improve people's lives – every day.

#### Interests of Philips

As said before, Philips is constantly looking for meaningful innovations that improve people's lives. Now Philips Consumer Lifestyle Drachten has a new idea for a coffee machine and wants to investigate consumer interest, market potential and possible embodiments (designs). In this bachelor thesis research will be done on similar competitive coffee machines and consumer interest will be analyzed. This will give directions towards user requirements and concepts for this coffee machine. At least, the developed concepts will be validated with consumers. The results of this bachelor thesis will give Philips CL Drachten an insight into possibilities for this new idea for a coffee machine.

#### Other actors involved and their interests

Besides Philips, other stakeholders have a role to play in the development of a new coffee machine. In figure 1 these stakeholders are shown, as well the type of influence and interests they have.

**Figure 1**

Other stakeholders besides Philips that play a role in the development of a new coffee machine. Stakeholders are shown, as well the type of influence and interests they have.

| Type of stakeholder    | Stakeholders                                 | Type of influence     | Interest  |
|------------------------|--|-----------------------|---|
| External stakeholders  | Consumers                                    | Primary stakeholder   | Consumers want a coffee machine that is user friendly and that fulfills their requirements and wishes   |
|                        | Coffee producers                             | Secondary stakeholder | Coffee producers want to sell the coffee that is needed for the new coffee machine  |
|                        | Shops that sell coffee machines              | Secondary stakeholder | Shops want to sell the coffee machine and prefer to sell as much as possible of those coffee machines   |
|                        | Suppliers                                    | Primary stakeholder   | Suppliers have to supply the components of the coffee machine. The technical components for Philips' new idea for a coffee machine in principle stay the same         |
|                        | Competitors                                  | Secondary stakeholder | In this thesis a competitive analysis will be done. Competitors will respond to Philips' new machine and perhaps bring their own version of this device on the market |
|                        | Media  | Secondary stakeholder | Media will influence the perception of consumers about the coffee machine   |
| Interface stakeholders | Society                                      | Secondary stakeholder | Society will influence the perception of consumers about the coffee machine   |
|                        | Consumentenbond (Dutch consumer association) | Secondary stakeholder | The 'Consumentenbond' will influence the perception of consumers about the coffee machine   |
| Internal stakeholders  | Employees                                    | Primary stakeholder   | Employees are involved in the development of the new coffee machine   |
|                        | Managers                                     | Primary stakeholder   | Managers are involved in the development of the new coffee machine  |

## 2. Project framework

### External objective of Philips

The aim of the project for Philips is to investigate if there is a consumer interest for a new drip filter coffee machine, to see what similar coffee machines are already on the market and to get insight in possible embodiments for this coffee machine. With the results of this bachelor thesis in mind, Philips can investigate if such a drip filter coffee machine could be viable and whether it is worthwhile to develop.

### Present problem(s)

Philips has got to know a consumer insight that tells that consumers would like to have a coffee machine in their kitchen, but they don't have space for it. Philips' hypothesis is that consumers wish that there was a coffee machine that they could hide in drawer/cupboard. Many people do not have space left on their kitchen countertop as a main part of it is used for cooking, cutting and dirty dishes. Next to this, often there is a wish to keep the surface as clean and beautiful as possible.

That's why many people don't like to have several machines on their kitchen countertop.

#### Philips' vision of the present problems

Philips wants to investigate if this problem really exists for consumers.

#### Philips' vision of the causes of this problems

The cause of this problem is obvious: there are that many kitchen appliances that there is not enough place in some kitchens to place them all on the countertop.

#### Possible solutions

Doortje van der Wouw (Philips) has already an idea for the problem named above: "One solution is to make the machines smaller, but there could be a more effective solution... As almost all kitchens have drawers, we could make a machine that could be hidden in their drawer. Only when the user wants to use the machine he/she pulls the drawer open. After opening the machine will be automatically switched on by making use of a light sensor. Additional benefit for the user is that he/she can add the ingredients (water/beans/filter with coffee/milk/etc.) in a more ergonomic way as the work surface is nearby and on a convenient height". Another idea could be to place the machine at the bottom of the kitchen cabinets or at the wall. Furthermore, the machine has to be a drip filter coffee machine.

### 3. Objective

The aim of this bachelor thesis is to explore what coffee machines similar to Philips' idea are already on the market, to investigate if there is any consumer interest for a new drip filter machine and to design possible embodiments for this coffee machine.

The project will result in:

1. A competitor overview obtained through an Internet study.
2. Requirements and wishes for a new drip filter coffee machine obtained through a focus group (Philips consumer panel) with Philips' current idea.
3. Three concepts in the form of storyboards and product drawings, Main focus of these concepts will be the use of the coffee machine. Only the outside of the coffee machine will be designed and not the technical aspects. However, the technical compo-

nents (that, in principle, do not change with respect to Philips' current technical components of drip filter coffee machines) of course have to fit into the device. Materials will be specified to such an extent that consumers can make an imagination of the outside the coffee machine and that a rough cost calculation of the concept designs can be made.

4. A validation of these concepts with consumers obtained by a one on one interview.

### 4. Question

#### Main question

What coffee machines similar to Philips' idea are already on the market, to what extent is there consumer interest in this coffee machine and what are possible embodiments for it?

#### Central questions and sub questions

1. What coffee machines similar to Philips' idea are already on the market?
  - a. What drip filter coffee machines are already on the market that not have to be placed on the countertop?
  - b. How do these competitive coffee machines work?
2. What are good and bad points to this competitive coffee machines?
  - a. What are advantages of these coffee machines according to consumers?
  - b. What are disadvantages of these coffee machines according to consumers?
3. To what extent is there a consumer interest in Philips' idea?
  - a. What kinds of benefits do consumers seek in a drip filter coffee machine?
  - b. To what extent do consumers have the problem described in 'Project framework'?
  - c. What do consumers think of placing a coffee machine everywhere else but not on the countertop?
  - d. Where would consumers like to place the coffee machine everywhere else but not on the countertop?
  - e. What do consumers think of coffee machines from competitors that are not placed on the countertop?
  - f. What do consumers think of placing the coffee machine in a drawer/cupboard?
  - g. What do consumers think of placing the coffee machine at the wall?
  - h. What do consumers think of placing the coffee machine at the bottom of a kitchen cabinet?

4. What are possible embodiments for the drip filter coffee machine?
  - a. What are requirements and wishes for the new drip filter coffee machine?
  - b. What are ideas for the machine?
  - c. Which (parts of) ideas will meet the requirements and wishes of consumers most?
5. To what extent are the consumers' requirements and wishes for a drip filter coffee machine met in the concepts resulting from question 4?
  - a. What do consumers think of the three concepts resulting from question 4?
  - b. Which requirements for the new drip filter coffee machines determined from question 4a are being met?
  - c. Which requirements for the new drip filter coffee machines determined from question 4a are not being met?
  - d. Which concept meets the consumer requirements and wishes most?

## 5. Term provision

D

### Drip filter coffee machine

Coffee machine that leads water through a filter with ground coffee and in this way obtains coffee.

E

### External stakeholders

Interested parties from outside.

F

### Focus group

A focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes towards a product, service, concept, advertisement, idea, or packaging. Questions are asked in an interactive group setting where participants are free to talk with other group members.

I

### Interface stakeholders

Interface stakeholders can influence the organization by means of laws and regulations.

### Internal stakeholders

Interested parties within the organization

P

### Philips CL

Philips Consumer Lifestyle

### Philips' idea

Coffee machine that could be hidden in a drawer/cupboard because of a lack of space in on the counter-top.

### Primary stakeholders

Primary stakeholders have a reasonably large direct importance for an organization.

S

### Secondary stakeholder

Stakeholders who have no direct interest in the organization but may have impact on the company.

## 6. Strategy

For every sub question a strategy, the needed materials and the dilation are determined, shown in figure 2. There can occur several bottlenecks in certain strategies. These are shown in figure 3.

## 7. Planning

In figure 4 a planning is shown for the project

## 8. Sources

1. <http://www.philips.nl>
2. Brochure Philips Consumer Lifestyle Drachten 'Voorop in innovatie en supply'
3. Philips Consumer Lifestyle/IDA report 'Coffee from a drawer (Doortje van der Wouw)'

**Figure 2**

Strategy, material and dilation for every sub question.

| Question | Strategy                              | Material                               | Dilation  |
|----------|---------------------------------------|--|---|
| 1a       | Internetstudy                         | Websites                               | Internet  |
| 1b       | Internetstudy                         | Websites                               | Internet  |
| 2a       | Internetstudy                         | Websites (forums)<br>'Consumentengids' | Internet  |
| 2b       | Internetstudy                         | Websites (forums)<br>'Consumentengids' | Internet  |
| 3a       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3b       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3c       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3d       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3e       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3f       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3g       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 3h       | Focus group                           | Discussion material/interview          | Philips Consumer Panel                                  |
| 4a       | Reflection on comments of focus group | Comments resulting from focus group    | Philips Consumer Panel                                  |
| 4b       | Brainstorm session                    | Paper, pencil                          | Inspiration from consumer panel and competitor overview |
| 4c       | Concepting Storyboarding              | Tekentablet, paper, pencil             | Ideas from brainstorm session, requirements and wishes  |
| 5a       | One on one interviews with consumers  | Interview questions                    | Philips Consumer Panel                                  |
| 5b       | One on one interviews with consumers  | Interview questions                    | Philips Consumer Panel                                  |
| 5c       | One on one interviews with consumers  | Interview questions                    | Philips Consumer Panel                                  |
| 5d       | One on one interviews with consumers  | Interview questions                    | Philips Consumer Panel                                  |

**Figure 3**

Bottlenecks in the project

| Question                          | Strategy  | Bottlenecks  | Solutions   |
|-----------------------------------|---|--|---|
| 1a, 1b, 2a and 2b                 | Internetstudy                                   | Some information not available on the internet               | Using other sources like brochures for certain competitive coffee machines and word of mouth  |
| 3a, 3b, 3c, 3d, 3e, 3f, 3g and 3h | Focus group                                     | People not available   | Planning the appointment with the focus group a long time in advance<br>Planning back up time |
| 4a                                | Reflection on comments of focus group           | No correct interpretation of the comments of the focus group | Record the conversation   |
| 4b                                | Brainstorm session                              | Convergent thinking instead of divergent thinking            | Using several methods for brainstorming   |
| 4c                                | Concepting Storyboarding                        | Making the concepts too permanently or too vague             | Do research on (one on one) interviews about concepts before                                  |
| 5a, 5b, 5c and 5d                 | One on one interview with at least 10 consumers | People not available   | Planning the appointment with consumers a long time in advance<br>Planning back up time       |

**Figure 4**

Planning for the project.

| Task   | Start | End | Duration  | Week |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--|-------|-----|-----------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|  |       |     |           | 19   | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
| Writing plan of action   | 19    | 19  | 2 days    | ■    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| To let approve and modifying plan of action                      | 19    | 20  | 1 week    | ■    | ■  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Making Internet study of competitive drip filter coffee machines | 19    | 20  | 1,5 weeks | ■    | ■  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Drawing conclusions  | 20    | 20  | 1 day     |      | ■  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Reporting  | 20    | 20  | 1 day     |      | ■  |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Preparing conversation with focus group                          | 19    | 21  | 2,5 weeks | ■    | ■  | ■  |    |    |    |    |    |    |    |    |    |    |    |    |
| <b>Conversation with focus group</b>                             | 21    | 21  | 1 day     |      |    | ■  |    |    |    |    |    |    |    |    |    |    |    |    |
| Processing results from focus group                              | 22    | 22  | 3 days    |      |    |    | ■  | ■  | ■  |    |    |    |    |    |    |    |    |    |
| Specifying requirements and wishes                               | 22    | 22  | 1 day     |      |    |    | ■  |    |    |    |    |    |    |    |    |    |    |    |
| Reporting  | 22    | 23  | 2 days    |      |    |    | ■  | ■  |    |    |    |    |    |    |    |    |    |    |
| Brainstorming ideas  | 23    | 25  | 2,5 weeks |      |    |    |    | ■  | ■  | ■  |    |    |    |    |    |    |    |    |
| Concepting on paper  | 25    | 27  | 2,5 weeks |      |    |    |    |    |    | ■  | ■  | ■  |    |    |    |    |    |    |
| Making concepts 'tangible' for consumer interviews               | 27    | 29  | 2 weeks   |      |    |    |    |    |    |    |    | ■  | ■  | ■  |    |    |    |    |
| Preparing consumer interviews                                    | 29    | 30  | 1 week    |      |    |    |    |    |    |    |    |    |    | ■  | ■  |    |    |    |
| <b>Interviewing consumers one on one</b>                         | 31    | 31  | 2 days    |      |    |    |    |    |    |    |    |    |    |    |    |    | ■  | ■  |
| Processing results from consumer interviews                      | 31    | 31  | 4 days    |      |    |    |    |    |    |    |    |    |    |    |    |    | ■  | ■  |
| Drawing conclusions  | 31    | 32  | 1 week    |      |    |    |    |    |    |    |    |    |    |    |    |    | ■  | ■  |
| Writing concept report   | 31    | 33  | 2 weeks   |      |    |    |    |    |    |    |    |    |    |    |    |    | ■  | ■  |
| Let approving the concept report by supervisors                  | 34    | -   | -         |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Starting to write end report                                     | -     | -   | -         |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

## Appendix B

- **Installation of the Brew Express**
- **Precursors to the Black and Decker Spacemaker Coffee Maker SDC850**
- **Ways to install the Brewmatic BICA**
- **Undercounter installation of the TopBrewer from Scanomat**
- **How the IMO Coffee Maker by A.W. Stroher brews coffee**

### Installation of the Brew Express

Figure 5 shows the installation procedure of the Brew Express.

