



# appendix

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3	cultural analysis from project plan
4	function analysis of the fortune cooker
5	building of the first prototype
6	building of the second prototype
7	list of user research findings: indirect influence
8	materials and tools
9	evaluation previous business model canvas
10	further explanation
11	questionnaires for user research

#1

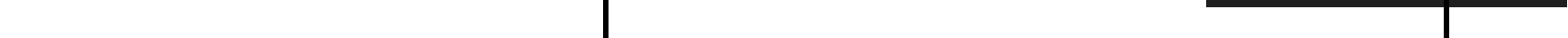
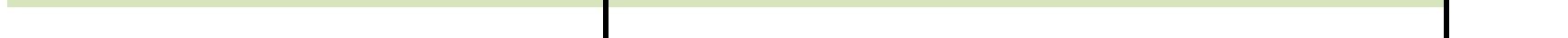
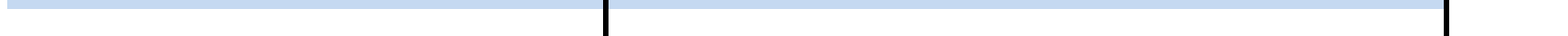
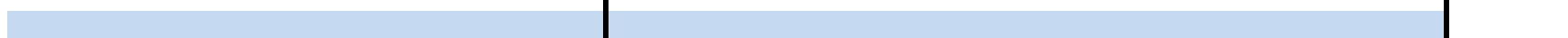
# #1

Planning The Fortune Cooker Project	7-nov zaterdag	8-nov zondag	9-nov maandag	10-nov dinsdag	11-nov woensdag	12-nov donderdag	13-nov vrijdag	14-nov zaterdag	15-nov zondag	16-nov maandag	17-nov dinsdag	18-nov woensdag	19-nov donderdag	20-nov vrijdag	21-nov zaterdag	22-nov zondag	23-nov maandag	24-nov dinsdag	25-nov woensdag	26-nov donderdag	
<b>Algemeen</b>																					
Aankomst Marokko	█																				
Vertrek Marokko																			█		
Rustdag in de week																			█		
Reizen																			█		
<b>Communicatie</b>																					
Logo maken																			█ ↘		
Facebook pagina opzetten																			█ ↘		
Facebook onderhouden																			█		
S4S updaten																			█		
Jan updaten																			█		
Iva updaten																			█		
EWB updaten																			█		
Bespreking met Farida																			█		
Bespreking met Jan																			█		
Frans voorbereiden of onderhouden	█		█																		
Afspraak/contact onderhouden																			█		
<b>Financiën</b>																					
Gemaakte kosten inzichtelijk houden																			█		
Begroting maken																			█ ↘		
Crowdfunding opzetten																			█ ↘		
Crowdfunding onderhouden																			█		
<b>Product</b>																					
Materialenlijst definitief maken	█		█																	█ ↘	
Oriënteren op materialen in Saïdia	█																			█ ↘	
Materialen aanschaffen in Saïdia																			█ ↘		
Oriënteren op materialen in Oujda	█																			█ ↘	
Materialen aanschaffen in Oujda	█																			█ ↘	
Product analyse/brainstorm																			█		
Prototypes bouwen of aanpassen																			█		
Brainstormen over herontwerpen																			█		
<b>Onderzoek</b>																					
Tolk regelen (nog onzeker, Farida helpt)																			█		
Testen voorbereiden																			█		
Reis voor vooronderzoek voorbereiden																			█		
Vooronderzoek Aïn Sfa																			█		
Vooronderzoek Bouarfa																			█		
Testen in Saïdia																			█		
Resultaten verwerken																			█		
Verslaglegging doen																			█		





13-jan	14-jan	15-jan	16-jan	17-jan	18-jan	19-jan	20-jan	21-jan	22-jan	23-jan	24-jan	25-jan
woensdag	donderdag	vrijdag	zaterdag	zondag	maandag	dinsdag	woensdag	donderdag	vrijdag	zaterdag	zondag	maandag



## Wekelijkse mijlpalen Fortune Cooker project:

### Week 1 (9 – 15 november)

- Zie rapport van afgelopen email

### Week 2 (16 – 22 november)

- Planning zo ver mogelijk uitwerken
- Facebook pagina opzetten
- Crowdfunding opzetten
- Product analyse doen dmv brainstorm
- Aanschaffen materialen in Saïdia

### Week 3 (23 – 29 november)

- Aanschaf overige materialen in Oujda
- Bouwen eerste prototype
- Zelf testen van eerste prototype
- Opstellen van voorlopig programma van eisen en wensen
- Voorbereiden onderzoek in Ain Sfa

### Week 4 (30 nov – 6 dec)

- Vooronderzoek in Ain Sfa
- Verwerken van de resultaten Ain Sfa

### Week 5 (7 – 13 december)

- Testen eerste prototype in Saïdia
- Aanpassingen doen aan dit prototype

óf

- Vooronderzoek in Bouarfa (afhankelijk van budget)

### Week 6 (14 – 20 december)

- Testen tweede prototype in Saïdia
- Aanpassingen doen aan dit prototype

### Week 7 (21 – 27 december)

- Testen derde prototype in Saïdia
- Aanpassingen doen aan dit prototype

### Week 8 (28 dec – 3 jan)

- Testen vierde prototype in Saïdia
- Aanpassingen doen aan dit prototype

#### Week 9 (4 – 10 januari)

- Alle verslaglegging verwerken tot eindverslag
- Conclusies trekken werking laatste prototype
- Definitief programma van eisen en wensen
- Conclusies met betrekking tot voortzetting project
- Eventueel een eindpresentatie ter plaatse

#### Week 10 (23 – 29 januari)

- Eventueel een eindpresentatie ter plaatse
- Opruimen van laatste zaken
- Afscheid nemen van Marokko
- Voorbereiden eindpresentatie in Nederland



# AANPASSING TESTPLAN

NAAR AANLEIDING VAN VERGADERING 20-11

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## Vaststelling doel | 7 januari 2015

- Een prototype dat technisch werkt;
  - Een prototype dat aansluiting biedt op zowel de bewuste als onbewuste wensen van de gebruiker.
  - Een volledig Programma van Eisen & Wensen, zodat waar nodig het product verder uitgewerkt kan worden.
  - Conclusies met betrekking tot voortzetting van het project
  - Een eindverslag
- 

## TESTPLAN 1

INDIEN ER ALLEEN GELD IS OM VOORONDERZOEK IN AÏN SFA TE DOEN

### Testplan in het kort

- Vooronderzoek in Aïn Sfa
- Testen van het prototype bij verschillende mensen in Saïdia
- Bij testpersoon 1 het prototype een week laten staan
- Een afsluitende test bij een andere doelgroep die altijd op hout kookt in Madagh

### Testplan in chronologische volgorde

OPMERKING: Deze planning is vloeibaar. Omdat deze planning zo afhankelijk is van testpersonen, tolks, etc., kunnen de datums nog niet vastgezet worden. Wel kunnen er onderdelen omgewisseld worden als blijkt dat bepaalde datums veranderd moeten worden.

		<b>Testronde 1 met prototype 1</b>
Week 48	<b>23 november</b>	Aankoop laatste gereedschappen
	<b>24 t/m 26 november</b>	Vaststellen van verbeterdoelen prototype
		Bouwen prototype 1
		Technische test van eerste prototype 1
		<b>Vooronderzoek</b>
Week 49	<b>1 t/m 4 december</b>	Vooronderzoek in Aïn Sfa. Dag 1: Kennismaking en meekoken Dag 2: Meekoken, observeren en analyseren huidige manier van werken.
	<b>5 december</b>	Uitwerken van bevindingen Aïn Sfa
Week 50	<b>7 december</b>	Verslaglegging en updates
	<b>8 t/m 10 december</b>	Bouwen van twee prototypes 2 met daarin:
		Uitkomsten test prototype 1
		Bevindingen onderzoek Aïn Sfa
		<b>Testronde 2 met prototype 2</b>
	<b>11 december</b>	Eerste testdag in Saïdia, meekijken met testpersoon 1 en als het lukt water kook test
	<b>12 december</b>	Tweede testdag: testen met testpersoon 1, simpele maaltijd, prototype 2 achterlaten
	<b>13 december</b>	Rustdag
Week 51	<b>14 december</b>	Update-dag en verslaglegging

		Bespreking met Farida
		Bespreking met Jan
	<b>15 december</b>	Derde testdag: water koken met testpersonen 2,3,4 met prototype 2
	<b>16 december</b>	Verwerken testresultaten
	<b>17 t/m 19 december</b>	Bouwen/aanpassen twee prototypes 3 met daarin: Test- en onderzoeksresultaten tot op heden
	<b>20 december</b>	Rustdag
		<b>Testronde 3 met prototype 3</b>
Week 52	<b>21 december</b>	Updatedag en verslaglegging
	<b>22 december</b>	Vierde testdag in Saïdia, feedback achterlaten prototype 2, water koken met testpersonen 1,4,5 met prototype 3
	<b>23 december</b>	Uitwerken testresultaten
		Algemene verslaglegging
	<b>24 t/m 26 december</b>	Bouwen/aanpassen twee prototypes 4 met daarin: Test- en onderzoeksresultaten tot op heden Bevindingen achterlaten prototype 2 bij testpersoon
		<b>Testronde 4 met prototype 4</b>
	<b>27 december</b>	Rustdag
Week 53	<b>28 december</b>	Testen in Madagh met testpersonen 6 met prototype 4
	<b>29 december</b>	Laatste test in Saidia met testpersoon 1 met prototype 4
	<b>30 december</b>	Updatedag
		Verwerken testresultaten
		<b>Afronding</b>
	<b>2 januari</b>	Opstellen definitief programma van eisen en wensen
Week 1	<b>3 t/m 7 januari</b>	Conclusies m.b.t. voortzetting project
		Eindverslaglegging

### Toelichtingen

- Conclusie: We gaan 8 prototypes bouwen, 4 verbetering slagen, en testen dit bij 6 testpersonen.
- Vraag aan Farida: is het mogelijk om op vrijdag (aangezien op deze dag door iedereen uitgebreid couscous gegeten wordt) te testen bij testpersoon 1, of moeten we dit volledig uitsluiten?
- Bij testronde 1: testpersoon 1 op de 'couscousdag' ingepland omdat deze persoon ons al beter kent en er waarschijnlijk minder moeite mee heeft om op 'couscousdag' met ons te testen.

## TESTPLAN 2

INDIEN ER GELD IS OM VOORONDERZOEK IN AÏN SFA EN BOUARFA TE DOEN

### Testplan in het kort

- Vooronderzoek in Aïn Sfa en Bouarfa, biedt voordelen omdat er zo een gevarieerdere doelgroep is onderzocht.
- Testen van het prototype bij verschillende mensen in Saïdia.
- Bij een persoon van deze testgroep het prototype laten staan voor twee dagen.