### Precursors to the Black and Decker Spacemaker Coffee Maker

Figure 6 shows some precursors to the Spacemaker Coffee maker SDC850 that are not being sold anymore.

### Ways to install the Brewmatic BICA

Another way to install the Brewmatic BICA: set into the cabinetry to enhance the built-in appearance (Figure 7).

### Undercounter installation of the TopBrewer from Scanomat

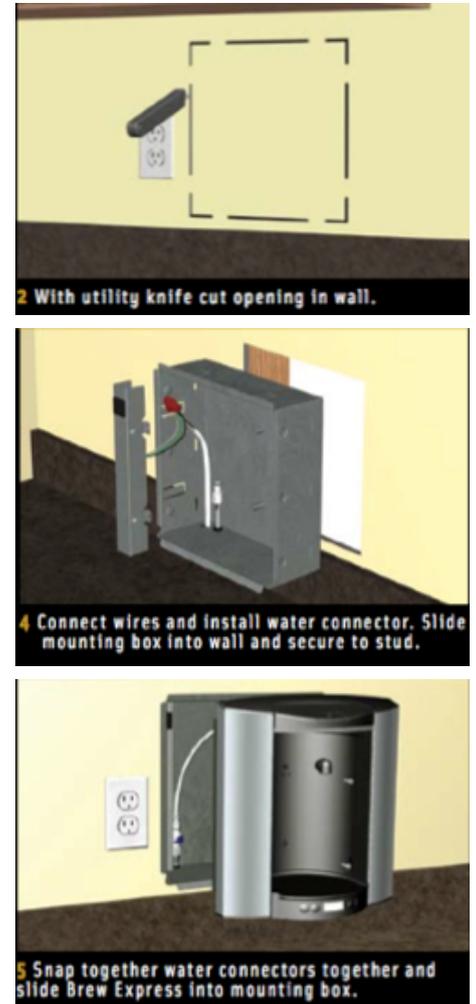
The under counter installation of the TopBrewer hides a multitude of components that allow for a variety of coffee drinks to be made on demand (Figure 8).

### How the IMO Coffee Maker by A.W. Stroher brews coffee

The only information given about how the IMO brews coffee: with a coffee pad is shown in figure 9.

**Figure 5**

Installation procedure of the brew express: cutting an opening in the wall, connect wires and install water connector and slide Brew Express into mounting box.



**Figure 6**

Precursors of the Black and Decker SDC850. From left to right: ODC 425, ODC440, ODC 450 and SDC 740B



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**Figure 7**

Another way to install the Brewmatic BICA: set into the cabinetry to enhance the built-in appearance.



---

**Figure 8**

The under counter installation of the Top-Brewer hides a multitude of components that allow for a variety of coffee drinks to be made on demand.



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**Figure 9**

The only information given about how the IMO brews coffee: with a coffee pad.



## Appendix C

- Questionnaire for focus group
- Time planning for focus group
- Inventory, test data, test location, test engineer and compensation per respondent
- Kitchen layouts of participants of the focus group
- Kitchen building blocks and coffee supplies
- Photos empty, half full and full kitchen counter
- SWOT analyses ideas focus group

### Questionnaire for focus group

Figure 10 shows a questionnaire for the focus group.

### Time planning for focus group

Figure 11 shows a time planning given at to participants of the focus group at the start of the discussion.

**Figure 10**

Questionnaire for the focus group.

**<QUESTIONNAIRE VOOR FOCUS GROEP> <PROJECT 'COFFEE NOT ON YOUR KITCHEN COUNTER'> <WEEK 21> <VRIJDAG 25 MEI 2012> <9:00 - 11:00>**

**1 INTRODUCTIE (5 MINUTEN)**

**1.1 WELKOM** 1. Welkom heten + voorstellen + uitleg dat dit onderzoek wordt gedaan in het kader van een afstudeeropdracht/ bachelor eindopdracht. Het is de bedoeling dat jullie je mening geven over de dingen die ik straks voorleg. De bedoeling van de discussie is dat ik van jullie leer.

**1.2 REGELS** 2. Regels uitleggen:

- Slechts één persoon tegelijk neemt het woord.
- De sessie zal worden opgenomen om te garanderen dat alle opmerkingen worden meegenomen. Deze opnamen zullen alleen worden gebruikt voor mijn opdracht en niet voor externe activiteiten. Gaan jullie hiermee akkoord?
- Er bestaan geen foute of goede antwoorden. Alle standpunten zijn belangrijk in de discussie.
- In mijn verslag zullen geen namen genoemd worden.

**1.3 PLANNING** 3. Planning van de discussie voorleggen aan de groep. De sessie bestaat uit zeven delen en zal ongeveer twee uur duren. Het is een strakke planning, dus is het niet bot bedoeld als ik een bepaalde discussie op een gegeven moment afkap.

**<planning discussie aan participanten geven>**

- Eerst gaan we het hebben over jullie keuken en hoe jullie koffie bereiden.
- Vervolgens is er een korte discussie over drie foto's die ik laat zien.
- Daarna leg ik jullie een idee richting voor.
- Tijd voor vijf minuten pauze.
- Vervolgens kijken we naar bestaande koffie apparaten.
- Als laatste maken we samen een conclusie.
- Hierna ronden we de sessie af.

**2 DISCUSSIE - KEUKENINDELING EN KOFFIEBEREIDING (20 MINUTEN)**

**2.1 UITLEG** 1. We gaan het eerst hebben over jullie keukenindeling en hoe jullie koffie bereiden. (uitleg van 1 minuut)

**2.2 KEUKEN** 2. <Participanten zelf hun keukenindeling laten maken + 'koffie bereiding benodigdheden' erop laten leggen> (ongeveer 5 minuten)

**2.3 KOFFIE ZETTEN** 3. Kunnen jullie aan de hand van jullie zelf gemaakte keukenplattegrond kort uitleggen aan de groep en mij hoe je koffie zet en waar je alle benodigdheden vandaan haalt? (1-2 minuten p.p., dus ongeveer 10 minuten)

**2.4 PLUS EN MINPUNTEN KEUKEN** 4. Eventueel: Noem 3 punten die u fijn vindt aan uw eigen keuken en drie punten die u minder fijn vindt. <participanten laten foto van hun eigen keuken zien>

**PHILIPS** <NOOR REIGERSMAN> <IDA, TUSSENDIEPEN 4 9206 AD DRACHTEN> <NOOR.REIGERSMAN@PHILIPS.COM>

### 3.1 UITLEG

## 3 DISCUSSIE - KEUKENBLAD (15 MINUTEN)

1. Wat vinden jullie van:  
<foto 1 – Leeg keukenblad>  
<foto 2 – Helft van het keukenblad vol>  
<foto 3 – Vol keukenblad>
2. Als dit jullie keuken was, hoe zouden jullie dan het liefst je keuken zien? (En waarom?)
3. *Eventueel*: Hoe zouden volgens jullie familie of vrienden hun keuken het liefst zien?
4. *Eventueel*: Wat zou u weg willen laten op uw keukenblad?

### 3.2 FOTO KIEZEN

### 3.3 EVENTUEEL

### 3.4 EVENTUEEL

## 4 PAUZE - KOFFIE EN THEE (5 MINUTEN)

## 5 DISCUSSIE - VOORLEGGING IDEERICHTING (15 MINUTEN)

### FOTO GEKOZEN

Discussie 4b - In geval van foto 3.

1. Zou u willen dat uw koffiezetapparaat kleiner was of minder ruimte innam?

### PROBLEEM?

Discussie 4b 1 - Zo ja:

1. Stel dat uw koffie apparaat ergens anders zou kunnen staan of hangen dan op het keukenblad. Op welke plaats zou u het handig vinden om het te plaatsen behalve op het keukenblad?

Discussie 4b 2 - Zo nee

1. Kent u iemand anders die zou willen dat zijn of haar koffiezetapparaat kleiner was of minder ruimte innam?

### IEMAND ANDERS PROBLEEM?

2. Op welke plaats zou u geen koffie apparaat willen hebben?

**Zo ja:** Stel dat het koffie apparaat ergens anders zou kunnen staan of hangen dan op het keukenblad. Op welke plaats zou het voor deze persoon dan handig zijn om te plaatsen behalve op het keukenblad?

Discussie 4a - In geval van foto 1 of 2

1. Stel dat uw koffie apparaat ergens anders zou kunnen staan of hangen dan op het keukenblad. Op welke plaats zou u het handig vinden om het te plaatsen behalve op het keukenblad?
2. Op welke plaats zou u geen koffie apparaat willen hebben?

**Zo nee:** Wat vindt u van het idee om het koffie apparaat ergens anders te plaatsen dan op het aanrecht?

**Als participanten dit een slecht idee vinden:** *doorgaan naar discussie 5.*

**Als participanten dit een goed idee vinden:** Op welke plaats zou u het handig vinden om het te plaatsen behalve op het keukenblad? En: op welke plaats zou u geen koffie apparaat willen hebben.

**PHILIPS**

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### 6.1 UITLEG

### 6.2 BESTAANDE APPARATEN

## 6 DISCUSSIE - BESTAANDE KOFFIE APPARATEN (30 MINUTEN)

1. We hebben het net gehad over de plaats waar een koffie apparaat zou kunnen komen te staan.
2. Als u een nieuw koffiezetapparaat zou mogen uitzoeken, welke zou u dan nemen en waarom?  
<Foamboard met afbeeldingen van al bestaande koffie apparaten> *Even laten bestuderen.*

## 7 CONCLUSIE - EISEN EN WENSEN SAMEN SPECIFICEREN (20 MINUTEN)

### INTERESSE

**Als meer dan de helft van de participanten enthousiast is over het plaatsen van een koffie apparaat niet op het aanrecht**

**Als minder dan de helft van de participanten enthousiast is over het plaatsen van een koffie apparaat niet op het aanrecht**

### EISEN EN WENSEN OPSTELLEN

1. Wat voor eisen stellen jullie aan een drip filter koffie apparaat dat niet op het aanrecht staat? *Als je kijkt naar grootte, vormgeving, functionaliteit, waar in de buurt het moet staan etc.*
2. <Eisen en wensen kort op een groot bord zetten>

1. Wat voor eisen stellen jullie aan een drip filter apparaat als gekeken wordt naar de omvang? *Als je kijkt naar grootte, vormgeving, functionaliteit, waar in de buurt het moet staan etc.*
2. <Eisen en wensen kort op een groot bord zetten>

## 8 AFRONDING - VRAGEN OF OPMERKINGEN (5 MINUTEN)

### 8.1 SAMENVATTING

### 8.2 VRAGEN

### 8.3 SESSIE

### 8.4 DANKWOORD

1. *Discussie samenvatten.*
2. Hebben we nu nog belangrijke zaken over het hoofd gezien? Zijn er nog vragen of opmerkingen?
3. Wat vonden jullie van de sessie? <Review op papier>
4. Bedankt voor jullie tijd en medewerking. <Iris-cheques overhandigen>

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**Figure 11**

Time planning for the focus group



Inventory, test data, test location, test engineer and compensation per respondent

#### Inventory needed for conducting focus group

- Pictures of similar competitive coffee machines
- Camera with tripod
- Pictures of several kinds of kitchens
- Paper and pencils for the participants to write down answers
- Questionnaire
- Time planning for participants
- Coffee and tea
- Clock

- Table and 9 chairs
- Whiteboard to write down and summarize answers

**Test date:** Friday 25<sup>th</sup> of May

**Test location:** Group Discussion Room in the Home lab of building IDA (Innovation Domestic Appliances)

**Test Engineer:** Noor Reigersman

#### Compensation

**per respondent:** 25 euros per person (+extra for travel costs).

## Kitchen layouts of participants of the focus group

Figure 12a to 12g show the by the participants self-made layouts of their kitchens.

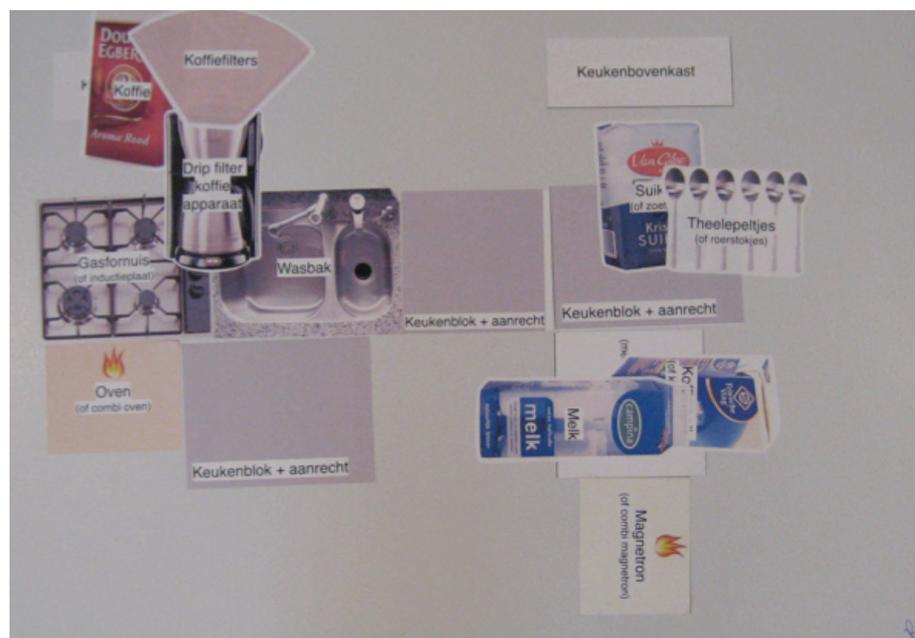
**Figure 12a**

Kitchen layout of participant 1.



**Figure 12b**

Kitchen layout of participant 2.



**Figure 12c**

Kitchen layout of participant 3.



**Figure 12d**

Kitchen layout of participant 4.



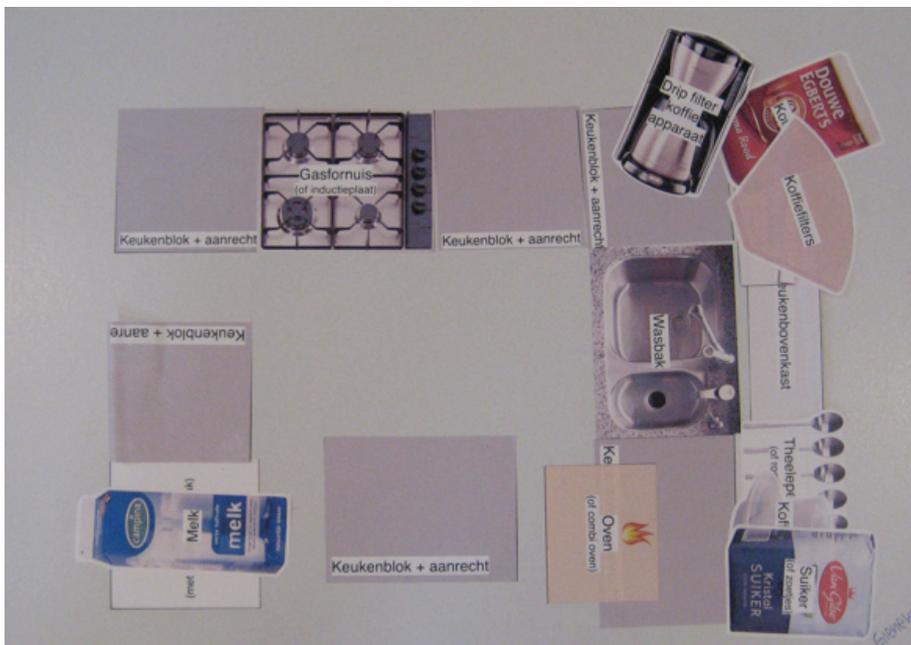
**Figure 12e**

Kitchen layout of participant 5.



**Figure 12f**

Kitchen layout of participant 6.



**Figure 12g**

Kitchen layout of participant 7.

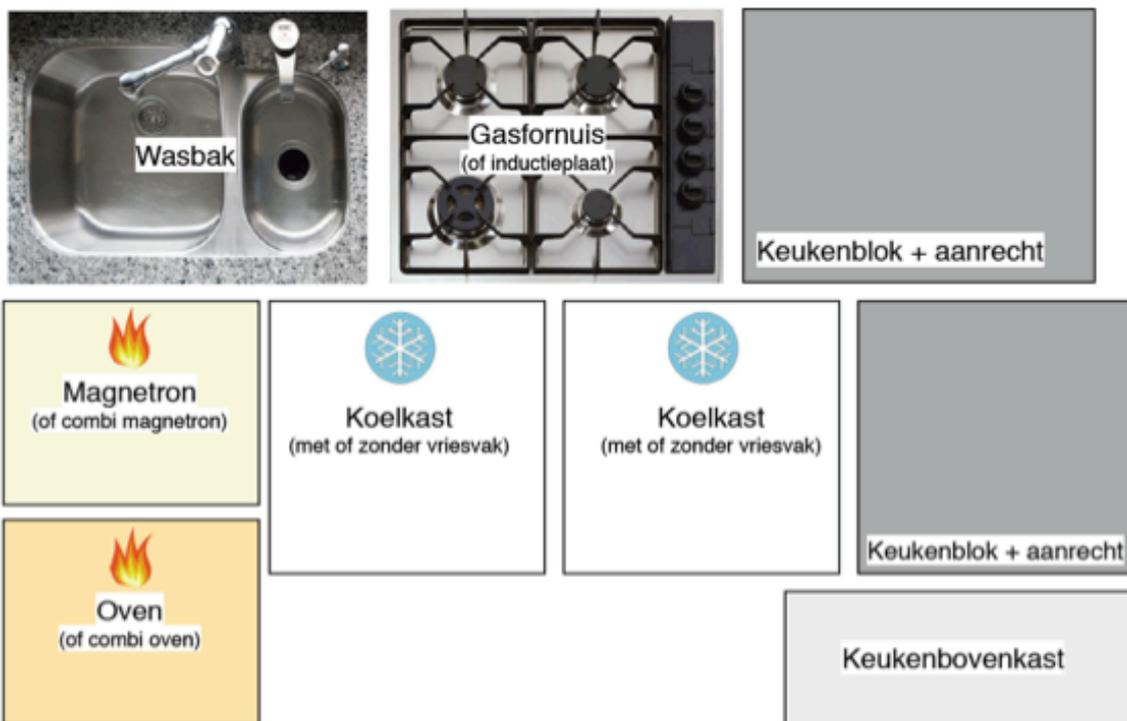


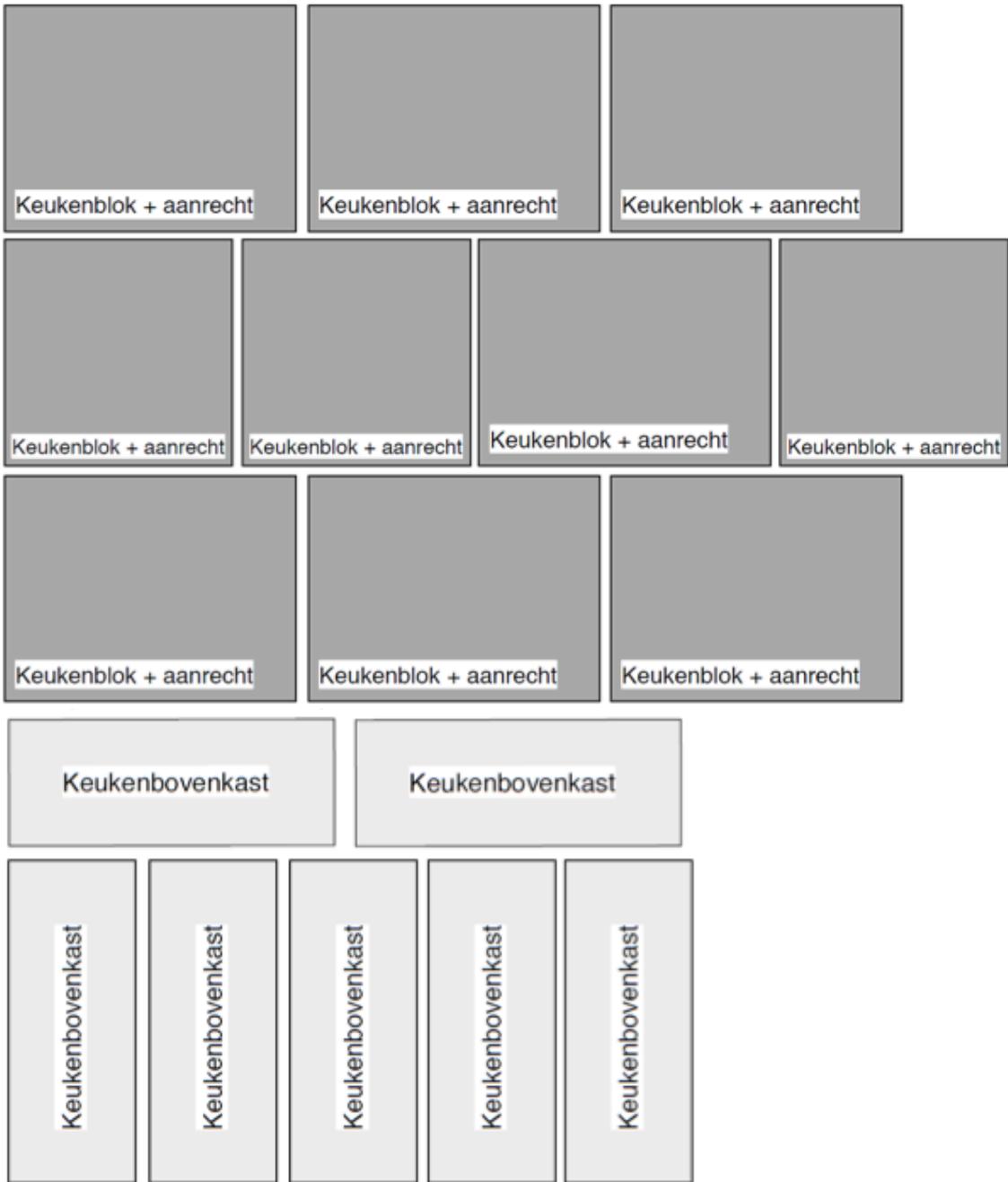
**Kitchen building blocks and coffee supplies**

Figure 13 shows the kitchen building blocks and figure 14 the coffee supplies (0.25 x Original size).

**Figure 13**

Kitchen building blocks.





**Figure 14**

Coffee supplies.



Photos empty, half full and full kitchen counter

Figure 15 show photos an empty, half full and full kitchen counter.

---

**Figure 14**

Empty (A), half full (B) and full kitchen counter (C).



### SWOT analyses ideas focus group

Figure 16a to 16d show SWOT analyses of a coffee maker that will hang on the wall, a coffee maker that will be put in a drawer, a coffee maker that will hang below a kitchen cabinet and a coffee tap on the kitchen counter. Sources are shown behind the sentences. [Ch.1] = Chapter 1 about the analysis of existing coffee machines not placed on the kitchen counter. [Ch.2] = Chapter 2 about the conducted focus group. [S] = based on sense and/or experience.

**Figure 16a**

SWOT of a coffee machine that will hang on the wall.

|  |  |
|--|--|
| <p>No kitchen counter space needed for the device. [Ch.1,2]</p> <p>Use of space that most consumers currently do not use. [Ch.2]</p> <p>If it is within a radius of four meters from the water tap, then the coffee machine remains within reach in the kitchen. [Ch.2]</p>  | <p>The electricity cord is clearly visible when no when the device is not suspended near an AC power. [Ch.2]</p> <p>Empty wall needed to hang up the device. [Ch.1]</p>  |
| <p><b>STRENGTHS WEAKNESSES</b></p> <p><b>OPPORTUNITIES THREATS</b></p>   |  |
| <p>Consumers like to show their coffee machine if it is a design that appeals. [Ch.2]</p> <p>When consumers are convinced of a long-life of the device then they have the effort to drill holes in the wall. [Ch.2]</p> <p>A trendy solution for making the electricity cord less distracting can make the design possibly trendier. [S]</p> <p>Making the machine that mobile that it could hang against the wall, below a cupboard and could stand on the kitchen counter or a stool. [S]</p> <p>Making the installation that simple that consumers can install the device within ten minutes. [Ch.1]</p> <p>Using components from already existing Philips drip filter coffee machines. [S]</p> | <p>Consumers would not buy it because they fear that it will leak against their wall. [Ch.1,S]</p> <p>Consumers would not buy it because you have to drill holes in the wall. [S]</p> <p>Consumer would not buy it because the installation of the device will cost too much time and effort. [Ch.1,S]</p> <p>When the device is placed higher than kitchen counter high there may be a threat that consumers cannot prepare coffee user-friendly. [S]</p> <p>Not all home residents may be able to use the coffee machine user friendly when placed too high for them. [S]</p> <p>When hang up against the wall perpendicularly to the kitchen counter it lefts too little space between the underside of the device and the kitchen counter to add value compared to a coffee machine standing on the kitchen counter. [S]</p> |

**Figure 16b**

SWOT of a coffee machine that will be put in a kitchen drawer.

|  |  |
|--|--|
| <p>No kitchen counter space needed for the device. [Ch.1,2]</p> <p>Within reach in the kitchen. [Ch.2]</p>                                   | <p>Uses drawer storage space. [S]</p> <p>Drawer has to be opened when preparing coffee. [S]</p> <p>Mechanism needed to push the machine out of the drawer that could fail. [S]</p> <p>Power supply (mostly) will be not installable by the consumer himself, but by an electrical engineer. [Ch.1,2,S]</p> <p>The device has to be compatible with most drawers. [S]</p>   |
| <p><b>STRENGTHS      WEAKNESSES</b></p> <p><b>OPPORTUNITIES      THREATS</b></p>   |  |
| <p>Gadget that consumers may want to have and show to others. [Ch.2]</p> <p>Consumers could like that the device is out of sight. [Ch.2]</p> | <p>Drawer could become messy and will easily be closed then. [Ch.2]</p> <p>Cleaning could be difficult. [S]</p> <p>Device could not be at kitchen counter level so that there may be a threat that consumers cannot prepare coffee user-friendly. [S]</p> <p>Consumers would not buy it because the installation of the device will cost too much time and effort. [Ch.1,S]</p> <p>Consumers could like to show their coffee machine because of its design or brand. [Ch.1,2,S]</p> <p>Not already existing Philips components could be needed to make this idea work. [S]</p> |

**Figure 16c**

SWOT of a coffee machine that will hang below a kitchen cabinet.

|  |   |
|--|---|
| <p>No kitchen counter space needed for the device. [Ch.1,2]</p> <p>Within reach in the kitchen. [Ch.2]</p> <p>Use of space that most consumers currently do not use. [Ch.2]</p>  | <p>Not all consumers have kitchen top cabinets. [Ch.2,S]</p> <p>When the distance bottom side-kitchen counter is too small to use that space, this device will not add extra value to consumers compared to a coffee machine standing on the kitchen counter.[S]</p>  |
| <p><b>STRENGTHS      WEAKNESSES</b></p> <p><b>OPPORTUNITIES      THREATS</b></p>   |   |
| <p>Consumers like to show their coffee machine if it is a design that appeals. [Ch.2]</p> <p>When consumers are convinced of a long-life of the device then they have the effort to drill holes in the cabinet. [Ch.2]</p> <p>Making the machine that mobile that it could hang against the wall, below a cupboard and could stand on the kitchen counter or a stool. [S]</p> <p>Making the installation that simple that consumers can install the device within ten minutes. [Ch.1]</p> <p>Using components from already existing Philips drip filter coffee machines. [S]</p> | <p>Consumers would not buy it because you have to drill holes in the cabinet. [S]</p> <p>Consumers would not buy it because the installation of the device will cost too much time and effort. [S]</p> <p>When the device is placed higher than kitchen counter high there may be a threat that consumers cannot prepare coffee user-friendly. [S]</p> <p>Not all home residents may be able to use the coffee machine user friendly when placed too high for them. [S]</p> |