### Testplan in chronologische volgorde

OPMERKING: Deze planning is vloeibaar. Omdat deze planning zo afhankelijk is van testpersonen, tolks, etc., kunnen de datums nog niet vastgezet worden. Wel kunnen er onderdelen omgewisseld worden als blijkt dat bepaalde datums veranderd moeten worden.

		<b>Testronde 1 met prototype 1</b>
Week 48	<b>23 november</b>	Aankoop laatste gereedschappen
	<b>24 t/m 26 november</b>	Vaststellen van verbeterdoelen prototype
		Bouwen prototype 1
		Technische test van eerste prototype 1
		<b>Vooronderzoek</b>
Week 49	<b>1 t/m 4 december</b>	Vooronderzoek in Ain Sfa. Dag 1: Kennismaking en meekoken Dag 2: Meekoken, observeren en analyseren huidige manier van werken.
	<b>5 december</b>	Uitwerken van bevindingen Ain Sfa
Week 50	<b>7 december</b>	Verslaglegging en updates
	<b>8 t/m 10 december</b>	Bouwen van twee prototypes 2 met daarin:
		Uitkomsten test prototype 1
		Bevindingen onderzoek Ain Sfa
		<b>Testronde 2 met prototype 2</b>
	<b>11 december</b>	Eerste testdag in Saïdia, meekijken met testpersoon 1 en als het lukt water kook test
	<b>12 december</b>	Tweede testdag: testen met testpersoon 1, simpele maaltijd, prototype 2 achterlaten
	<b>13 december</b>	Rustdag
Week 51	<b>14 december</b>	Update-dag en verslaglegging
		Bespreking met Farida
		Bespreking met Jan
	<b>15 december</b>	Derde testdag: water koken met testpersonen 2,3,4 met prototype 2
	<b>16 december</b>	Verwerken testresultaten
	<b>17 t/m 19 december</b>	Bouwen/aanpassen twee prototypes 3 met daarin:
		Test- en onderzoeksresultaten tot op heden
	<b>20 december</b>	Rustdag
		<b>Testronde 3 met prototype 3</b>
Week 52	<b>21 december</b>	Updatedag en verslaglegging
	<b>22 t/m 26 december</b>	Afreizen naar Bouarfa om:
		Dag 1: kennis maken en al een beetje mee te kijken
		Afhankelijk van of het lukt:
		óf dag 2: testen met testpersoon 5 in Bouarfa met prototype 3 óf dag 2: meekoken, observeren en analyseren
		<b>Testronde 4 met prototype 3</b>
	<b>27 december</b>	Rustdag
Week 53	<b>28 december</b>	Verwerken testresultaten Bouarfa
	<b>29 december</b>	Laatste test in Saïdia met testpersoon 1 met prototype 3
	<b>30 december</b>	Updatedag
		Verwerken testresultaten
		<b>Afronding</b>

	<b>2 januari</b>	Opstellen definitief programma van eisen en wensen
Week 1	<b>3 t/m 7 januari</b>	Conclusies m.b.t. voortzetting project
		Eindverslaglegging

### **Toelichtingen**

- In de ideaalsituatie is het voor ons mogelijk om ook in Bouarfa te testen met de Fortune Cooker. Mocht dit echter niet kunnen doordat er bijvoorbeeld nog niet genoeg vertrouwen is opgebouwd, zullen we dezelfde aanpak hanteren als in Aïn Sfa.
- Conclusie: We gaan 6 prototypes bouwen, 3 verbetering slagen en testen dit, afhankelijk van Bouarfa, bij 4 of 5 testpersonen.

## #2

voldoende geld

Fortune Cooker: Voldoende geld		Bruto		Netto	
Alle bedragen in euro's excl btw		Inclusief S4S		Exclusief S4S	
Uitgaven		debet	credit	debet	credit
1	Materiaal en gereedschap	€ 1.820,00		€ 340,00	
1.1	Aanschaf materiaal	€ 850,00			
1.2	Aanschaf gereedschap	€ 800,00			
1.3	Vervoer aankopen naar werkplaats	€ 170,00		€ 170,00	
1.3.1	Transport Nederland > Marokko	€ 50,00		€ 50,00	
1.3.2	Transport binnen Marokko	€ 120,00		€ 120,00	
2	Transport naar testlocaties (incl. tolk)	€ 572,00		€ 572,00	
2.1	Ain Sfa	€ 100,00		€ 100,00	
2.2	Bouarfa	€ 400,00		€ 400,00	
2.3	Saidia	€ 72,00		€ 72,00	
3	Verblijf op testlocaties (incl. tolk)	€ 1.164,00		€ 1.164,00	
3.1	Ain Sfa	€ 360,00		€ 360,00	
3.2	Bouarfa	€ 480,00		€ 480,00	
3.3	Eten	€ 324,00		€ 324,00	
4	Tolk	€ 1.070,00		€ 1.070,00	
4.1	Uitbetaling uren	€ 750,00		€ 750,00	
4.2	Verblijf op testlocatie (extra kosten)	€ -			
4.3	Vervoer naar testlocatie (extra kosten)	€ 320,00		€ 320,00	
5	Kantoor inrichting	€ 164,00		€ 114,00	
5.1	Internetvoorziening	€ 100,00		€ 100,00	
5.2	USB-stick	€ 10,00		€ 10,00	
5.3	Papier	€ 4,00		€ 4,00	
5.4	Externe harde schijf	€ 50,00		€ 50,00	
6	Bedankjes	€ 320,00		€ 320,00	
6.1	Testgroepen	€ 20,00		€ 20,00	
5.2	Overige contacten	€ 300,00		€ 300,00	
6	Product presentatie	€ 100,00		€ 100,00	
6.1	In Marokko	€ 100,00		€ 100,00	
Inkomsten					
8	Sponsoring		€ 1.650,00		€ 37,50
8.1	Students 4 Sustainability		€ 1.650,00		
8.2	Lunch workshop		€ 37,50		€ 37,50
9	Crowdfunding		€ 2.000,00		€ 2.600,00
9.1	Minimaal bedrag nodig		€ 2.000,00		€ 2.600,00
Resultaat					
1	Winst/verlies				
2	Totaal	€ 5.210,00	€ 3.650,00	€ 3.680,00	€ 2.637,50

geen geld

Fortune Cooker: Geen geld		Bruto		Netto	
Alle bedragen in euro's excl btw		Inclusief S4S		Exclusief S4S	
Uitgaven		debet	credit	debet	credit
1	Materiaal en gereedschap	€ 1.820,00		€ 170,00	
1.1	Aanschaf materiaal	€ 850,00			
1.2	Aanschaf gereedschap	€ 800,00			
1.3	Vervoer aankopen naar werkplaats	€ 170,00		€ 170,00	
1.3.1	Transport Nederland > Marokko	€ 50,00			
1.3.2	Transport binnen Marokko	€ 120,00			
2	Transport naar testlocaties (incl. tolk)	€ 100,00		€ 100,00	
2.1	Ain Sfa	€ 100,00		€ 100,00	
2.2	Bouarfa				
3	Verblijf op testlocaties (incl. tolk)	€ 504,00		€ 504,00	
3.1	Ain Sfa	€ 360,00		€ 360,00	
3.2	Eten in Ain Sfa	€ 144,00		€ 144,00	
4	Tolk	€ 100,00		€ 100,00	
4.1	Uitbetaling uren	€ 100,00		€ 100,00	
4.2	Verblijf op testlocatie (extra kosten)				
4.3	Vervoer naar testlocatie (extra kosten)				
5	Kantoor inrichting	€ 48,00		€ 48,00	
5.1	Internetvoorziening	€ 34,00		€ 34,00	
5.2	USB-stick	€ 10,00		€ 10,00	
5.3	Papier	€ 4,00		€ 4,00	
6	Bedankjes	€ 17,00		€ 17,00	
6.1	Testgroepen	€ 17,00		€ 17,00	
6.2	Overige contacten				
6.3	Farida en Jan				
7	Product presentatie			€ -	
7.1	In Marokko				
<b>Inkomsten</b>					
8	Sponsoring		€ 1.650,00		€ 37,50
8.1	Students 4 Sustainability		€ 1.650,00		
8.2	Maarten Romeijn?				
8.3	Workshop lezing		€ 37,50		€ 37,50
9	Crowdfunding		€ -		€ -
9.1	Target				
<b>Resultaat</b>					
1	Winst/verlies				
2	<b>Totaal</b>	€ 2.589,00	€ 1.650,00	€ 939,00	€ 37,50

## Exploitatie

		A Vastgezette kosten	
A	Totaal	€	2.050,00
Classificatie		Bedrag besteed	Bedrag te besteden
A1	Students 4 Sustainability	€ 487,98	€ 1.650,00
A1.1	Aanschaf materialen	€ 183,07	
A1.2	Aanschaf gereedschap	€ 304,91	
A2	Maarten Romeijn	€ 156,35	€ 400,00
A2.1	Transport naar Ain Sfa	€ 86,55	
A2.2	Verblijfskosten Ain Sfa	€ -	
A2.3	Tolk Ain Sfa	€ 69,80	

		B Vrij te besteden	
B	Totaal	€	280,00
Classificatie		Bedrag besteed	Bedrag te besteden
B1	Transport	€ 188,65	
B1.1	Vervoer aankopen naar werkplaats	€ 77,90	
B1.1.1	Transport Nederland > Marokko	€ 33,50	
B1.1.2	Transport binnen Marokko	€ 44,39	
B1.2	Transport naar testlocaties	€ 13,96	
B1.3	Overig transport	€ 96,79	
B2	Tolk	€ -	
B2.1	Uitbetaling uren	€ -	
B2.1.1	Tijdens testen	€ -	
B2.1.2	Overig	€ -	
B2.2	Verblijf op testlocatie (extra kosten)	€ -	
B2.3	Vervoer naar testlocatie (extra kosten)	€ -	
B3	Kantoor inrichting	€ 33,50	
B3.1	Internetvoorziening	€ 31,64	
B3.2	Bestandsuitwisseling	€ -	
B3.3	Overig	€ 1,86	
B4	Bedankjes	€ -	
B4.1	Testgroepen	€ -	
B4.2	Overige contacten	€ -	
B4.3	Farida en Jan	€ -	
B5	Product presentatie	€ -	
B5.1	In Marokko	€ -	

### Opbouw sponsorgeld

Pifworld	€ 80,00
Losse doneringen	€ 50,00
Jan	€ 150,00
<b>Totaal</b>	<b>€ 280,00</b>

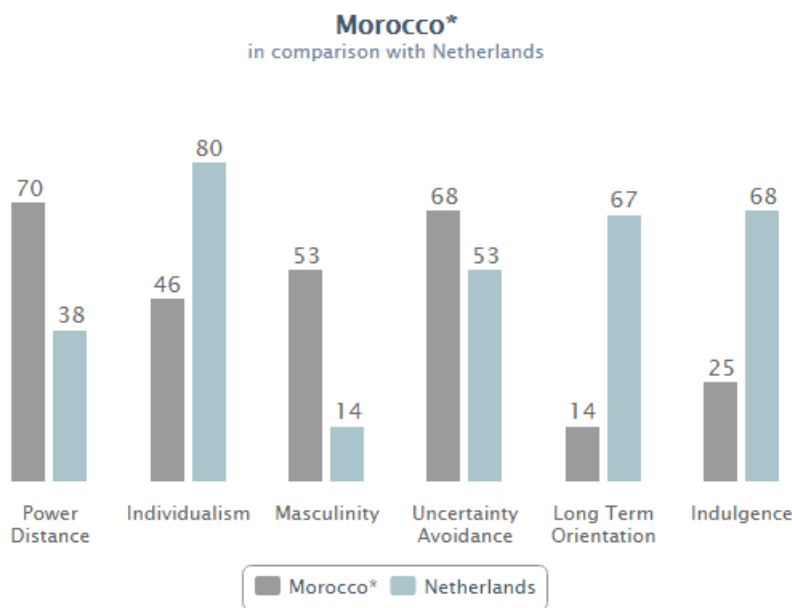
# #3

## Cultural Analysis

A cultural analysis of Morocco, based on the ten cultural dimensions, created by Trompenaars (2001), is made below:

1. Hierarchy - Egalitarianism
2. Individualism - Collectivism
3. Masculine - Feminine
4. Risk avoidance - Taking risks
5. Universalism - Particularism
6. Specific - Diffuse
7. Neutral - Affective
8. Status by achievement - Status by position
9. Sequential - Synchronous
10. Internalism - Externalism

Hofstede (Geert-hofstede.com, 2015) also mentions the cultural dimension of **Long term orientation**.



In this graph cultural dimensions of Morocco are ranked and compared with these of the Netherlands (Geert-hofstede.com, 2015). The assigned scores are partially based on assumptions derived from data representing similar countries in combination with practitioner experience.

We can see that Morocco is, with a score of 70, a hierarchical society. Everybody has a place in the hierarchical order and this needs no further justification. This reflects inequalities, centralization and the fact that subordinates expect to be told what to do (Geert-hofstede.com, 2015). In contrast, the Netherlands is far more orientated on equality, where everyone has a contribution and people don't particularly like to be told what to do.

Regarding the cultural dimension of individualism, we can note that Morocco is a highly collectivistic country, where people live in groups. This corresponds to the importance of family relationships in Morocco. In the Netherlands, we are more individualistic.

Also, Morocco is more masculine than the Netherlands. Firstly, this is due to the fact that the Netherlands is a welfare state, every citizen is obliged to have a health insurance and some people receive care allowance. Also, public health services are available for everyone and distributed well throughout the country. The access to health services is worse in Morocco, especially in highly rural areas. Secondly, the division of tasks between men and women is more fixed in Morocco, women have less rights than men, whereas in the Netherlands men and women are equal.

Another big difference between Morocco and the Netherlands relates to the degree of long term orientation. In Morocco, people are generally not long-term orientated. Whereas in the Netherlands it is far more common to think of the future.

### **Which dimensions are enablers for the project and which are barriers? And how to take account of these in our project work?**

These said differences in cultural dimensions between Morocco and the Netherlands can influence our project in a positive or negative way. For instance, we have to take the hierarchical structure of Moroccan society into account, as this may lead to only a small input from people who consider themselves as subordinates, although we strive for an equal relationship.

Secondly the differences between men and women is also something we should adapt to, as we are used to being fully equal to men, but in Morocco there are clear restrictions on how to behave as a woman. The last dimension that can have a negative influence on the project is the low level of long term orientation in Morocco, as the mission of the product is one that can only be achieved within a long time span. Thus we have to put extra effort in explaining the long-time problems of cooking on wood fires.

On the other hand there's also a dimension that can be an enabler for our project, namely the collectivistic character of Morocco. As our project lays within the domain of cooking, the fact that family relationships are important contributes to the importance of eating together. Thus, cooking plays a big role in the daily life of Moroccan and therefore it's more likely they are open-minded towards improvements on this subject.

An eleventh dimension to those of Trompenaars, was added by Kroesen (2014):

#### **11. Civil Society:**

“Regrouping of individuals and organizations independent of family loyalty and state authority”

Akesbi (2011) analysed numerous Civil Society Organizations (CSOs), ten types of organizations were identified, which are divided in the following ten categories: (NB: all organizations with political are excluded)

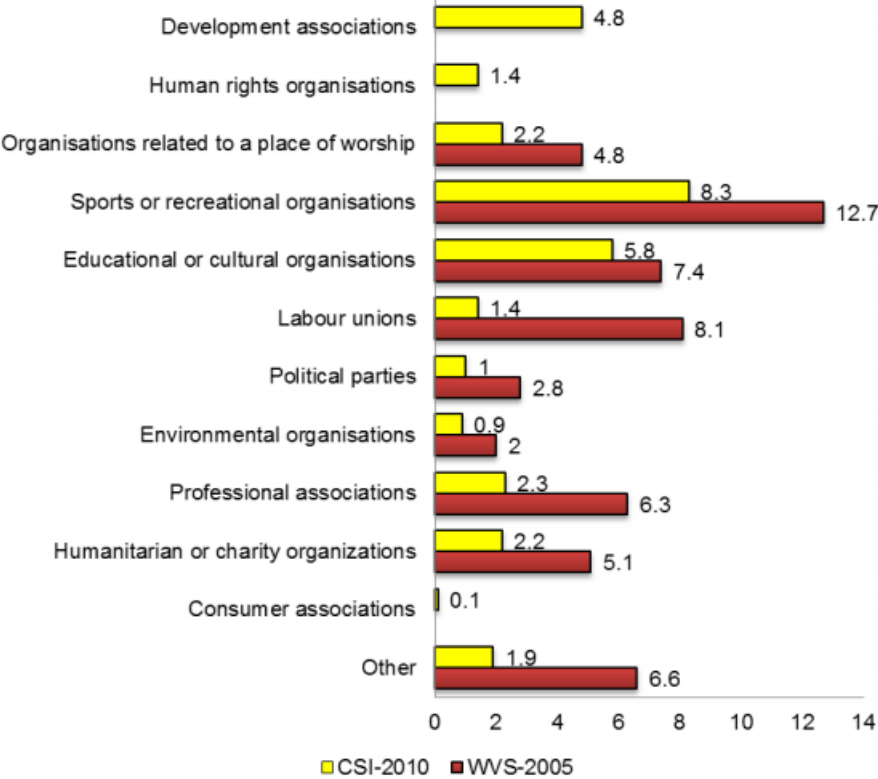
1. Human rights and advocacy organisations
2. Development and services organisations
3. Educational and cultural organisations
4. Labour unions
5. Church or religious organisations
6. Social movements
7. Zawayat (religious brotherhood)
8. Private media
9. Professional associations
10. Foundations

Only a small percentage of the whole population is member of a Civil Society Organization, non-members take up 91,7 to 99,9 percent of the surveyed population, depending on the type of organization. (Akesbi, 2011)



In the graph below, we notice a reduction of membership rates in each category, surveyed by the CSI (Civil Society Index) in 2010 and the World Values Survey in 2005. According to the respondents of the survey, this is due to bad time management, meetings at inappropriate hours that last too long and inefficiency. (Akesbi, 2011) Thus, civic engagement has an environment that sometimes sabotages participation. In order to encourage civic engagement and to ensure that memberships will last longer, structural reforms in Civil Society Organizations are needed.

**Figure 4: CSOs membership comparison, WVS 2005 and CSI 2010**



**Source: WVS, 2005 and CSI Population Survey, 2010**

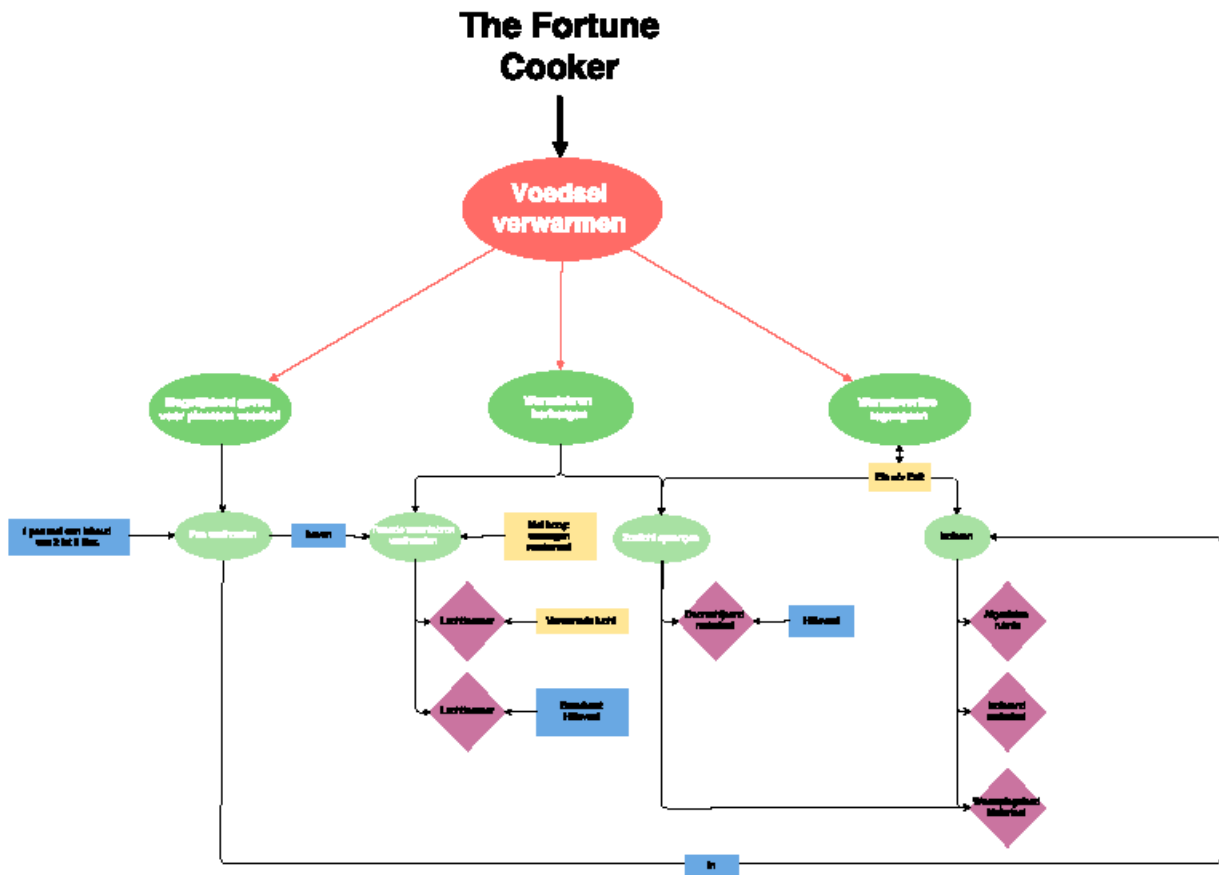
To encourage engagement and thereby strengthen Civil Society Organizations, new members should be attracted as well. According the survey, the leading factors to participate are ‘defending rights’(49,1%), intellectual interest (31,8%) and interaction with other people (27,1%). Other factors are financial interest and, though marginally, political interest. (Akesbi, 2011) One should respond to this factors by for example encouraging the need to defend one’s rights.