**Figure 16d**

SWOT of a coffee machine that has a coffee tap on the kitchen counter and the rest of the device in the cabinet below.

|  |   |
|--|---|
| <p>Less kitchen counter space needed for the device. [Ch.1,2]</p> <p>Simplicity. [Ch.2]</p>  | <p>Has to be built-in the kitchen. (=not Philips) [Ch.1]</p> <p>Cannot be installed by a consumer self (mostly). [Ch.1,S]</p> <p>Uses storage space in cabinets. [S]</p> <p>Not already existing Philips components and techniques will be needed to make this idea work. [S]</p> |
| <p><b>STRENGTHS WEAKNESSES</b></p>   |   |
| <p><b>OPPORTUNITIES THREATS</b></p>  |   |
| <p>Could exude luxury (because the already existing luxury hot water tap from Qooker) [Ch.1,S]</p> <p>Will match many kitchen because of its simplicity. [S]</p> | <p>Consumers would only buy when they will purchase a new kitchen. [Ch.2]</p> <p>Consumers would not buy it because the installation of the device will cost too much time and effort. [S]</p> <p>When once installed the device cannot be replaced by a consumer. [Ch.1]</p>     |

## Appendix D

- List of requirements
- Ranking criteria (with definition of bad, average and good)
- Agenda with meetings Philips team
- Ideas ranked
- Basic Pump Module (BPM)
- Spout
- Components in each concept
- Cost price calculation concepts
- Sight models concepts
- Dimensional drawings concepts

### List of requirements

Figure 17 shows a list of requirements for the design.

**Figure 17**

List of requirements.

| Requirement  | Specification | Source           |
|--|---------------|------------------|
| <b>Component requirements</b>  |               |                  |
| The cord should not spoil the sight on the wall.   |               | Ch.2             |
| The system shall have a detachable basket comprising a cold water container and filter holder or two apart detachable baskets.                                     | -             | Ch.2, SR Wallaby |
| The basket shall be able to stand stable on its own on the work surface.   | -             | SR Wallaby       |
| The total device has to be rather wider than deeper or in other words: it must not protrude too much from the wall.  | -             | Ch.2             |
| The device has to be designed in a way consumers want to show it.  | -             | Ch.2             |
| The device has to be universal or in other words: on the holes the user drilled in the wall he should also have the possibility to place a device of another size. | -             | Ch.2             |
| <b>Performance requirements</b>  |               |                  |
| The appliance shall be able to prepare 1000mL of coffee.   | -             | Ch. 2            |
| No water shall spill out of the basket when taking out and replacing if filled to the maximum fill level.  | -             | SR Wallaby       |

|  |   |                  |
|--|---|------------------|
| The water level indication in the water tank shall have a good visibility.   | -   | SR Wallaby       |
| Minimum number of cups shown onto the water level indication: min. 3.  | Capacity of the cups used on the water level window shall be: 120 mL.   | SR Wallaby       |
| Maximum number of cups shown onto the water level indication: max. 10.   | Capacity of the cups used on the water level window shall be: 120 mL.   | SR Wallaby       |
| The filter capacity of this appliance shall be according to standard Melitta filter size 1x4.  |   | SR Wallaby       |
| This appliance shall be executed with a drip stop to prevent after dripping.   | -   | SR Wallaby       |
| The device has not to leak against the wall.   | -   | Ch.2             |
| Condense from the hot water and coffee should not damage the wall.   | Condense is coming from thermos jug and basket.   | Ch.2             |
| <b>Ergonomic requirements</b>  |   |                  |
| The device has to be usable on eye level   | -   | Ch.2             |
| When operating the product, the appliance shall not move from the surface it stands of hangs on (when product is empty of liquids and not in use).   | -   | SR Wallaby       |
| All operating buttons/switches in this appliance shall be illuminated when turned "on".  | -   | SR Wallaby       |
| All visible feedback of the user interface shall be clear and clearly readable at eye level.   | -   | Ch.2             |
| The maximum number of steps for preparing shall be 7 (1 remove basket. 2 open container lid. 3 fill water. 4 close container lid. 5 place basket on worktop. 6 insert filter. 7 fill coffee. 8 place back container. ) | -   | Ch.2, SR Wallaby |
| The opening for filling the water container shall be at least 35 mm in diameter.   | -   | SR Wallaby       |
| All parts of this appliance, which are in contact with coffee during normal use, shall be detachable.  | -   | SR Wallaby       |
| The commercial specified lifetime shall be 5 years.  | -   | Ch.2, SR Wallaby |
| In the base, draining holes have to be present.  | -   | SR Wallaby       |
| Coffee which comes out of the draining holes should be absorbed and not drip against the wall or on the floor.   | -   | Ch. 2            |
| The appliance shall be able to operate safely on eye-level.  | -   | Ch. 2            |
| <b>Installation Requirements</b>   |   |                  |
| The device has to be easy installable. Drilling holes in the wall is the maximum consumers would do with an "IKEA guide".  | No technician of handyman will be required.   | Ch. 2            |
| The device has the possibility to be taken off of the wall for repair purposes or cleaning the device.   | -   | Ch. 2            |
| The device has to be simple in use: it does not have too many buttons and does not need a thick manual before use.   | -   | Ch. 2            |
| The device has to be easy fillable with water and coffee.  | Prevent messing and prevent that removing and placing the coffee/water-basket will cost too much effort on eye level. | Ch. 2            |

| <b>Wishes</b>   |   |            |
|---|---|------------|
| As much as possible plastic parts of this appliance, shall be produced using standard Philips released Poly Propylene.  | - | SR Wallaby |
| As much as possible existing Philips components should be used for this device.   | - | SR Wallaby |
| The device has to be customizable: there should be a possibility to choose different colors and possibly shapes.  | - | Ch. 2      |
| The device has to be customizable with different coffeepots so that you could choose between different pots which can be put under the same coffee machine (e.g. glass pot or thermos). | - | Ch. 2      |
| The device has to contain an as far as possible invisible electricity cord.   | - | Ch. 2      |

## Ranking criteria

(with definition of bad, average and good)

Figure 18 shows a list of ranking criteria.

**Figure 18**

Ranking criteria.

| Ranking criterion                       | Specified  | Bad  | Average   | Good  | Research method   |
|---|--|--|---|---|---|
| <b>1. Time to Market</b>                | <i>Availability of competences</i>   | Technology does not exist. Development time (Realization phase) $\geq 4$ years   | Technology known, but not known at Philips. Development time (Realization phase) 3 years  | Technology exists and is known at Philips. Development time (Realization phase) $\leq 2$ years  | Expert review   |
| <b>2. FSP Appliance</b>                 | <i>Cost price</i>  | $> \text{€ } 30$   | $\text{€ } 25 - 30$   | $< \text{€ } 25$  | Expert review   |
| <b>3. Value for consumer</b>            | <i>Sales price in market</i>   | Sales price $< 4x$ cost price  | Sales price = $4x$ cost price   | Sales price $> 4x$ cost price   | One on one interviews with consumers/<br>Expert review  |
| <b>4. Fit with Philips brand</b>        | <i>Is it Sense and Simplicity? (On a scale of 1 to 10)</i>                                     | Device does not fit with Philips brand. (Rating $< 6$ )  | Device does fit sufficiently with Philips brand (Rating 6-7)  | Device does fit with Philips brand (Rating 8-10)  | Expert review   |
| <b>5. Usability</b>                     | <i>Ease of use</i>   | The consumer cannot use the device after reading the manual and preparing coffee will cost more time and effort than with the consumer's current drip coffee maker   | The consumer can use the device after short reading the manual and preparing coffee will cost no more time and effort than with the consumer's current drip coffee maker  | The consumer can use the device without reading the manual and preparing coffee will cost no more time and effort than with the consumer's current drip coffee maker  | One on one interviews with consumers/<br>Expert review  |
|   | <i>Clean ability</i>   | No parts of this appliance, which are in contact with coffee during normal use, are detachable and the part of the wall where the device hangs cannot be cleaned without dirtying the wall permanently   | All parts of this appliance, which are in contact with coffee during normal use, are detachable and easy cleanable (also the part of the wall where the device hangs)   | All parts of this appliance, which are in contact with coffee during normal use, are detachable and cleanable in the dishwasher (also the part of the wall where the device hangs)  | One on one interviews with consumers/<br>Expert review  |
|   | <i>Ease of installation</i>  | Installing the device has to be done by a handyman or there is more than one person needed to install the device.<br><br>Installing cannot be done with a simple step describing manual and will cost more than 45 minutes (e.g. like an IKEA manual) by a person (that is no handyman). | No handyman will be needed: installing can be done by someone that can drill holes<br><br>Installing can be done with a simple step describing manual within 45 minutes (e.g. like an IKEA manual) by a person (that is no handyman). | No handyman will be needed: installing can be done by someone that can drill holes<br><br>Installing can be done with a simple step describing manual within 15 minutes (e.g. like an IKEA manual) by a person (that is no handyman). | One on one interviews with consumers/<br>Expert review  |
| <b>6. Design flexibility</b>            | <i>Design freedom of concept: how much can we still change the design within this concept?</i> | Design cannot be changed within this concept   | Design within this concept can be changed in some ways  | Design within this concept can be changed in many ways  | Expert review   |
| <b>7. Efficiency of space</b>           | <i>How much currently used space will be saved? (On a scale of 1 to 10)</i>                    | Device does not add value in terms of saving space (Rating $< 6$ )   | Efficient use of space (Rating 6-7)   | Very efficient use of space (Rating 8-10)   | One on one interviews with consumers /<br>Expert review |
| <b>8. Safety</b>                        | <i>How safe is the concept when used by the consumer?</i>                                      | Consumer gets injured  | Consumer at most gets one little drop of hot coffee over him once   | Consumer never gets injured   | Expert review   |
| <b>9. Unique Market Proposition</b>     | <i>Is it unique or already in market?</i>  | Similar product already in market  | Device is significantly better than competitive devices   | Unique, not in the market yet   | Expert review   |
| <b>10. Ease to communicate benefits</b> | <i>Does the consumer understand what the concept is meant for?</i>                             | Consumer does not recognize the most important benefits when he/she sees the device for the first time   | After a short talk, demonstration or product trial the consumer understands the most important benefits of the device   | Consumer recognizes the most important benefits (in the shop) without told by someone and never saw the device before   | One on one interviews with consumers /<br>Expert review |

## Agenda with meetings Philips team

Figure 19 shows my appointments during the assignment.

**Figure 19**

Agenda.

| Date:                 | Meeting with:   | Subject:                             |
|-----------------------|---|--------------------------------------|
| Monday 7th of May     | Roel Steunenberg (Groupleader FD&SA&T&V)              | Assignment                           |
| Friday 11th of May    | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |
| Tuesday 8th of May    | Ana Maria Alvarez (Product Research Manager)          | Preparing focus groups               |
| Monday 14th of May    | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |
| Wednesday 23th of May | Ana Maria Alvarez (Product Research Manager)          | Discussing questionnaire focus group |
| Friday 25th of May    | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |
| Monday 4th of June    | Ana Maria Alvarez (Product Research Manager)          | Showing results focus group          |
| Monday 4th of June    | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |
| Tuesday 12th of June  | Yde Venema (Development Engineer)                     | Explanation drip filter coffee maker |
| Tuesday 12th of June  | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |
| Thursday 14th of June | Anne-Cecil Ragain (Senior Manager Consumer Marketing) | Showing ideas/value for consumer     |
| Friday 15th of June   | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |
| Monday 18th of June   | Mark van der Woning (Product Development Engineer)    | Discussing ideas                     |
| Thursday 21th of June | Bart Jan Zwart (Function Development Leader)          | Technical feasibility ideas          |
| Friday 22nd of June   | Gert Jan Veenstra (Senior Quality Project Lead)       | Safety wall-mounted coffee maker     |
| Friday 22nd of June   | Roel Steunenberg (Groupleader FD&SA&T&V)              | Bilat                                |

|                         |   |  |
|-------------------------|---|--|
| Wednesday 27th of June  | Bart Jan Zwart (Function Development Leader),<br>Yde Venema (Development Engineer),<br>Mark van der Woning (Product Development Engineer),<br>Roel Steunenber (Groupleader FD&SA&T&V) | Discussing ideas, ranking ideas, technical feasibility |
| Tuesday 26th of June    | Ana Maria Alvarez (Product Research Manager)  | Discussing ideas                                       |
| Thursday 28th of June   | Stefan Andreesen (Design Consultant)  | Discussing ideas                                       |
| Friday 29th of June     | Roel Steunenber (Groupleader FD&SA&T&V)   | Bilat  |
| Friday 29th of June     | Wim Brevoord (Group Leader Industrial Cost Engineering)   | Cost prices ideas                                      |
| Thursday 5th of July    | Merijn Stam (Product Research Manager)  | Showing ideas and preparing one-on-one interviews      |
| Friday 13th of July     | Mark van der Woning (Product Development Engineer)  | Discussing (technical feasibility) combi concept (2)   |
| Monday 23rd of July     | Innovation team Beverage Appliances   | Innovation meeting presentation                        |
| Friday 27th of July     | Rik van Leusen (Industrial Cost Engineer I&D)   | Cost prices concepts                                   |
| Friday 27th of July     | Roel Steunenber (Groupleader FD&SA&T&V)   | Bilat  |
| Monday 30th of July     | Ana Maria Alvarez (Product Research Manager)  | Discussing test protocol one-on-one interviews         |
| Friday 3rd of August    | Roel Steunenber (Groupleader FD&SA&T&V)   | Bilat  |
| Monday 6th of August    | Rik van Leusen (Industrial Cost Engineer I&D)   | Cost prices concepts                                   |
| Friday 10th of August   | Roel Steunenber (Groupleader FD&SA&T&V)   | Bilat  |
| Tuesday 14th of August  | Ana Maria Alvarez (Product Research Manager)  | Showing results one-on-one interviews                  |
| Thursday 16th of August | Roel Steunenber (Groupleader FD&SA&T&V)   | Evaluation   |

## Ideas ranked

Figure 20 shows how the ideas are ranked using the made list of ranking criteria.

**Figure 20**

Ideas ranked.

| Ranking criterion                | Specified   | Idea 1 |   |   | Idea 2 |   |   | Idea 3 |   |   | Idea 4 |   |   | Idea 5 |   |   | Idea 6 |   |   | Idea 7 |   |   |   |
|----------------------------------|---|--------|---|---|--------|---|---|--------|---|---|--------|---|---|--------|---|---|--------|---|---|--------|---|---|---|
|                                  |   | B      | A | G | B      | A | G | B      | A | G | B      | A | G | B      | A | G | B      | A | G | B      | A | G |   |
| 1. Time to Market                | Availability of competences   |        | x |   |        | x |   | x      |   |   | x      |   | x |        | x |   | x      |   |   |        | x |   |   |
| 2. FSP Appliance                 | Cost price  |        |   | x |        | x |   | x      |   |   | x      |   |   | x      |   |   | x      |   |   |        | x |   |   |
| 3. Value for consumer            | Sales price in market   |        | x |   |        | x |   |        | x |   | x      |   |   | x      |   |   | x      |   |   |        | x |   |   |
| 4. Fit with Philips brand        | Is it Sense and Simplicity?   |        | x |   |        | x |   | x      |   |   | x      |   | x |        |   | x |        |   |   |        | x |   |   |
| 5. Usability                     | Ease of use   |        | x |   |        | x |   |        | x |   | x      |   | x |        |   | x |        |   |   |        |   | x |   |
|                                  | Clean ability   |        | x |   |        | x |   | x      |   |   | x      |   |   | x      |   |   | x      |   |   |        | x |   |   |
|                                  | Ease of installation  |        | x |   |        | x |   |        | x |   | x      |   | x |        |   | x |        |   |   |        |   | x |   |
| 6. Design flexibility            | Design freedom of concept: how much can we still change the design within this concept? |        | x |   |        | x |   | x      |   |   | x      |   | x |        |   | x |        |   |   |        |   | x |   |
| 7. Efficiency of space           | How much currently used space will be saved?  |        |   | x | x      |   |   | x      |   |   | x      |   |   |        | x |   |        |   | x |        |   | x |   |
| 8. Safety                        | How safe is the concept when used by the consumer?                                      |        | x |   |        |   | x |        | x |   |        | x |   |        | x |   |        |   | x |        |   |   | x |
| 9. Unique Market Proposition     | Is it unique or already in market?  |        | x |   |        | x |   |        | x |   | x      |   |   |        | x |   |        |   | x |        |   |   | x |
| 10. Ease to communicate benefits | Does the consumer understand what the concept is meant for?                             |        | x |   |        | x |   |        | x |   | x      |   |   | x      |   |   | x      |   |   |        |   |   | x |
| <b>Total score</b>               |   | 26     |   |   | 24     |   |   | 19     |   |   | 24     |   |   | 21     |   |   | 21     |   |   | 21     |   |   |   |

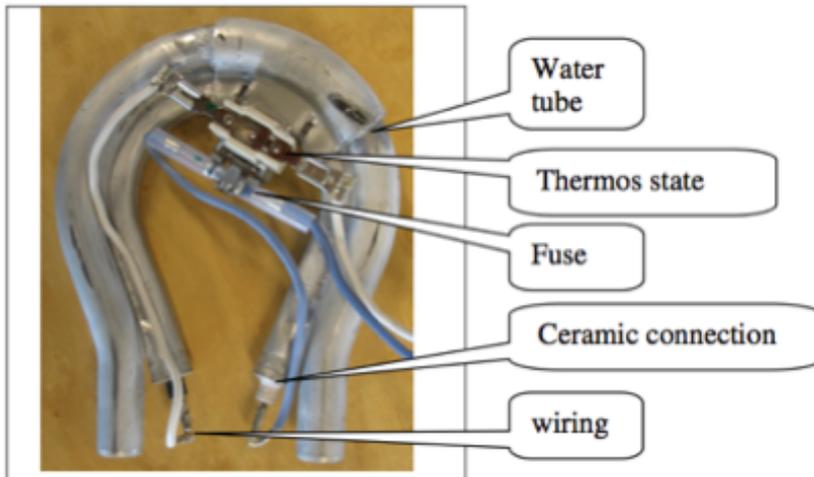
| Ranking criterion                | Specified   | Idea 8 |   |   | Idea 9 |   |   | Idea 10 |   |   | Idea 11 |   |   | Idea 12 |   |   | Idea 13 |   |   | Idea 14 |   |   |   |
|----------------------------------|---|--------|---|---|--------|---|---|---------|---|---|---------|---|---|---------|---|---|---------|---|---|---------|---|---|---|
|                                  |   | B      | A | G | B      | A | G | B       | A | G | B       | A | G | B       | A | G | B       | A | G | B       | A | G |   |
| 1. Time to Market                | Availability of competences   | x      |   |   |        |   | x |         |   | x |         |   | x |         |   | x |         |   |   | x       |   |   | x |
| 2. FSP Appliance                 | Cost price  |        | x |   |        | x |   |         | x |   |         | x |   |         | x |   |         |   | x |         |   |   | x |
| 3. Value for consumer            | Sales price in market   |        |   | x |        | x |   |         | x |   |         | x |   |         | x |   |         |   | x |         |   |   | x |
| 4. Fit with Philips brand        | Is it Sense and Simplicity?   |        |   | x |        |   | x |         |   | x |         |   | x |         |   | x |         |   |   |         |   |   | x |
| 5. Usability                     | Ease of use   |        |   | x |        |   | x |         |   | x |         |   | x |         |   | x |         |   |   |         |   |   | x |
|                                  | Clean ability   |        | x |   |        |   | x |         |   | x |         |   | x |         |   | x |         |   |   |         |   |   | x |
|                                  | Ease of installation  |        | x |   |        |   | x |         |   | x |         |   | x |         |   | x |         |   |   |         |   |   | x |
| 6. Design flexibility            | Design freedom of concept: how much can we still change the design within this concept? |        | x |   |        |   | x |         |   | x |         |   | x |         |   | x |         |   |   |         |   |   | x |
| 7. Efficiency of space           | How much currently used space will be saved?  |        |   | x |        | x |   |         | x |   |         | x |   |         | x |   |         |   | x |         |   |   | x |
| 8. Safety                        | How safe is the concept when used by the consumer?                                      |        | x |   |        | x |   |         | x | x |         |   |   | x       |   |   |         |   | x |         |   |   | x |
| 9. Unique Market Proposition     | Is it unique or already in market?  |        |   | x |        | x |   |         | x |   |         | x |   |         | x |   |         |   | x |         |   |   | x |
| 10. Ease to communicate benefits | Does the consumer understand what the concept is meant for?                             |        |   | x | x      |   |   |         | x |   |         | x |   |         | x |   |         |   | x |         |   |   | x |
| <b>Total score</b>               |   | 29     |   |   | 26     |   |   | 26      |   |   | 25      |   |   | 26      |   |   | 26      |   |   | 25      |   |   |   |

## Basic Pump Module (BPM)

Figure 21 shows a BPM.

**Figure 21**

Ideas ranked.

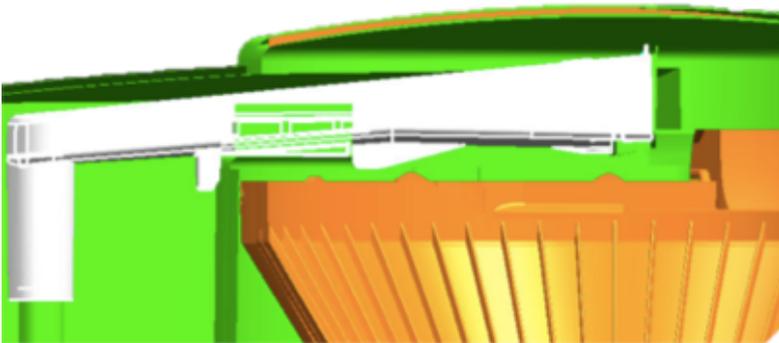


## Spout

Figure 22 shows a spout in a basic construction (white part).

**Figure 22**

Spout in basic construction.

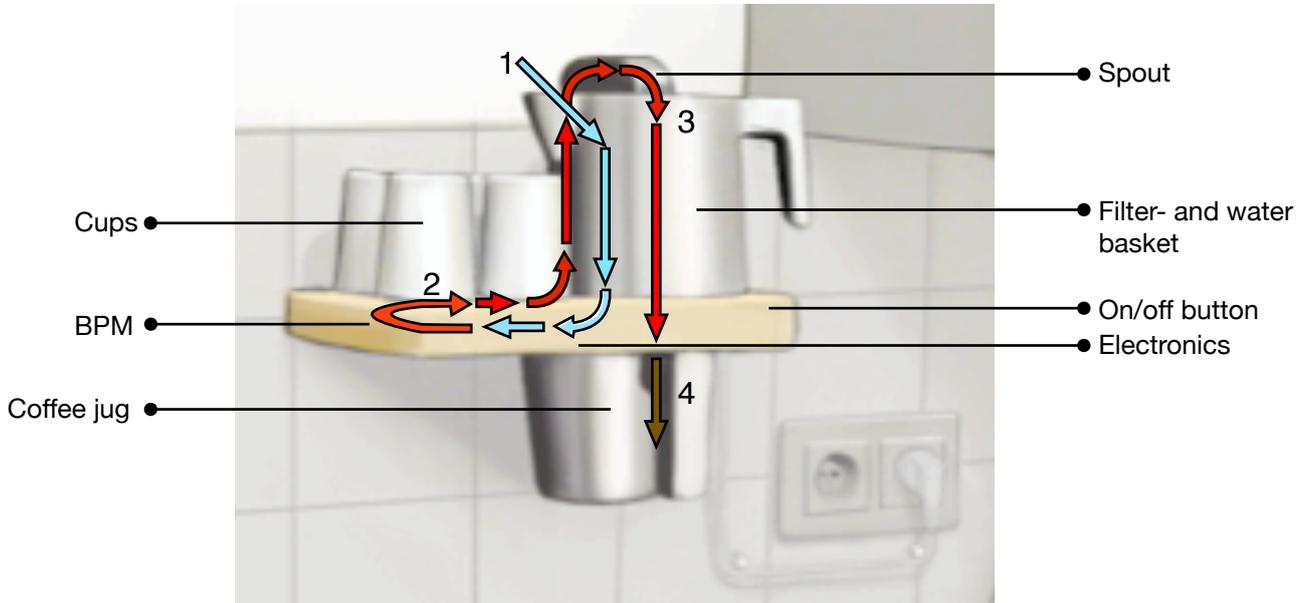


## Components in each concept

Figure 23a to 23c show where components are placed in the concept and how the water flows through the coffee maker.

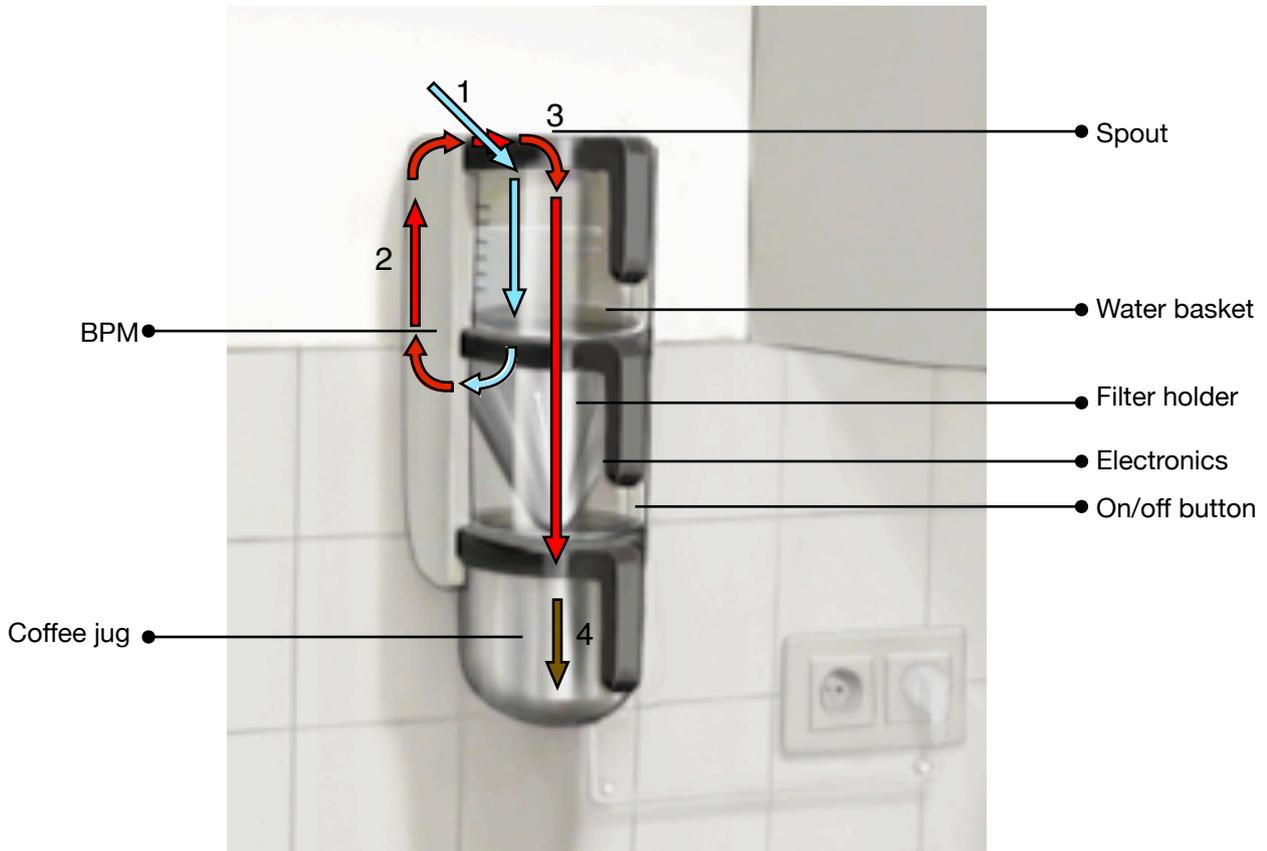
**Figure 23a**

Components in the coffee corner. The arrows show the water flow. 1. Filling water. 2. Heating water. 3. Water through spout in filter. 4. Coffee in thermos jug.