Important for our project and what could be a problem, is the relatively low amount of human rights organizations and environmental organisations. The first one is important concerning women’s rights to for example work or do other things beside the housekeeping and care of the children. Because one of the results of using the Fortune Cooker is that woman will have more time, it is essential that society gives them opportunities to use this time for different purposes. Otherwise there could be no use in utilizing the Fortune Cooker, as they have more than enough time that they may only spend on housekeeping and the care of the children. Secondly, growth of environmental organizations is of major importance for our project and its continuation, as such growth can achieve more awareness of environmental problems under the local society, which is essential to convince (future) customer segments of the benefits of the Fortune Cooker.

# #4

## The Fortune Cooker: a function analysis

The Fortune Cooker is a cooking device that was initially designed with one sole purpose: to have a clean cooking device that will replace woodfire. During the design phase, the product has developed, but the main demand remains: it has to cook 'clean'. In this chapter we will discuss the most important functions of the product, identify the boundaries for iteration and combine those in a feasible test plan.



### Level 1: Core functionalities

Function	Room for iteration
To accommodate the placement of food	No. Basic requirement for proper functioning.
To accommodate a heat source	No. Basic requirement for proper functioning.
To compensate loss of warmth	No. Basic requirement for proper functioning.

### Level 2.1: To accommodate the placement of food

Function	Clarification	Room for iteration
Hold a pan	Research on Moroccan cooking habits shows that most families use one pan of approximately two to eight litres.	Yes. Even though the pan is probably a correct estimation of what is needed here, it is absolutely possible adapt this if it is required.
Pan should be above heat source	It should be possible to place the food directly above the heat source.	Questionable. In case of an open heat source (e.g. a gas burner, a woodgas stove or an induction plate), there's indeed no room for iteration. In other cases, it is possible.

### Level 2.2: To accommodate a heat source

Function	Clarification	Room for iteration
Accommodate second heat source	In order to make the product usable when there's little to no sunlight, the product should have a second heat source.	Yes. It is not set in stone which heat source should be used. Various heat sources could be tested,
Accommodate air supply		No. (exception: when using induction plates)

### Level 2.3: To compensate loss of warmth.

Function	Clarification	Room for iteration
$E_{in} \geq E_{out}$	In order for the product to function properly once the second heat source has stopped, the warmth going out should never be more than the warmth going in	No.
$E_{in}$ : Collect energy/heat from the sun	The product should always be able to 'cook clean', therefore collecting sunlight is an undeniable function.	Yes. There's still room for iteration in the amount of sunlight to be collected.
The product should have lucid material to collect the sunlight.	It is very likely that the sunlight will be collected through lucid material.	Yes. It is possible different material turns out to be more effective. (sidenote: will this be one of our test objectives? Quite specific!)
$E_{out}$ : Isolate	When compensating warmth loss, the first thing you do is to stop the warmth from getting out. Isolate!	Yes. The isolation material or way of isolating has yet to be decided.
Accommodate warmed air supply	The air supply of the second heat source can be lead through a tube first, in order to warm the air supply and reduce warmth loss because of cold air.	Yes. This is not a requirement for the product. (It is however a smart solution for this problem.)
Closed space		
Use material with good isolating properties		
Use reflecting material		

### Technological requirements

1. The product should be able to accommodate the placement of food.
  - 1.1. The amount of food able to be placed should be enough to feed an average Moroccan family (5 to 8 people)
  - 1.2. In case of an open heat source: it should always be possible to place the food above the heat source.
2. The product should be able to accommodate a heat source.
  - 2.1. There should be fresh air supply to the heat source.
  - 2.2. The heat source should be as 'climate-friendly' as possible
3. The product should compensate loss of warmth
  - 3.1. The product should be able to be fully closed
  - 3.2. Loss of warmth should primarily be compensated by energy from sunlight.
4. All the parts of the product that can reach a temperature higher than 50 degrees Celsius should be made of heat resistant material.
- 5.

### User centred requirements

- 1.

### What to test:

- In what temperature range is the product still functioning properly?
  - Determine: what do you mean when saying the product is functioning properly?

- Is it always necessary to reach 100 degrees celcius?
  - What is the maximum cooking time?
- Does the sun really compensate for the loss of warmth?
- What isolation material works best?
- Does the prototype have the most useful dimensions?
- Is the second heat source working properly?
- Considering the above requirements, would this product still be affordable for the target group?

# #5

## The first prototype

After collecting all of the needed materials in Saïdia and Oujda we were ready to build the first prototype. Since the Fortune Cooker had never been built completely, things needed to be thought through well. Even so Moroccan resources are very different from known Dutch workshops and our problem solving was being tested during the building process.

The steps we took to build the first prototype and the lessons we learned along the way are described below.

Step	The building	The process and our remarks
<b>1: The box</b>		
1	Sixteen wooden beams were cut into the right sizes	The jigsaw was not completely straight and we did not have or built a workbench. Sawing the beams evenly was a bigger challenge than expected. The dimensions were determined by the size of the most often used pots in Morocco.
2	The three horizontal squares were assembled	To get a stiff and strong frame we decided on building the horizontal frame parts first. The beams were cut with a 45° angle and these angles had to be connected into a perpendicular square frame. Due to the jigsaw the beams did not fit as hoped a some puzzling was needed. During the assembly some of the drills broke off and delayed the process, because we tried to nail the parts together.
3	The vertical beams were assembled between the first two horizontal squares (step 2)	The screws we bought were not long enough to pin both parts together. Luckily the angular profiles could solve this problem. Again these did not make a square angle, but they did the job. Two extra vertical beams were added to make sure the drawer could be attached to the product. Thereby a space of at least 5 cm is needed to isolate the prototype with egg cartons.
4	A chipboard was cut into the size of the bottom of the frame (step 3)	
5	The chipboard (step 4) was attached to the bottom of the frame (step 3) with screws	
6	The glass and a mirror were cut into the right sizes	Two glass plates can isolate the box better and let the sun in at the same time. Both glass plates have different dimensions and we tried to cut them into the right shapes. Unfortunately this was not that easy and an extra trip to the glass workplace had to be made.
7	Splints, the same height of the glass, were cut	

8	The biggest glass plate is placed on the frame (step 3)	
9	The splints (step 7) are placed around the glass and stapled to the frame (step 3)	
10	The third horizontal square frame (step 2) was placed on top of the glass and splints and attached to the frame (step 3) through the splints	Now the glass is placed between both horizontal squares and not able to move anymore.
11	Galvanized steel sheets were cut to cover the inside and outside of the prototype	The steel sheets were stronger and thicker than the aluminium sheets we used in The Netherlands. Therefore we used metal shears instead of a Stanley knife. The corners of the metal turned out sharper this way.
12	Egg cartons were cut to fit the vertical planes of the frame (step 3) and the bottom plane	
13	A chipboard was cut into the size of the inner bottom plane of the frame (step 3)	
14	The bottom plane was filled with two layers of egg carton and PUR foam on which the chipboard (step 13) could stick	PUR foam expands after applying it. To ensure that the chipboard would not move we placed a brick onto it. The PUR foam insulates the frame, because two egg cartons are not sufficient.
15	The frame was covered on the outside by the galvanized steel sheet (step 11) and fixed with staples and nails	The staples would not go through the steel as easy as trough aluminium. Therefore we had to nail most of the steel sheet.
16	The vertical planes of the frame (step 3) were filled with three layers of egg cartons (step 12)	Due to good fortune the egg cartons were about the same size as the vertical planes and did not need much resizing.
17	The inside of the frame was covered by the galvanized steel sheet (step 11) and fixed with nails	Again the staples would not hold and we nailed the steel sheet to the frame. We had to work inside the prototype which resulted in some difficult though funny positions.
<b>2: The drawer</b>		
18	The height of the pan that is most often used in Morocco was measured together with the height of the gas burner to define the height of the drawer	Our first idea was to use a small gas bottle with a burner placed immediately on top of it. Small gas bottles however are not often used by Moroccans and still are large pieces of metal for the sun to heat when placed within the prototype. The product would also have been much larger that way. Therefore we decided to use a gas burner within the prototype and a gas bottle next to it. Thanks to some phone calls and help of Farida, we were able to get a gas burner delivered in Saïdia by a befriended taxi driver.
19	The gliders of the drawer were screwed to the inside of the frame (step 3/17)	We did not think of buying a bubble level and had to decide the height of the drawer's gliders by measuring. Thereby we had to use our spatial awareness to check the measurements. For example by turning the frame and using gravity to determine the

		opposite point within the frame by hanging a screw on floss silk.
20	Two laths were cut to give the bottom of the drawer strength	
21	Two beams were cut to the size of the height of the drawer	
22	The bottom of the drawer was cut from chipboard	
23	The laths (step 20) were screwed to the gliders (step 19)	The beams (step 21) had to level with the front of the frame (step 3/17) and therefore we tried the lath in front of the drawer at different levels.
24	The beams (step 21) were vertically connected to the laths	
25	The chipboard (step 22) was nailed to the laths	
26	Aluminium sheets were cut to be the drawer's front and to fit the inside of the drawer	
27	The remaining space, without drawer, at the front of the frame was measured	
28	Aluminium sheets were cut to fit the remaining space in front of the frame (step 27) both inside and outside	
29	Egg cartons were cut to fill the remaining space in front of the frame (step 27)	
30	Two small pieces of beams were stapled to the aluminium sheet that would fit the inside of the remaining space (step 27)	
31	The aluminium sheet (step 28) was stapled to the inside of the frame (step 3/17)	
32	The small pieces of beams were screwed to the frame (step 3/17) within the frontal plane	
33	The remaining space (step 27/32) was filled with two layers of egg cartons	
34	The aluminium sheet (step 28) was stapled to the outside of the remaining space (step 27/32) and folded around the egg cartons and pieces of beams	Unfortunately we found out that, despite our measurements, the drawer would not fit anymore and we had to do step 27 to 34 once again.
35	Egg cartons were cut to fit the drawers front	
36	The aluminium sheet (step ) was stapled to the inside of the drawer's front	
37	The front of the drawer was filled by two layers of egg cartons (step )	
38	The aluminium sheet was stapled to the front of the drawer and folder inwards the drawer	
<b>1: The box</b>		
39	The inside of the third horizontal frame (step 2/10) was sanded down to fit the smaller glass plate.	Because none of the beams are perpendicular, the glass did not fit as hoped. First we tried to use sandpaper to reshape the wood. This

		however took too much time and we tried to cut some wood away very carefully not to break the big glass plate within the frame.
40	Four splints were sanded down and glued to the inside of the third horizontal frame (step 2/10)	Due to step 39 we had to remove the splints and glue them again after we made sure the glass would fit.
42	The smaller glass plate was placed on top of the splints (step 41)	
<b>2: The drawer</b>		
43	A handle was made and connected to the front of the drawer (step 38)	
44	Place the gas burner in the box, with the knob to the front, and estimate where the hose should leave to box.	
45	Drill a hole through the aluminium plates where the hose should leave the box (step 44). If the hole is not big enough, make it bigger by turning around a screwdriver in it.	If you have a drill the same size as the hose, use that one. If not, use one that is smaller and which size comes closest to the hose.
46	Two wheels with brakes and two without brakes were screwed to the bottom of the prototype	
<b>3: The mirror</b>		
47	Chipboard was cut into the size of the mirror	
48	The chipboard (step 47) was glued to the back of the mirror and secured with Duct Tape in the corners	
49	A splint the size of the width of the frame (step 3/17) was cut	
50	The splint (step 49) was screwed to the back of the frame (step 3/17) to create a ledge at the top back of the prototype	
51	Splints were cut into different corners (45°, 50°, 55°, 60°, 65°, 70°, 75°)	
52	Two small splints were screwed on top of the prototype to hold the different corners (step 51) in place	
53	The mirror was placed on top of the prototype by using the different corners to adjust its angle to the sun	
54	Close the space between the front and bottom of the drawer with aluminium sheet	We discovered the egg cartons were not completely sealed, so we covered the open space with a piece of aluminium sheet.

The first prototype was not built easily. However we did manage to learn a lot about the product, the production and the materials.



# #6

Step	The building	The process and our remarks
<b>1: The box</b>		
1	Cut eighteen wooden beams in the right sizes. Twelve for horizontal support and six for vertical support.	As we had found out during building the first prototype, the jigsaw is hard to set in a perpendicular angle. Also, the beams are actually too thick for the jigsaw to saw straight. These factors make it hard to saw the beams as accurately as would be needed to make an airtight box.
2	Assemble the beams for horizontal purposes in three identical rectangles.	Similar to the structure of prototype 1, prototype 2 is built out of three horizontal rectangles. The beams are cut with a 45° angle and these angles have to be connected into a perpendicular rectangle frame. A perfectly perpendicular frame is sadly not possible, due to the jigsaw problems described above. Furthermore, the beam's thickness was not homogeneous, which made it only possible for <i>one</i> side to be flat.
3	Make coves in two of the vertical beams	This prototype has a door instead of a drawer, which makes the construction somewhat different. The two vertical beams in the front need to have a cove where the door can fall in the frame. Sawing a cove in these beams proved to be a challenge. The jigsaw being our only resource for sawing, we had to create something that would make sure that the jigsaw was always exactly 3,2 cm away from the beam. Being accurate was very hard, and this does have consequences for the airtightness of the box.
4	Connect the vertical beams with two horizontal rectangles (step 2); one on top; one on the bottom.	<p>The main structure of the Fortune Cooker resembles a cuboid. Six vertical beams are supported by one of the horizontal rectangles. Two in front and four in the back, of which the rearmost are turned 90°. The beams in turn support the remaining two rectangles. The beams and rectangles are joined to each other with long screws and angular profiles.</p> <p>Assembling a strong, stiff structure proved to be hard because of the many inaccuracies in the beams. Each horizontal structure only has <i>one</i> flat side, so we had to choose where to put the flat sides, and where to put the uneven sides, even though a completely even rectangle would have been the most beneficial for a solid structure. Also, the angular profiles are not perpendicular at all.</p>
5	Cut the chipboard in the size of the bottom rectangle (step 4)	The box is closed on the bottom with a chipboard plate instead of the aluminium

		plates that close the rest of the box, in order to create stiffness and stability.
6	Attach the chipboard (step 5) to the bottom of the frame (step 4) with long screws.	We used long screws in to attach the chipboard to the frame, so that the horizontal beams could be attached to the vertical beams as well as to the chipboard. This turned out to be harder than expected. Most of the screws would not go in the frame completely, which forced us to use smaller screws, and make the frame less stable.
7	Cut the egg carton in the right sizes for the bottom, back and sides of the box. Make sure to use three layers of carton for each side.	
8	Fill the bottom rectangle with the egg cartons. If the cartons are too high for your frame, make them flatter by using a hammer or by jumping on them.	Three-layer egg cartons provide the highest insulating value, but they are slightly too high for our beams. Therefore we make them flatter by hammering or jumping on the complete pile.
9	Cut chipboard, two cm bigger than the inner measurements of the bottom rectangle. Cut out two squares of 2 cm out of two corners. Staple the chipboard to the frame.	
10	Take the inner measurements of the box, and cut three separate sheets of aluminium plates in these sizes. For the back take the rearmost measurements.	
11	Fill the sides and back with egg cartons. Repeat hammering or jumping on the cartons until they are flat enough to fit in the frame.	
12	Staple or nail the aluminium plates to the inside of the frame.	
13	Get the glass cut in the right sizes by the glasscutter.	We use two sheets of glass to insulate the box. One is placed between two rectangle frames, the other is somewhat smaller and fits in the upper frame. It rests on pieces of wood screwed to the frame.
14	Take four pieces of (rest) wood that have the same height. Screw them to the inside of the frame.	Make sure that to attach the pieces on the frame at the same height, as the smaller glass plate should rest on these supports.
15	Place the biggest glass plate on top of the box, let them rest on felt patches. Measure the distance of the glass to the sides.	
16	Cut two layers of splints out of the chipboard to border the glass plate and staple/nail them to the frame.	
17	Place the third horizontal frame (step 2) on top of the splints, and attach it to the underlying frame (step 4) with long screws.	Make sure not to hit the glass while attaching the frames together. The biggest glass plate is now enclosed between two frames.
18	Take the outside measurements (the sides	Make sure to measure the box including all

	and back) of the box. For the sides, also measure the thickness of the beams frame the left and right side.	three frames.
19	Cut the aluminium sheets in the size of the sides and back. Add the thickness of the beams to the width of the aluminium sheets, so that the sheets for the side can be folded around the corners of the box.	
20	Adjust the sheets for the sides to the frame with nails or staples. After that, adjust the sheet for the back as well.	Make sure not to leave any big cracks open, as they reduce the insulation value of the box.
21	Place the gas burner in the box, with the knob to the front, and estimate where the hose should leave to box.	
22	Drill a hole through the aluminium plates where the hose should leave the box (step 21). If the hole is not big enough, make it bigger by turning around a screwdriver in it.	If you have a drill the same size as the hose, use that one. If not, use one that is smaller and which size comes closest to the hose.
23	Put the box on its top side and screw a wheel in each corner.	
<b>2: The mirror</b>		
24	Take a plank of about ten cm wide and draw seven pairs of perpendicular triangles on it. Each pair of triangles has one side of 10 cm and an angle of 45, 50, 55, 60, 65, 70, 75 degrees. Make one pair of triangles for each angle.	
25	Cut each of the pairs with a jigsaw. Now you have fourteen separate triangles, of which seven have a 'twin brother'	To be precise with in an inaccurate jigsaw is quite difficult, but after some practice, Carlijn managed to do a very good job.
26	Take a plank of about ten cm wide, and cut it at the same length as the Fortune Cooker's width. Screw it to the back of the box horizontally, let a part of five cm jut out at the top of the box.	
27	Take one pair of triangles (step 24) an the mirror. Let the mirror rest against the wooden plank on the back, and on the pair of triangles that are placed in an upright position on the box, on either sides of the mirror. Draw a line where the triangles are placed.	
28	Take two rest pieces of wood (approximately 4x4x2 cm) and screw them on the top of the box, adjacent to the line you've just drawn (step 26).	
<b>3: The cupboard door</b>		
29	Take the measurements of the opening of the box on the front. Take both the inner and outer measurement of the cloves in the two front beams. Also take the height of the	

	opening.	
30	Use the measurements of step 29 to make two square frames of the height, but of different width. The difference in width of the inner and outer square depends on the cloves in the two front beams.	
31	Saw all the beams in the right measurements. Make sure the bottom beam of one of the two squares is larger than the other one, so the vertical beams of the first square can be attached to the bottom beam of the second one.	Sawing was difficult, as the blade of the jigsaw was not sharp anymore.
32	Place the outer square beams on a surface, then place the inner square beams in the right position on top of it.	
33	Drill holes through both squares. Make sure the squares do not move while doing this.	
34	Attach the squares to each other by rotating screws in these holes.	
35	Measure again the dimensions of the outer square.	
36	Do the same with the inner square.	
37	Take the measurements from step 35 and 36 and cut two pieces of pressure plate with the same dimensions.	
38	Place the whole with the outer square on top and attach the pressure plate with staples.	Make sure the pressure plate is closely linked to the wood by using enough staples, also in the corners.
39	Turn the whole 180 degrees and fill it with sawdust.	
40	Attach the other piece of pressure plate on the inner square.	Make sure the pressure plate is closely linked to the wood by using enough staples, also in the corners, to ensure the sawdust will not come out.
41	Place the Fortune Cooker with the front side on top.	
42	Lay the cupboard door as made in the previous steps in the front (between the cloves). And check if it can be opened.	
43	Attach a hinge on top of the door and at the bottom by drilling holes in both the door and the edge of the Fortune Cooker and placing screws.	First draw with a pencil where the drilling holes should be.
44	Add the lock, by placing it just above the other side of the door, attaching it to the top edge of the front side of the Fortune Cooker.	