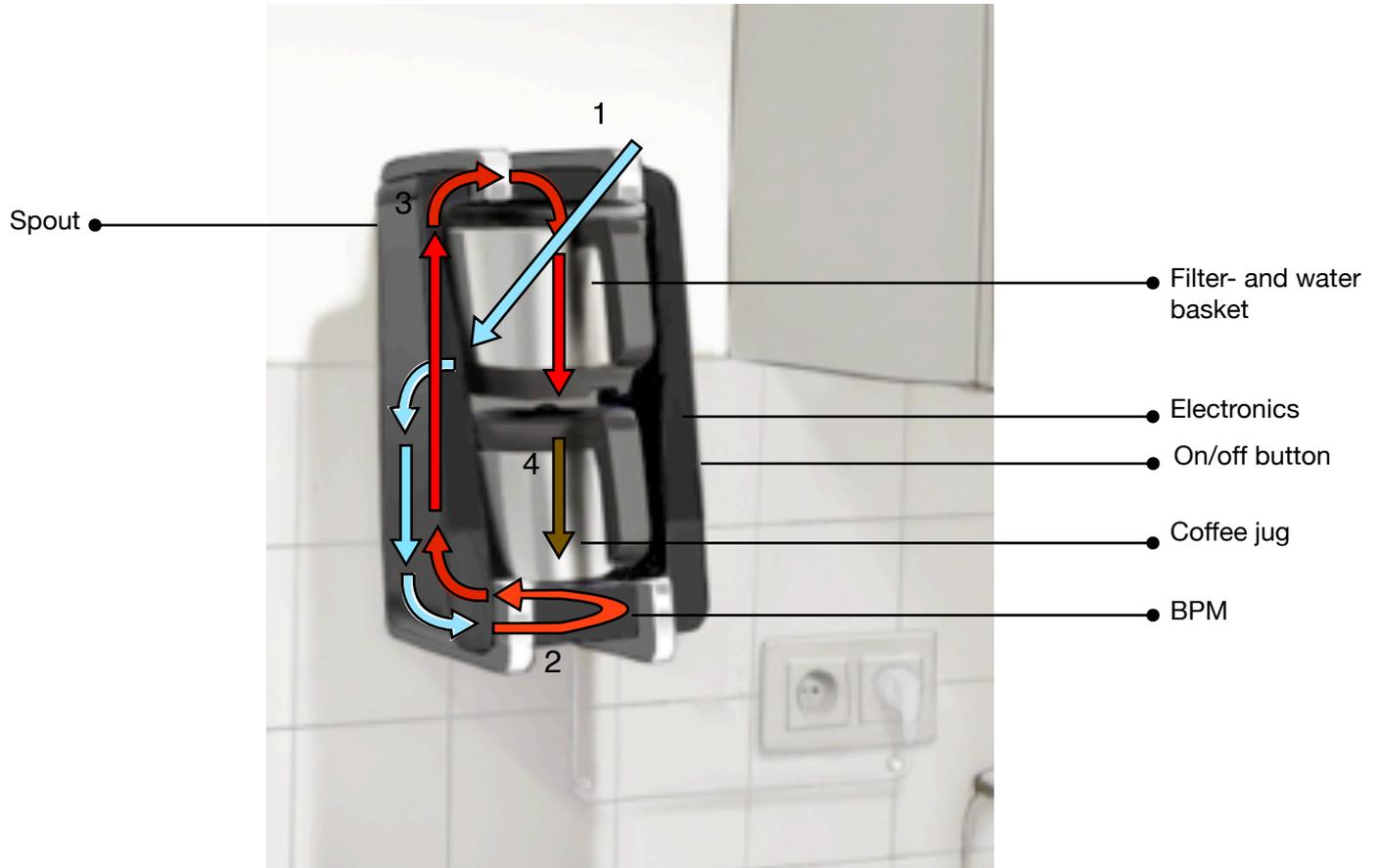
**Figure 23b**

Components in the coffee tower. The arrows show the water flow. 1. Filling water. 2. Heating water. 3. Water through spout in filter. 4. Coffee in thermos jug.



**Figure 23d**

Components in Wallaby. The arrows show the water flow. 1. Filling water. 2. Heating water. 3. Water through spout in filter. 4. Coffee in thermos jug.



## Cost price calculation

Figure 24 shows a cost price calculation of each concept.

**Figure 24**

Cost price calculation by R. van Leusen (Industrial Cost Engineer I&D).

|   | Concept 1 (Coffee corner) | Concept 2 (Coffee tower) |
|---|---------------------------|--------------------------|
| Thermos jug   | 7,1                       | 7,1                      |
| Basket Coffee / Water                                     | 5,16                      | 3,75                     |
| Base Plastic ABS incl bottom plate                        | 2,1                       | 2,08                     |
| Heater incl fuse thermostat wiring water connection tubes | 1,75                      | 1,75                     |
| Switch aso  | 0,5                       | 0,8                      |
| Hotplate  | 0,6                       |                          |
| Seals   | 0,32                      | 0,16                     |
| Tubes water   | 0,5                       | 0,2                      |
| Spout stainless steel pre brushed                         | 1,2                       | 0,35                     |
| Cordset   | 0,6                       | 0,6                      |
| Cups  | 3                         |                          |
| Big screws  | 0,1                       | 0,1                      |
| Metal construction  | 2,2                       |                          |
| Packaging   | 1,5                       | 1,5                      |
| Rounding  | 1                         | 1                        |
| Power PCB   |                           | 2                        |
| Assembly  | 1,2                       | 1,3                      |
| Toolquote   | 1,5                       | 1,5                      |
| Retail price  | 90-100                    | 75-85                    |

|   | Concept 3 (Wallaby on the wall)         |
|---|---|
| Wallaby with thermos jug                  | 99                                      |
| Tubes per piece (stainless steel) 2 euros | 4                                       |
| Big screws per piece 0,05 euros           | 0,2                                     |
| Plugs per piece 0,03                      | 0,12                                    |
| Retail price                              | 99 euros (Wallaby) + 12 euros (Bracket) |

## Sight models

Figure 25a shows sight models of the three concepts. The models are made of primed, white painted styro-foam. Figure 25b shows the making of.

### Figure 25a

Sight models of the concepts





**Figure 25b**  
Making concept 2 in the workshop.

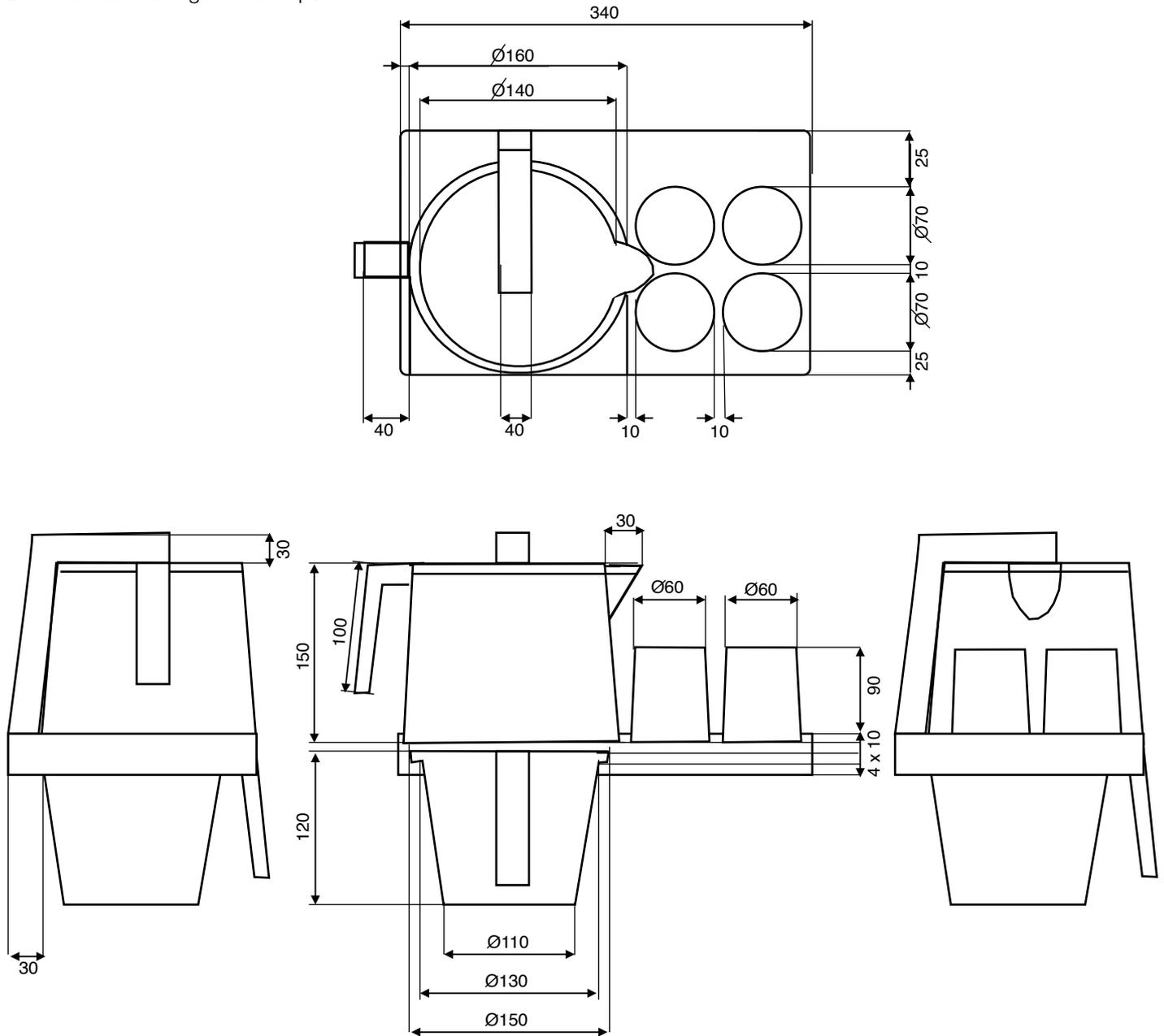


## Dimensional drawings

Figure 26a to 26c show dimensional drawings of each concept. Measurements are in mm.

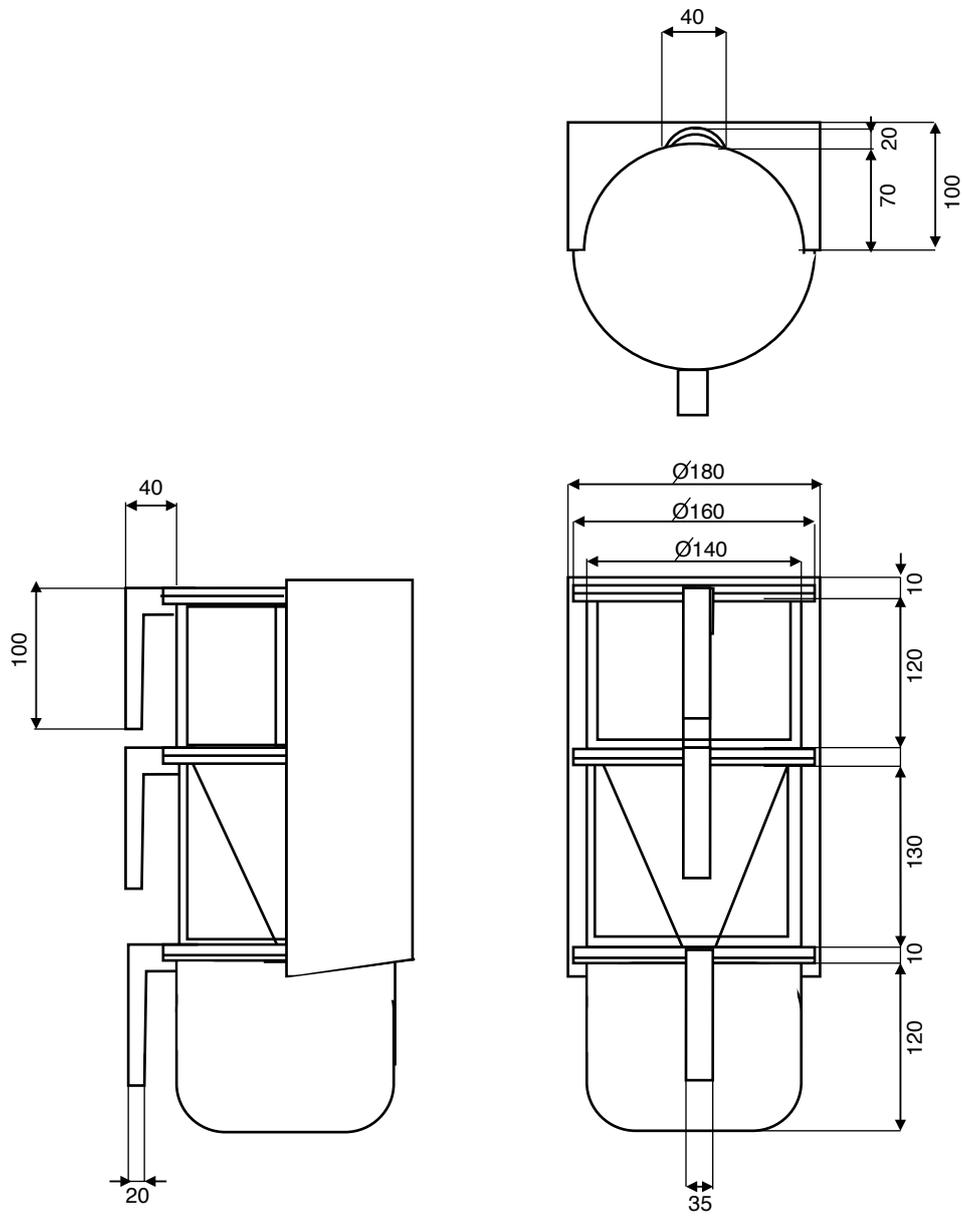
### Figure 26a

Dimensional drawings of concept 1.