The second prototype

(wood gas stove getest)

# #7

## Conclusions of field research concerning the Fortune Cooker

### INFORMATION ON THE TEST PERSONS

1 out of 3 persons indicate to have warm water
3 out of 3 persons cook their food on gas
3 out of 3 persons have electricity
3 out of 3 persons normally cook in the kitchen inside their house
1 out of 3 persons heats water on wood
1 out of 3 persons heats water on gas
1 out of 3 persons has warm flowing water
1 out of 3 persons does not have flowing water in the kitchen
1 out of 3 persons has a car
3 out of 3 persons have a refrigerator
3 out of 3 persons have room for the Fortune Cooker

### Direct

NEGATIVE -	POSITIVE +	EXPLANATION
	It is always the woman that cooks.	Women have a lot of knowledge of the cooking process. Only one person in the family has to learn to use the Fortune Cooker
A pressure pan is the most often used pan.	A pressure pan is the most often used pan.	It is yet unknown whether it is possible to use a pressure pan with the Fortune Cooker. A pressure pan reduces fuel consumption. Thus it is possible the Fortune Cooker would give less fuel reduction compared to when a 'normal pan' is used. A pressure pan will be less opened during the cooking process, which means the box loses less heat
Often more than one pan is used at the same time.		If the aim is to make the Fortune Cooker the only cooking device in the household, the product can not yet fulfil that aim.
Bread is baked nearly every day.		The Fortune Cooker is not designed to function as an oven, and therefore it could not replace it.
	Lunch is almost always bigger than dinner.	Lunch is always prepared in daylight, while it is often dark when dinner is prepared.
In winter, the sun goes down between four o'clock and half past four.		It is not possible to prepare dinner in the Fortune Cooker with the use of sunlight. However it is still possible to prepare dinner on the other fuel resource. This means that the fuel reduction is less in winter and more money to be used on second fuel in winter
Weather conditions are not always ideal in Morocco.		There is few warmth input in the winter in Morocco, which means the Fortune Cooker functions worse.
Breakfast is around 7 o'clock in the		In winter, lunch is the only meal that can be prepared on the Fortune Cooker. In summer both lunch and dinner can be prepared on the Fortune Cooker. This

morning, lunch at 12 o'clock and dinner at 7 o'clock in the evening.		means less fuel reduction in Winter.
	A stew pot is made twice or thrice a week.	The Fortune Cooker is well-designed to prepare a stew pot.
The pan has to be tilted (Fortune Cooker with the drawer) when taken out of the Fortune Cooker.		With full pans, there is a chance that part of the food will spill. Spilling is waste of (expensive) food, but also be dangerous as it can spill over the user (hot contents)
	The use of the mirror is considered fine.	Does meet the demand to be user friendly.
The testpersons do not trust the Fortune Cooker to function properly right away, they first have to try.		It can be more difficult to sell the product when people are not directly confident with its functioning.
Not all currently used pans fit in the Fortune Cooker.		The user is unable to use the same equipment for the Fortune Cooker.
The (normal) pan was often opened to stir or check the food or to add ingredients.		The box loses heat when opened often.
The lid of the pan is not always used.		The heat is less retained in the pan.
The glass can break after several times of use.		Glass breaking forms safety issues as well as functionality issues. If glass breaks easily, the repair of the Fortune Cooker should be possible. In terms of construction, as well as in costs made for the repair.
The Fortune Cooker stands on the ground.		The fortune cooker being on the ground comes with several user centered problems: it is too low for older people, it is not visible whether the gas is on, it is dangerous for children, and wild dogs can defoul it.
The Fortune Cooker is considered ideal to keep food and water warm, after it is heated.	The Fortune Cooker is considered ideal to keep food and water warm, after it is heated.	This indicates the Fortune Cooker will possibly be used to keep food warm, but it is questionable if the person would turn off the gas earlier than they would normally do and thereby will not reduce gas consumption.
The use of a door is considered		Does not meet the demand to be safe to use.

dangerous, as the user has to put their hands into the heated box.		
	The cost reduction is mentioned as an advantage.	The test person is aware that the Fortune Cooker can be a financial benefit.
One test person questions the cleaning of the Fortune Cooker.		Does not meet the demand to be easy to clean.
During simmering, the stew does not evaporate enough, which makes the result too 'wet'.		The Fortune Cooker functions different than their current cooking device. The food is not considered of the same quality when prepared in the Fortune Cooker.
When the Fortune Cooker is used, the user has to start earlier, because it takes more time.		Women have to change their planning to use the Fortune Cooker.
	This change of planning is, however, possible for the women.	Women are willing to change their planning.
One person indicates it is impossible to cook solely with the sun, as the jus at the bottom of the pan is the part that has to be heated.		The test person will likely not turn off the gas while cooking, which means there will not be a fuel reduction.

### Indirect

NEGATIVE -	POSITIVE +	EXPLANATION
Most of the recipes are depending on the region.		This means that it is not yet possible to draw conclusions on the application of the Fortune Cooker in whole of Morrocco
	Traditional recipes are learned by the mother or big sister, other	This indicates that women have knowledge of the cooking process, as they learn things by themselves. Which indicates they are more capable to learn to use a new cooking device.

	recipes have to be figured out by herself.	
The way of cooking stayed the same between the past and nowadays, ingredients differ.		They have never cooked in a different way. Thus it is less likely they would change to another way of cooking.
	She cooks with the ingredients that are available and cheapest at that moment.	
There are certain ingredients that are not used for certain dishes. (i.e. red pepper does not belong in a stew pot)		It is possible that they will not change their recipes so that it can be made in the Fortune Cooker.
	New recipes are known via the television (cooking programmes) and the internet.	This indicates women are experimental when it comes to cooking. Which is good for a transition to cooking with the Fortune Cooker.
The Fortune Cooker was not trusted to work, because the food did not simmer.		The Fortune Cooker does not give the same feedback of the cooking process as they get with their current cooking habits.
One of us had to stay outside with the children, to watch if they did not touch the hot Fortune Cooker/pan/food.		(in its current form) The Fortune Cooker cannot be left alone, so that the woman can do other things.
The women often look through the glass on top to see how it goes. However, this is difficult as there is condensation on the glass surface.		The Fortune Cooker is not able to give good feedback of the cooking process.
The women indicate to 'just know' when the food is ready	The women indicate to 'just know' when the food is ready	As the Fortune Cooker asks for other actions than the current way of cooking, the user will have to adapt. However, this also indicates that after a while, the user doesn't really need feedback on the cooking of



through experience.	through experience.	the food, (on the condition that she understands the product)
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## RECOMMENDATIONS OF THE TEST PERSONS

It would be nice if it is possible to bake bread.

Multiple Fortune Cooker's would be great, to prepare more things at the same time.

It would be nice if there was space to store some stuff.

The gas burner should be fixed in the final product.

# #8

## LIST OF MATERIALS AND TOOLS

### Materials

<b>Material</b>	<b>Cost per piece or per unit</b> (in Dirhams, 1 Dh = 0,09 €)	<b>Location</b> (light = in the neighbourhood and in small villages, middle = in every big village or small city, dark = only in the big city)	<b>Availability</b> (light = always, middle = every week, dark = rarely)
Wheel with brake	9 Dh		
Wheel without brake	7 Dh		
Drawer roller slide	7,50 Dh		
Drawer roller slide	18,50 Dh		
Glass plate (4 mm)	95 Dh/m <sup>2</sup>		
Mirror (4 mm)	120 Dh/m <sup>2</sup>		
Staples (6 mm)	23 Dh per unit		
Felts	12 Dh per unit		
Glue	7 Dh		
Large screws	40 Dh (200 pieces)		
Middle screws	20 Dh (200 pieces)		
Small screws	15 Dh (200 pieces)		
Polyurethane foam	55 Dh		
Big nails	8 Dh		
Small nails	7 Dh		
Kit	18 Dh		
Angular profile	1,50 Dh		
Hinge small	1,50 Dh		
Hinge big	3 Dh		
Hinge long	6 Dh		
Lock	2,50 Dh		
MDF plate	120 Dh		
Wooden plank (thickness ±4 cm)	130 Dh		
Wooden plank (thickness ±2 cm)	50 Dh		
Galvanized steel plate	85 Dh		
Pressure plate	Free (from Holland)		
Egg cartons	Free		
Sawdust or other insulating waste	Free		
Gas burner	100 Dh		

### Estimated costs of prototype 1

Material	Cost per piece or per unit (in Dirhams, 1 Dh = 0,09 €)	Used quantity	Total costs (in Dirhams, 1 Dh = 0,09 €)
Gas burner	100 Dh	1	100
Wheel with brake	9 Dh	2	18
Wheel without brake	7 Dh	2	14
Drawer roller slide	7,50 Dh		
Drawer roller slide	18,50 Dh	2	37
Glass plate (4 mm)	95 Dh/m <sup>2</sup>	0,3075 m <sup>2</sup>	29,2
Mirror (4 mm)	120 Dh/m <sup>2</sup>	0,2288 m <sup>2</sup>	27,5
Staples (6 mm)	23 Dh per unit	Assumption: 10%	2,30
Felts	12 Dh per unit	-	
Glue	7 Dh	2	14
Large screws	40 Dh (200 pieces)	Assumption: 30	6
Middle screws	20 Dh (200 pieces)	Assumption: 15	1,50
Small screws	15 Dh (200 pieces)	Assumption: 32	2,40
Polyurethane foam	55 Dh	½	27,50
Big nails	8 Dh	Negligible	
Small nails	7 Dh	Negligible	
Kit	18 Dh	-	
Angular profile	1,50 Dh	Assumption: 16	24
Hinge small	1,50 Dh	-	
Hinge big	3 Dh	-	
Hinge long	6 Dh	-	
Lock	2,50 Dh	-	
MDF plate	120 Dh	Assumption: 20%	24
Wooden plank (thickness ±4 cm)	130 Dh	Assumption: 1 1/3	173,3
Wooden plank (thickness ±2 cm)	50 Dh	Assumption: 1 1/3	66,7
Egg cartons	Free	8	
Sawdust or other insulating waste	Free	-	
Galvanized steel plate	85 Dh	1	85 Dh
Pressure plate	Free	1	
<b>TOTAL</b>			<b>652,40 Dh</b>

### Estimated quantity of materials used for prototype 2

Material	Cost per piece or per unit (in Dirhams, 1 Dh = 0,09 €)	Used quantity	Total costs (in Dirhams, 1 Dh = 0,09 €)
Gas burner	100 Dh	1	100
Wheel with brake	9 Dh	4	36
Wheel without brake	7 Dh	-	
Drawer roller slide	7,50 Dh	-	
Drawer roller slide	18,50 Dh	-	
Glass plate (4 mm)	95 Dh/m <sup>2</sup>	0,3075 m <sup>2</sup>	29,2
Mirror (4 mm)	120 Dh/m <sup>2</sup>	0,2288 m <sup>2</sup>	27,5
Staples (6 mm)	23 Dh per unit	Assumption: 10%	2,30
Felts	12 Dh per unit	½	6
Glue	7 Dh	-	
Large screws	40 Dh (200 pieces)	Assumption: 30	6
Middle screws	20 Dh (200 pieces)	Assumption: 40	4
Small screws	15 Dh (200 pieces)	Assumption: 28	2,10
Polyurethane foam	55 Dh		
Big nails	8 Dh	Negligible	
Small nails	7 Dh	Negligible	
Kit	18 Dh	½	9
Angular profile	1,50 Dh	Assumption: 12	18
Hinge small	1,50 Dh	2	3
Hinge big	3 Dh	-	
Hinge long	6 Dh	-	
Lock	2,50 Dh	1	2,50
MDF plate	120 Dh	Assumption: 10%	12
Wooden plank (thickness ±4 cm)	130 Dh	Assumption: 1 1/5	156
Wooden plank (thickness ±2 cm)	50 Dh	Assumption: 1 1/3	66,7
Egg cartons	Free	7	
Sawdust or other insulating waste	Free	N.A.	
Galvanized steel plate	85 Dh	-	
Pressure plate	Free	5	
<b>TOTAL</b>			<b>480,30</b>

## Tools

Tool	Cost per piece or unit (in Dirhams, 1 Dh = 0,09 €)	Location (light = in the neighbourhood and in small villages, middle = in every big village or small city, dark = only in the big city)	Availability (light = almost always, middle = every week, dark = rarely)
Stanley knife	7 Dh		
Sand paper	5 Dh per meter		
Protective gloves	15 Dh		
Staple gun	156 Dh		
Repair tape	75 Dh		
Ear muffs	25 Dh		
Steel scissors	95 Dh		
Glass cutter	75 Dh		
Metal drill bits (8x3mm)	23 Dh per unit		
Metal drill bits (2, 3, 4, 5, 6 & 7 mm)	58 Dh per unit		
Safety glasses	16,90 Dh		
Drill	389 Dh		
Nosed pliers	32 Dh		
Pliers	42 Dh		
Jigsaw	559 Dh		
Screwdriver big	15 Dh		
Screwdriver normal	3 Dh		
Saw	25 Dh		
Kit accessory	20 Dh		

Total of the marked, essential tools: 1404 Dh = €130,60

When a material or tool can be bought on multiple locations, the location that we bought it is shown.

This means sometimes the combination:



Can also be:



Or the other way around.

In this case the darkest colour represents Oujda, where a big Bricoma is located (like the Dutch 'Gamma'). Here the material or tool is almost always available. The middle colour represents Saidia, where the specific tool is only available at the weekly second-hand market in the weekend.

# BUSINESS MODEL CANVAS 2

## FUTURE PERSPECTIVES FOR ENGINEERS WITHOUT BORDERS

# #9

### KEY PARTNERSHIPS

**NGO's with a similar mission** such as the Global Alliance for Clean Cookstoves.

**Local manufacturers**, who can produce the product and sell it to **local retailers**

**Local suppliers** of recycled and new **materials**

**Local or Western stakeholders**, who **invest** in the business in return for a part of the **profits**.

### KEY ACTIVITIES

**Production of the Fortune Cooker by managing** the many local workshops and **selling** the products to the different customers from within the workshop: **in house sale**

**Innovating the product** by co-creation.

### KEY RESOURCES

**Evaluation** of previous (our) project. Format of a **new business model**

Bus or truck  
Place for workshops  
Computers  
'Suggestion boxes'  
Clear overview  
Tools and materials  
Employees  
Distribution points, cash register, cash money and stockpiles

### VALUE PROPOSITION

A **cooking device** that combines **multiple ways** of generating or preserving **heat**.

**Clean cooking, no harmful smoke** and the use of sustainable power sources like **solar energy** and **isolation**.

**Indirect value**, the **reduction of harmful smoke**, thus **improve healthiness** of environment. **reduction of wood** fires, so it **combats deforestation**.

**Direct value**, the Fortune cooker needs **less fuel**, so fuel **costs** can be **reduced**, as well as the **time spent to collect fuel**.

**Testing is free**

### CUSTOMER RELATIONSHIPS

By maintaining a seemingly **personal relationship** with the customers, we want to **encourage** them to **give feedback** on the product and give them the **possibility to co-create** the product.

**Rich Western customers** should **feel like they contribute** to the cause of our product/business. Therefore **the result** of their aid should be **reflected back** to them

**Transparency**. The whole business should be **honest and transparent** to all its customers and stakeholders, to **create mutual trust**.

### CHANNELS

**Marketing** websites and word of mouth.

**Local workshops** and **in house selling point** both in development countries and online.

**Transport** of materials and products.

### CUSTOMER SEGMENTS

**People whose gain is the biggest**. Cooking on woodfires in **rural** underdeveloped parts of **Africa**

**Other underdeveloped countries** with a **need for this product** as well.

Western **individual investors**: buy one, **reduce the price** of one. Or **donate** to the cause.

### COST STRUCTURE

**Salaries of employees (CH+CR+VP)** (Fixed)

**Rent of workplace or shop (VP)** (Fixed)

**Cost price of materials and tools (VP)** (Fixed or variable with the volume/scale)

**Taxes** (Variable with the profit)

**Marketing costs (CH)** (Variable)

### REVENUE STREAMS

**Asset sales**

other options: donating or leasing

**Investors**

by means of donations or services

### SOCIAL COSTS

Local **gas companies** might **lose jobs**

### ECOLOGICAL COSTS

**The ecological footprint** of the product has the biggest impact

### SOCIAL REVENUES

Creation of **Employment**

Creation of **Awareness on health and environment**

### ECOLOGICAL REVENUES

**Clean cooking**

Use of waste **materials**

**Less transport** due to inhouse selling

The Revenue Streams, Key Resources and Cost Structure are further explained in appendix 5

# #9

In the Business Plan, the former canvas is described by using the four aspects from Prahalad (BRON), to the successful implementation of a product in a low-income country. This contains: creating buying power, shaping aspirations, improving access and tailoring local solutions. For each aspects is described how it first would be achieved, then evaluated on its feasibility by using our current knowledge and finally new alternatives to involve these aspects are given.

## Creating buying power

- First:** By creating new job opportunities, as well as improving the local economy. By setting up workshops for the manufacturing of the Fortune Cooker, we generate jobs: by making manufacturers and retailers franchisers, the value chain stays within the country, and the local economy is improved.
- Evaluation:** It is possible to manufacture the product in the region itself, the same counts for the purchase of the needed materials and tools. However, the target group does not have any money to spend on the Fortune Cooker.
- New:** By creating new job opportunities, as well as improving the local economy. As the target group does not (yet) have buying power, we should think of other ways to make the product commercial without the target group having to pay money they do not have. For example we can think of selling the product for another service or product in return, instead of for money.

## Shaping aspirations

- First:** Making customers aware of the harm cooking on open fire can do, and how they can avoid this harm.
- Evaluation:** Not all people cooking on wood fires know of the harm it can do, so this is still needed. However, we should consider this can also make these people anxious, instead of wanting to do something about it.
- New:** Making customers aware of the harm cooking on open fire can do, and how they can avoid this harm, hereby the anxiety of people should be taken into account.

## Improving access

- First:** By keeping the production line local, people can always have access to the product.
- Evaluation:** Our research in Morocco points out that a lot of women, who make the decisions within the domain of cooking, do not come out of their house very often. Especially the ones cooking on wood, who often grow their own food.
- New:** The selling point of the Fortune Cooker should be accessible to the women cooking cooking on wood fires. This means the product should be brought, or at least introduced to them by bringing the product to their homes. The selling points should be at a place where both women and men often come. Looking at Morocco, this could be at a *soek*. In this way people see the product more often and are therefore more likely to purchase it. For women this is important, because they make all the decisions within the domain of cooking and for men it is also important, as they own the money so they are the ones who should eventually buy the Fortune Cooker.

## Tailoring local solutions

- First:** By adjusting the Fortune Cooker to the needs and wishes of the local customers and by using local materials.
- Evaluation:** The Fortune Cooker can be adjusted to the needs and wishes of the local customers. Local materials can also be used. However, local materials may have a lower quality.
- New:** By adjusting the Fortune Cooker to the needs and wishes of the local customers and by using local materials.

# #10

## Further explanation of the new BMC

Some of the highlighted aspects are, per block, further explained in this Appendix.

### Key Partnerships

*Local or Western stakeholders who invest in creating a business:*

Stakeholders should invest in for example setting up workshops and purchasing the needed facilities and tools or in knowledge transfer, hereby enabling local people to manage the business themselves.

### Key Activities

This is the aspect were most of the changes have been taken place.

*Promoting the product by explaining and demonstrating the functioning of the product in local centres and in neighbourhoods.*

As our research pointed out that the Fortune Cooker is not a product that can immediately be understood, and the concept of the product is new to the customer, its functioning needs to be well explained to the customer. Moreover because the customer will not buy the Fortune Cooker when he/she do not trust the product to work properly. Therefore demonstrations can be useful to make the customer more confident with the product's functioning. This should be done by Engineers Without Borders and takes place at local centres where a lot of people come by. . In this way both women and men come into contact with the product. Engineers Without Borders will be tasked with these demonstrations as they are more capable to make this in to an attracting and interesting event. Although, the introduction of the Fortune Cooker should also take place in the neighbourhood itself, as women may not come out of their houses very often, but still have to get access to the product. These demonstrations and smaller demonstrations on local markets could and should be done by the franchisers as they are more trustworthy to potential buyers in such an intimate setting. The selling of the product should also take place in a local centre where many people come around. When this is not possible, it can also be at a place where men come, as they own the money and are therefore the buyer of the Fortune Cooker.

*Collecting (reusable) material that cannot be found in the neighbourhood*

For example press plates are can, in Morocco, only be founded in Casablanca. This will be something the western organization, in this case Engineers without Borders, will take care of, so the local franchiser can focus on managing the business locally.

### Key resources

*Trustworthy employees and franchisers with an entrepreneurial mind*

To make the business successful and keep it successful, these types of employees are necessary. We experienced that sometimes people in Morocco do not take their job very seriously, which means they do things as usual, but do not think of better or more efficient ways to do it, while this mind set is increasing the likelihood of having a successful business. Therefore this aspect is emphasized in this Business Model Canvas.

*Local network to enable promotion and material collection*

In Morocco, we experienced that one person cannot achieve things on their own. Therefore you need a network of people that can help you. For example, when you want to give a demonstration of the Fortune Cooker in the 'soek' or at another crowded public place, you will need someone who can arrange that for you. The same applies to material collection, especially in the case of waste material.