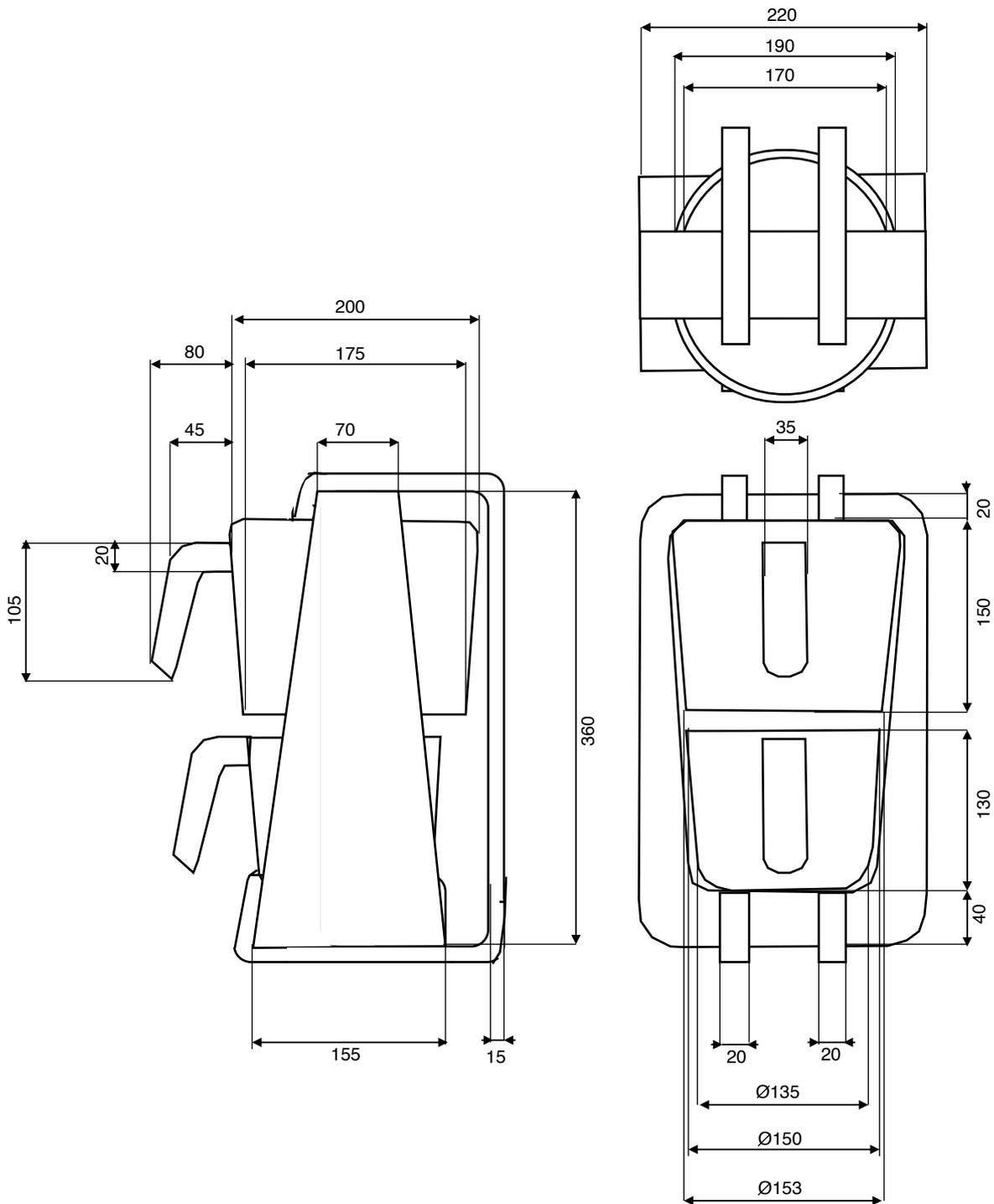
**Figure 26b**

Dimensional drawings of concept 2.



**Figure 26c**

Dimensional drawings of concept 3.



## Appendix E

- Questionnaire interviews
- Inventory, test data, test location, test engineer, compensation per respondent
- Planning
- Photos kitchens participants

### Questionnaire interviews

#### A. Start <5 minutes>

Welcome.

Let participant sign NDA.

Personal information, what is your...

- Name?
- Age?
- Place of residence?
- Education level?

The purpose of the research is to get insight into your opinion about three designs of a coffee machine that will hang on the wall. This research will be done in the context of a graduation project. I will ask you a number of questions about these three designed coffee machines. Anything say is of interest to me and there are no wrong answers. The interview will take about one hour. Disclaimers: I will videotape you during the interview. Do you agree with this? Further: no names will be mentioned in my report and it is not meant rough when I end a discussion and go on to the next topic to discuss. Is everything clear or do you still have questions?

#### B. Interview <40 minutes>

##### 1. 'Warming up' <5 minutes>

How do you drink your coffee? How many cups per day do you drink?

Can you show a picture of your kitchen? Can you tell me what you see in there? Which appliances are staying on your kitchen counter? Do you like your kitchen? What do you like and what do you like less in your kitchen? Why?

##### 2. Presentation + understanding the three concepts

Concept 1\*

<Showing picture in context>

What do you think of the designs (in general)? -Think out loud-

What do you think of the design?

<Showing how to install it>

Let participant think out loud when going through the installation procedure.

Is there anything unclear in the installation of the coffee machines?

Would you take the effort to install this device? Why (not)?

What are good/bad points?

<Showing how to use it>

Let participant think out loud when going through the using procedure.

Is there anything unclear in the use of the coffee machines?

What are good points? What are less good points? (And why?)

<Showing how to clean it>

Let participant think out loud when going through the using procedure.

Is there anything unclear in the cleaning of the coffee machines?

What are good points? What are less good points?

<Showing sight model>

Should there be a place where you can hang this coffee machine?

Can you show where on the picture of your kitchen?

Would you actually hang it on this place? Why (not)?

Is there another place in your house where you could hang the coffee machines?

Would you actually hang it on this place? Why (not)?

What do you think of the volume of the coffee machine?

Concept 2\*

<Showing picture in context>

What do you think of the designs (in general)? -Think out loud-

What do you think of the design?

<Showing how to install it>

Let participant think out loud when going through the installation procedure.

Is there anything unclear in the installation of the coffee machines?

Would you take the effort to install this device? Why (not)?

What are good/bad points?

<Showing how to use it>

Let participant think out loud when going through the using procedure.

Is there anything unclear in the use of the coffee machines?

What are good points? What are less good points? (And why?)

<Showing how to clean it>

Let participant think out loud when going through the using procedure.

Is there anything unclear in the cleaning of the coffee machines?

What are good points? What are less good points?

<Showing sight model>

Should there be a place where you can hang this coffee machine?

Can you show where on the picture of your kitchen?

Would you actually hang it on this place? Why (not)?

Is there another place in your house where you could hang the coffee machines?

Would you actually hang it on this place? Why (not)?

What do you think of the volume of the coffee machine?

Concept 3\*

<Showing picture in context>

What do you think of the designs (in general)? -Think out loud-

What do you think of the design?

<Showing how to install it>

Let participant think out loud when going through the installation procedure.

Is there anything unclear in the installation of the coffee machines?

Would you take the effort to install this device? Why (not)?

What are good/bad points?

<Showing how to use it>

Let participant think out loud when going through the using procedure.

Is there anything unclear in the use of the coffee machines?

What are good points? What are less good points? (And why?)

<Showing how to clean it>

Let participant think out loud when going through the using procedure.

Is there anything unclear in the cleaning of the coffee machines?

What are good points? What are less good points?

<Showing sight model>

Should there be a place where you can hang this coffee machine?

Can you show where on the picture of your kitchen?

Would you actually hang it on this place? Why (not)?

Is there another place in your house where you could hang the coffee machines?

Would you actually hang it on this place? Why (not)?

What do you think of the volume of the coffee machine?

### 3. Ranking + choosing + price

<Showing pictures in context of all concepts with a feature card>

Which would you choose to use at home? Which do you like most? Why?

Why don't you choose for the other(s)?

How much would you pay for the one you chose?

### 4. Show price

Would you spend this for the coffee machine you chose? Why (not)?

### C. Closing <5 minutes>

Is there anything you wish to add to what you said during the interview?

Thank you for participation in this test. <Hand over iris cheque>

\* Change the order of the concepts shown.

Participant 1: 1,2,3

Participant 2: 2,3,1

Participant 3: 3,1,2

Participant 4: 1,3,2

Participant 5: 2,1,3

Participant 6: 3,2,1

Participant 7: 1,2,3

Participant 8: 2,3,1

Participant 9: 3,1,2

Participant 10: 1,3,2

Participant 11: 2,1,3

Participant 12: 3,2,1

Participant 13: 1,2,3

Participant 14: 2,3,1

[Inventory, test data, test location, test engineer, compensation per respondent](#)

### Inventory

- Camera with tripod and charger
- Paper and pencils
- Questionnaire
- Three sight models of the concepts
- Of each concept three drawing sheets with the using procedure, the cleaning procedure and the installation procedure
- Drawings of the three devices in context
- Feature cards of each concept (like in a shop)
- Clock
- Table and two chairs
- Coffee and tea
- Cookies

**Test data:** Tuesday 7<sup>th</sup> and Wednesday 8<sup>th</sup> of August  
**Test location:** Kitchen in the Homelab of building IDA (Innovation Domestic Appliances)  
**Test Engineer:** Noor Reigersman  
**Compensation per respondent:** 25 euros per person (+10 extra for travel costs).

## Planning

The planning includes the time schedule during the two days, the preparations that has to be done before testing, the planning during the test and the final deliverables.

### Schedule:

Tuesday 7th of August

09:00 – 10:00 Participant 1  
10:15 – 11:15 Participant 2  
11.45 – 12:45 Participant 3  
13:00 – 14:00 Participant 4  
14:30 – 15:30 Participant 5  
15:45 – 16:45 Participant 6  
17:00 – 18:00 Participant 7

Wednesday 8th of August

09:00 – 10:00 Participant 8  
10:15 – 11:15 Participant 9  
11.45 – 12:45 Participant 10  
13:00 – 14:00 Participant 11  
14:30 – 15:30 Participant 12  
15:45 – 16:45 Participant 13  
17:00 – 18:00 Participant 14

### **Preparations:**

Before the test the following has to be prepared:

1. Arranging Homelab Kitchen.
2. Submitting specifications to Rianne Bosch/Gerry Alma for arranging participants from the Philips Consumer Panel.
3. Reading about conducting one-on-one interviews.
4. Arranging camera with tripod.
5. Making drawings of using procedure, installation procedure and cleaning procedure of each concept.
6. Making drawings of the three devices in context.

7. Making a feature card of each concept (like in a shop).
8. Making sight models.
9. Making questionnaire.

### **Planning during the test:**

The planning during the test is as follows:

1. Introduction <5 minutes>
  - a. Welcoming participant.
  - b. Let participant sign NDA.
  - c. Personal information.
  - c. Explaining why this test will be conducted and giving a planning of the discussion with what topics to discuss when and explaining rules (recording on camera, not meant rough when I end a discussion and go on to the next topic, no names will be mentioned in my report, the participant can not say something right or wrong)
2. 'Warming up' discussion <5 minutes>

Discussing how the kitchens of participant looks like, how the participant drinks his/her coffee and how many cups per day he/she drinks, which machines are staying on his/her kitchen counter, to what extent he/she would like to have a more empty kitchen counter desk.
3. 'Concept' discussion <10 minutes>

Showing drawings + models to participant. Talking about the design + using procedure + cleaning procedure + installation procedure. (Which part(s) would consumers like to see different and how would they like to see this/these and which part(s) do they appreciate in the concept?)
4. 'Place' discussion <5 minutes>

Where would the participant hang such coffee machines (showing on picture of his/her kitchen). And would he/she actually hang one of the developed coffee machine on this place?
5. 'Price' discussion <5 minutes>

Showing prices to participant. Do consumers agree with this price. Would they buy (one of) the machines?
6. Conclusion <15 minutes>

Summarize pros and cons of the concepts together with the participant and make a list of requirements and wishes.
7. Debrief <5 minutes>
  - a. Ask participant if he/she wants to add comments or if he/she has questions.
  - b. Ask what the participant thought about the test.
  - c. Thank participant for his/her participation in the test. Hand over Iris cheque.

## Photos kitchens participants

Figure 27a to 27i show the kitchens of participants of the interviews. With arrows the places where participant would and could hang the coffee makers are indicated.

**Figure 27a**

Kitchen of participant 1.



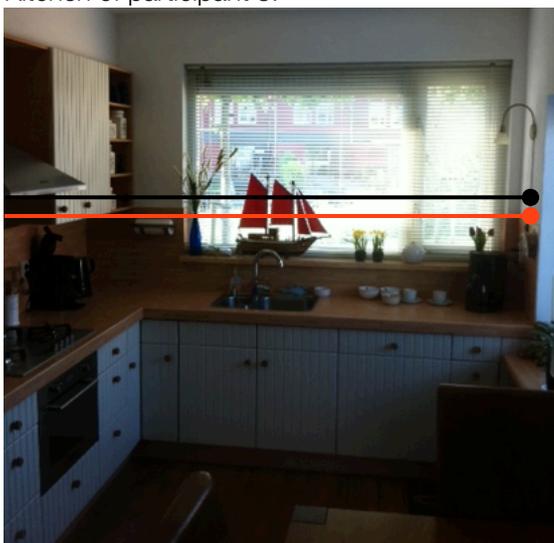
**Figure 27b**

Kitchen of participant 2.



**Figure 27d**

Kitchen of participant 3.



- Concept 1 Coffee corner
- Concept 2 Coffee tower
- Concept 3 Wallaby on the wall

*If no arrow is shown the participant could or would not find a place to hang the coffee maker on the wall.*

---

**Figure 27d**

Kitchen of participant 4.



---

**Figure 27e**

Kitchen of participant 5.



---

**Figure 27f**

Kitchen of participant 6.



**Figure 27g**

Kitchen of participant 7.



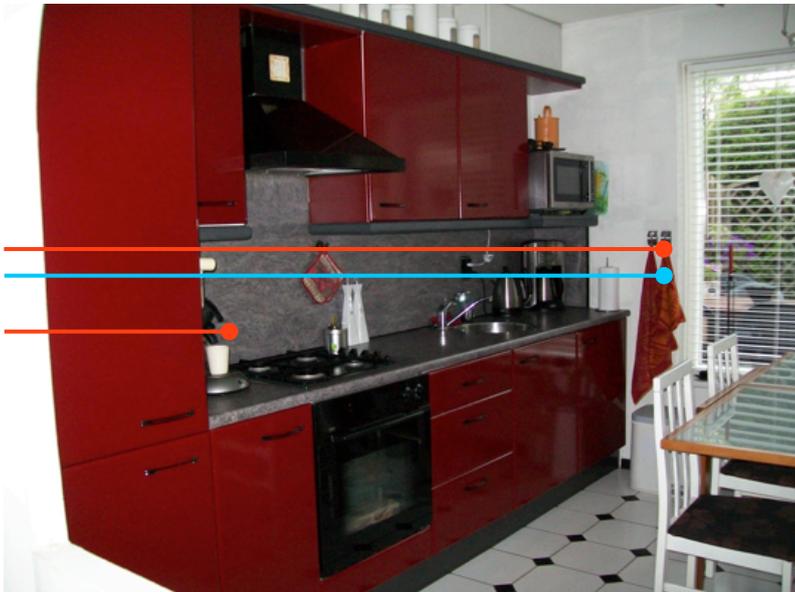
**Figure 27h**

Kitchen of participant 8. Empty wall at the left side (not on picture), same as wall where aluminium foil hangs.



**Figure 27i**

Kitchen of participant 9.



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**Figure 27j**

Kitchen of participant 10.



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**Figure 27k**

Kitchen of participant 11.



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**Figure 27l**

Kitchen of participant 12.



## Appendix F

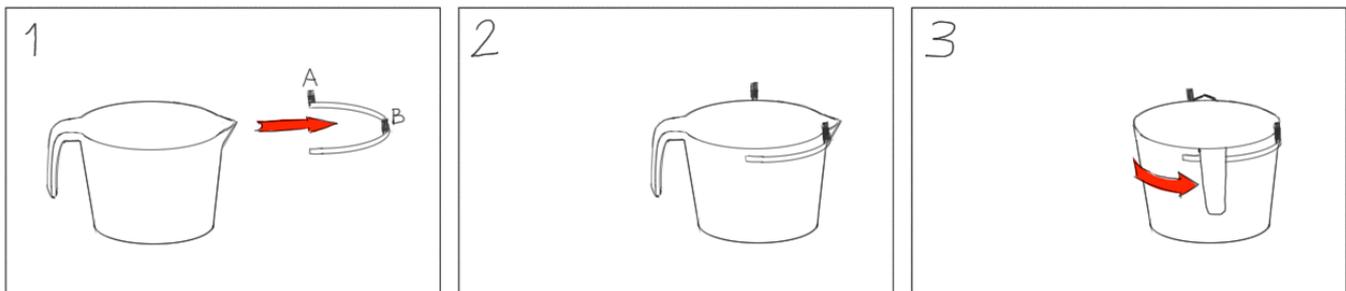
- Replacing coffee jug coffee corner
- SWOT of the coffee corner

### Replacing coffee jug

Figure 28 shows how the coffee jug in concept 1 (coffee corner) will be replaced.

#### Figure 28

Replacing the coffee jug in the coffee corner.  
A en B border on the shelf.



### SWOT of the coffee corner

Figure 29 shows a SWOT analysis of the coffee corner that was made after the one-on-one interviews. The fat green threats or weaknesses are decreased in the new design. There should be needed more tests to decrease the black threats and weaknesses like user tests to investigate the filling of water in the upper basket and the ease of placing the jugs (on a level higher than kitchen counter height).

**Figure 29**

SWOT of the coffee corner.

|  |   |
|--|---|
| <p><b>Design</b><br/>         Idea of a real coffee corner on the wall was liked (7)<br/>         Board adds value for consumers (7)<br/>         Consumers are very much welcoming the cupwarmer (4)<br/>         This device with cupwarmer does not consume more power than one without (2)<br/>         Consumers like that the design is a set (2)<br/>         Consumers are satisfied with volume: they like the compactness and that it has no frame (like concept 3) (10)<br/>         Combined water- and coffee basket looks compact (3)</p> <p><b>Installation</b><br/>         Installable by the consumer selve or by a close (12)<br/>         Consumers would drill holes in their kitchen (11)<br/>         Holes in the wall can be drilled in the joints of the tiles</p> <p><b>Use</b><br/>         Filling of water and coffee on the kitchen counter (12)</p> <p><b>Cleaning</b><br/>         Combined water and coffee basket dishwasher proof (12)<br/>         Consumer won't bother to clean the part that remains on the wall (11)<br/>         Board is cleanable on eye-level and water from a cleaning cloth will not drip down (as in concept 2 and 3) (1)</p> <p><b>Place</b><br/>         Device could be placed below the cupboards and on an empty wall (11)</p> <p><b>Price</b><br/>         Participants who chose this device would average spend more than the calculated retail price for this design (7)</p> <p style="text-align: right;"><b>STRENGTHS</b></p> | <p><b>Design</b><br/> <b>Consumers do not see how the device will work at first sight (10)</b><br/> <b>Design is too sleek/modern for some consumers (2)</b><br/>         Cup part is too much for consumers, they rather would like to leave half of the board away (1)<br/> <b>Consumers don't like yellow color of the board (3)</b></p> <p><b>Installation</b><br/>         Consumers don't want to drill holes in a 'special' wall (tiles or wood) (1)</p> <p><b>Use</b><br/> <b>For left-handed more difficult to use (2)</b></p> <p style="text-align: right;"><b>WEAKNESSES</b></p>   |
| <p style="text-align: center;"><b>OPPORTUNITIES</b></p> <p><b>Design</b><br/>         New and different design in comparison to existing coffee machines (12)<br/>         Two versions of the board could be introduced: one with and one without a cupwarmer or with an on/off button for the cupwarmer (2)<br/>         Consumers like to put their sugar, milk, herbs or other stuff on the board.(2)<br/>         Device is an eye-catcher/ a design piece consumers want to show<br/>         Different kinds of color combinations could be offered<br/>         Consumers who found this design too modern would like to have this design with the look of Philips new Wallaby (form of jugs, colors, handles) (1)</p> <p><b>Installation</b><br/>         Other devices or new coffee machines that can hang on the wall should be able to hang into the same holes (2)</p> <p><b>Use</b><br/>         After introducing how the device works, the working principle is clear for consumers (12)</p> <p><b>Cleaning</b><br/>         Consumers think that the board only will contain dust and a few water drips that you have to clean (3)</p>   | <p style="text-align: center;"><b>THREATS</b></p> <p><b>Design</b><br/> <b>Cupwarmer does not add value for consumers (8), but does not bother (6)</b><br/>         Consumers have to be sure that the device has a long-life<br/> <b>When cups are not available anymore and board is not compatible for other cups, consumers would find it a pity (1)</b></p> <p><b>Use</b><br/>         Board and cups should not become too warm (3)<br/>         Opening for filling water has to be big enough so that filling water is easy (5)<br/>         Replacing water and coffee basket on a level higher than kitchen counter height should not be too heavy (especially for invalids and elderly). (2)<br/> <b>Lower jug should be fixed good enough to ensure that it couldn't fall (1)</b></p> <p><b>Cleaning</b><br/> <b>Consumers want the less possible edges in the board so that it is easy cleanable.</b><br/>         Board could become dirtier than consumers are expecting</p> |

## Appendix G

- Evaluation form

### Philips Consumer Lifestyle B.V.

Postbus 80002, 5600 JB Eindhoven

## Evaluation form Philips Interns/Graduates

|                               |  |                                    |                       |
|-------------------------------|--|------------------------------------|-----------------------|
| <b>Student name:</b>          | Mevrouw L.J. Reigersman  | <b>Corp, Research, Design, PD:</b> |                       |
| <b>Start Date:</b>            | 07-05-2012   | <b>Department:</b>                 | IT BA                 |
| <b>End Date:</b>              | 17-08-2012   | <b>Assessor Name:</b>              | Dhr R. Steunenbergh   |
| <b>Educational Institute:</b> | Universiteit Twente  | <b>Assessor Function:</b>          | Groupleader FD&SA&T&V |
| <b>Type of study:</b>         | Technologie (Onderzoek en Ontwikkeling)  | <b>Assessing Date:</b>             | 16-08-2012            |
|                               |  | <b>Signature:</b>                  |                       |
| <b>Assignment/project:</b>    | Consumer interest en mogelijke uitvoeringsvormen<br>(designs) onderzoeken voor een nieuw idee voor een<br>koffieapparaat |                                    |                       |

(above data will already be filled in by the system)

| Generic                                     | - | 0 | + | ++ | Comment   |
|---|---|---|---|----|---|
| <b>Understanding of the instructed work</b> |   |   |   | X  | Clear and realistic assignment and planning made at start of the project.       |
| <b>Quality of work</b>                      |   |   |   | X  | Deliverables on time, quantitative and qualitative very good research & results |
| <b>Speed of performance</b>                 |   |   |   | X  | Good organizer, resource investigator, teamplayer.                              |
| <b>Quality of written reporting</b>         |   |   | X |    | Easy to read and understand reports with clear structure                        |
| <b>Development of initiatives</b>           |   |   |   | X  | Knows to find her way fast in organization, seeks help when necessary           |
| <b>Association with colleagues</b>          |   |   | X |    | Good teamplayer, valued by Philips employees                                    |
| <b>Dedication at performance</b>            |   |   |   | X  | Very dedicated to her assignment. Professional attitude towards Philips         |
| <b>Adequacy for work done</b>               |   |   |   | X  | Very precise, detailed designer. Almost perfectionist                           |
| <b>Summary</b>                              |   |   |   | X  | Very valuable, driven, enthusiastic and dedicated teamplayer.                   |

| Technology (R&D)                      | - | 0 | + | ++ | Comment  |
|---------------------------------------|---|---|---|----|--|
| <b>Knowledge Management</b>           |   |   | X |    | Results and knowledge gained has been written down directly in good reports    |
| <b>Creativity and innovation</b>      |   |   | X |    | Creative solutions found by herself and via brainstorming with team            |
| <b>Problem solving</b>                |   |   | X |    | Focussed on solving problems in concepts and problems within execution project |
| <b>Architectural style thinking</b>   |   | X |   |    | Difficult to judge: not part of assignment, not shown during project           |
| <b>Influencing business direction</b> |   | X |   |    | Difficult to judge: not part of assignment.                                    |

## Philips Consumer Lifestyle B.V.

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Postbus 80002, 5600 JB Eindhoven

### Evaluation form Philips Interns/Graduates

|  |   |
|--|---|
| <b>Overall score/comment</b>                         | <b>Motivation:</b> Noor is very result driven, consumer oriented, fast, precise, teamplaying, takes initiative and the lead.<br><b>Ambition:</b> Consumer research, design<br><b>Mobility:</b> Start in the Netherlands and ambition to get experience world wide |
| <b>Plans in application or continuation in study</b> | Mw N. Reigersman will continue with her master in industrial design engineering at University of Twente   |
| <b>Availability date</b>                             | 01-09-2014  |
| <b>Advice for Philips</b>                            | Keep CV in database   |



**PHILIPS**

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