### Customer relationships

*Creating and maintaining a rather personal relationship with the customer, the customer should trust the seller.*

We experienced that Moroccan people always buy their stuff from a specific person, instead of considering all the shops that offer the product. Therefore the seller should put effort in becoming the one they buy things from by building relationships with the customer.

Also, as already explained, the Fortune Cooker is not immediately trusted to work properly. Therefore it is important the customer trusts the seller to sell products of good quality.

## **Channels**

*Promotion by word of mouth*

Moroccan people value the opinion of their environment, for example their neighbours. So when someone in their environment values the Fortune Cooker in a positive way, they are more likely to also try it. Therefore promotion by word of mouth is an important aspect in this Business Model Canvas.

*An appearance of both the product and the packaging that attracts the customer*

One should take into account that in Morocco, people are generally attracted to things that look very luxurious, with shiny elements, whereas in the Netherlands people would rather prefer a more authentic look. However, Engineers Without Borders should provide some basic appearance guideline to ensure a recognizable product identity for each fortune cooker, as each franchisers may give a personal touch.

*Suggestion boxes*

For further innovating the product, one could think of suggestion boxes where people can anonymously give their criticisms and suggestions for the product, as it may be impolite in this culture to openly give criticism.

## **Customer segments**

A requirement of the client is that the product should be purchased by the user itself and not by means of donations. Therefore the western individual investors are excluded in the customer segments. Hence, it may be beneficial in the acquisition of investors if the contributes is directly linked to a franchisers or to a set of Fortune Cookers, increasing transparency as well. A possible application could be that an investor contributes to a specific franchiser how he or she favours over others by means of representation or quality of the built Fortune Cooker.

## **Social revenues**

*Encouraging women to develop themselves in other domains than cooking*

The reduction of cooking time that the Fortune Cooker can provide and the flexibility in one's planning as you can just put food in the Fortune Cooker and let it be, may encourage women to use this extra time to develop themselves, which could make them more confident and put them in a stronger position in society.

*Giving women the opportunity to sell things they make on their own and thereby exploring their talents*

When we were testing the Fortune Cooker with test persons cooking on wood fires, they did make products themselves, such as plastic baskets. However, they never had the connections to actually sell these products. With selling the Fortune Cooker in return for another product or a service, these needed connections are given to them and so they can build up some kind of business on their own.



**Achtergrondinformatie**

1. Waar is de testlocatie?  
Où est le lieu d'essai?
2. Hoe groot is het huishouden?  
Quelle est la taille du ménage?
3. Wie kookt er?  
Qui fait la cuisine?
4. Waar kookt men?  
Où cuisinez-vous?

**Faciliteiten**

1. Is er stromend water?  
Il y a de l'eau courante?
2. Is er warm stromend water?  
Il y a de l'eau chaude? (courante)
3. Is er elektriciteit?  
Il y a de l'électricité?
4. Is er een koelkast/vriezer?  
Il y a une réfrigérateur / congélateur?
5. Welk vervoersmiddel gebruikt men?  
Moyens de transport utilisés?
6. Is er buiten ruimte voor de FC?  
Il y a une espace extérieur pour le FC?
7. Is er binnen ruimte voor de FC?  
Il y a une espace interieur pour le FC?
8. Kan de FC gemakkelijk tussen binnen en buiten verplaatst worden?  
Le FC peut être déplacé facilement entre l'intérieur et l'extérieur?
9. Wat voor kookapparatuur wordt gebruikt?  
Ce qui est utilisé pour les appareils de cuisine?

**Energiegebruik + prijs & behoefte FC**

10. Welk soort brandstof wordt gebruikt?  
Quel type de carburant est utilisé?
11. Hoe duur is deze brandstof?  
Quel est le coût de ce carburant?
12. Hoeveel brandstof gebruikt men? (per week/per maand/hoe lang gaat een fles mee)  
Combien de carburant utilisez-vous? (par semaine / mois / Combien de temps dure une bouteille avec vous?)
13. Vindt men de brandstof (te) duur?  
Vous trouvez le carburant (trop) cher?
14. In geval van gas; Weet men dat de subsidie op gas er mogelijk af gaat?  
Dans le cas du gaz; Vous savez que la subvention sur le gaz, il peut être déclenchée?
15. Zou men in dat geval in financiële moeilijkheden komen?  
Vous voulez rencontrer des difficultés financières dans ce cas?
16. Hoe verkrijgt men brandstof?  
Comment peut-on obtenir du carburant?
17. Gaat/vindt men dit (verkrijgen van brandstof) gemakkelijk?  
Vous trouver ce (obtenir du carburant) facilement?

18. Hoe veel tijd is men kwijt aan het verkrijgen van de brandstof?  
Combien de temps est consacré à obtenir le carburant?
19. Vindt men dat ze te veel tijd kwijt zijn aan brandstof halen?  
Vous trouvez que vous avez perdu trop de temps pour obtenir du carburant?
20. Hoeveel heeft men per week of maand ongeveer te besteden?  
Combien d'argent avez-vous à dépenser environ une semaine ou un mois?
21. Hoe vaak vernieuwt men pannen/worden nieuwe pannen gekocht?  
Combien de fois avez vous actualisez casseroles?  
Combien de fois pouvez-vous acheter une nouvelle batterie de cuisine?
22. Hoe veel geld is men kwijt aan een nieuwe pan?  
Combien d'argent est consacré à un nouveau pan (casserole)?
23. Hoe lang gaat het kookapparaat mee?  
Combien de temps l'appareil de cuisson dure?
24. Hoe veel geld kan en wil men uitgeven aan een nieuw kookapparaat?  
Combien d'argent (voulez) pouvez-vous dépenser sur un nouvel appareil de cuisson?

### Maaltijden

25. Welke maaltijden worden (voornamelijk) gemaakt?  
Quels repas ont faits?
26. Hoe vaak wordt er soep gemaakt?  
Combien de fois vous préparez de la soupe?
27. Hoe vaak wordt een stoofpotje gemaakt?  
Combien de fois vous préparez d'un ragoût?
28. Hoe vaak worden linzen gegeten?  
Combien de fois vous mangez des lentilles?
29. Hoe vaak worden kikkererwten gegeten?  
Combien de fois vous mangez pois chiches?
30. Welke pannen worden gebruikt?  
Quels casseroles ont utilisés?
31. Worden er vaak meerdere pannen gebruikt (voor één gerecht)?  
Plusieurs casseroles souvent utilisé (pour un plat)?
32. Welke kooktechnieken worden het meest gebruikt?  
Quelles techniques de cuisson sont utilisés le plus souvent?
33. Eet men vaak 's middags warm/uitgebreid? Of 's avonds? Of allebei?  
Vous mangez chaudes ouvent dans l'après midi? Ou dans lesoir? Ou les deux?
34. Wat doet men qua koken en eten als er bezoek is?  
Que faites-vous en termes de cuisiner et de manger comme il y a de visite?

### Tijdstippen en duur van koken

35. Hoeveel tijd is men gemiddeld op een dag kwijt aan koken? (ontbijt, lunch, diner)  
Combien de temps passez-vous en moyenne la cuisson d'une journée? (petit déjeuner, déjeuner, dîner)
36. Op welke tijdstippen wordt er gegeten?  
A quels moments vous mangez?
37. Doet men vaak andere dingen tijdens het koken?  
Vous faites souvent d'autres choses pendant la cuisson?

### Feedback tijdens het koken

38. Kookt men met de tijd als leidraad of iets klaar is?  
Vous cuisinez avec le temps comme un guide ou quelque chose est prêt?
39. Kookt men met kijken als leidraad of iets klaar is?

- Vous cuisinez avec le regarder comme un guide ou quelque chose est prêt?
40. Kookt men met ruiken als leidraad of iets klaar is?  
Vous cuisinez avec l'odeur comme un guide ou quelque chose est prêt?
41. Kookt men met luisteren als leidraad of iets klaar is?  
Vous cuisinez avec l'écouter comme un guide ou quelque chose est prêt?
42. Kookt men met proeven als leidraad of iets klaar is?  
Vous cuisinez avec le gout comme un guide ou quelque chose est prêt?
43. Opent men vaak de pan tijdens het koken?  
Est-ce que la casserole est souvent ouverte pendant la cuisson?
44. Roert men vaak tussendoor in de pan?  
Est-ce que on incorpore souvent dans la casserole?

### Experimenteel

45. Kookt men met vaste recepten?  
Vous cuisinez avec des recettes fixes?
46. Experimenteert men wel eens met de 'vaste' recepten?  
Vous expérimentez souvent avec les recettes fixes?
47. Probeert men vaak nieuwe dingen uit?  
Vous essayez souvent des nouvelles choses?

### Traditie

48. Waar komen huidige recepten vandaan?  
Où les recettes actuelles viennent?
49. Door wie leert men koken?  
Qui avez-vous appris à cuisiner?
50. Is er in het verleden op andere manieren gekookt?  
Avez-vous cuisiné par des autres manières dans le passé?

### Fortune Cooker demo

51. Wat vindt men van het formaat?  
Que pensez-vous du format?
52. Snapt men het product?  
Comprenez-vous le produit?
53. Wat vindt men van het moeten bijdraaien naar de zon?  
Que pensez-vous d'avoir à soulever au soleil?
54. Wat vindt men van de lade/deurtje?  
Que pensez-vous du tiroir / porte?
55. Zou men het gas/andere brandstof uitdraaien?  
Souhaitez-vous dévisser le gaz?
56. Wat vindt men van het gebruik van de spiegel?  
Que pensez-vous de l'utilisation du miroir?
57. Zou men het eten eten dat in de FC is bereid?  
Voulez-vous manger la nourriture préparée dans le FC?
58. Vertrouwt men dat de FC zijn werk doet/dat het eten gaar wordt in de FC?  
Avez-vous confiance que le PC fonctionne?  
Avez-vous confiance que la nourriture est cuite dans le FC?
59. Denkt men dat ze huidige gerechten ook in de FC kunnen bereiden?  
Pensez-vous que vous pouvez préparer des plats présents également dans le FC?
60. Welke (overige) aspecten vindt men goed aan het product?  
Quels (autres) aspects vous aimez sur le produit?

61. Welke (overige) aspecten vindt men slecht aan het product?  
Quels (autres) aspects vous trouvez mauvais sur le produit?
62. Zou men de FC gebruiken?  
Vous voulez utiliser le FC?
63. Na al deze informatie, hoe veel geld zou men over hebben voor de FC?  
Après cette information, combine d'argent auriez-vous pour le FC?

Overige vragen:

64. ...
65. ...
66. ...
67. ...
68. ...
69. ...
70. ...