



IRIS Utrecht presenteert:

Energy Poverty

In samenwerking met woningcorporatie Bo-Ex

Auteurs of makers:

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Achtergrond of context van het rapport of product:

In opdracht van woningcorporatie Bo-Ex is onderzoek gedaan naar mogelijkheden om bewoners te stimuleren tot het verbruiken van minder energie, met als doel om de energierekening te verlagen en de het vrij besteedbare inkomen te verhogen.

Projectduur: november 2018-januari 2019.

Doel: energierekening van inwoners van Utrecht verlagen.

Onderwijs: Masteropleiding Business Development and Entrepreneurship – Cursus: Lean Startup Research Project

Kernvraag:

Hoe kan woningcorporatie Bo-Ex haar bewoners helpen met het verlagen van de energierekening?

Opbrengst:

In een traject van 8 weken lopen studenten een Lean Startup traject door en ontwikkelen een Minimum Viable Product (MVP). Het ontwikkelen van een product bleek tijdens de cursus niet haalbaar, omdat de beoogde doelgroep – huurders van Bo-Ex in de wijk Kanaleneiland – te divers van aard is. Dat maakt contact met de doelgroep lastig, omdat de doelgroep online moeilijk te bereiken is en persoonlijk contact kostbaar is. Daarnaast heeft de doelgroep weinig tot geen interesse heeft in het onderwerp 'energie'. De doelgroep ziet de energierekening vaak niet als resultaat van eigen handelen – andere inkomsten- en uitgavenbronnen hebben meer aandacht en prioriteit.

Tags:

Dataservices, Energy, Energy Bill, Tenants, Lean Startup

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LEAN STARTUP PROJECT BO-EX



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Introduction

This is a complete macro reflection of our project written in hindsight. Our project was given to us by Bo-Ex, a housing company for those with low income and/or other problems that cause people difficulty in affording regular housing.

The problem stated by Bo-Ex was: “People spend too much on energy causing them to be unable to afford their rent. Due to this, they can get evicted which is very costly.”

Bo-Ex asked us to look into this with the aim of reducing the energy use of people with the goal of less people experiencing troubles paying their rent.

Our project

We planned a meeting with Martijn Broekman from Bo-Ex. During this meeting we found out that we were able to reach beyond the energy problem and that the real problem was that: People being unable to pay their rent. After this was clarified, Martijn provided us with some information about the Bo-Ex complexes to visit for our first interview round. We were given information about the target customer persona, and possible causes of payment problem such as consumption of luxury goods. We were given addresses to interview as well as data on energy usage. However, we did not procure a feedback system as we had hoped to. This was our biggest fear as it meant that our project would slow down tremendously. We had hoped to get access to real-time energy usage data, or at least weekly updates. But due to the privacy laws we were not able to obtain this.

After this meeting we went to Stedin with an email forwarded from Bo-Ex to once again try to access this data. We reasoned that, as data was anonymized, the privacy law would not be breached. However, Stedin told us that by carefully reviewing such detailed and short-term data it wasn't possible to remove the anonymity. As a result, we were unable to create short-term feedback for our project. At this moment we had two ways of getting feedback. The first one was to wait till the end of the month and see how many people would be able to pay their rent. However, this would mean that we would have 1-2 iterations maximum over the entire project. The other was to interview people, and that is what we did.

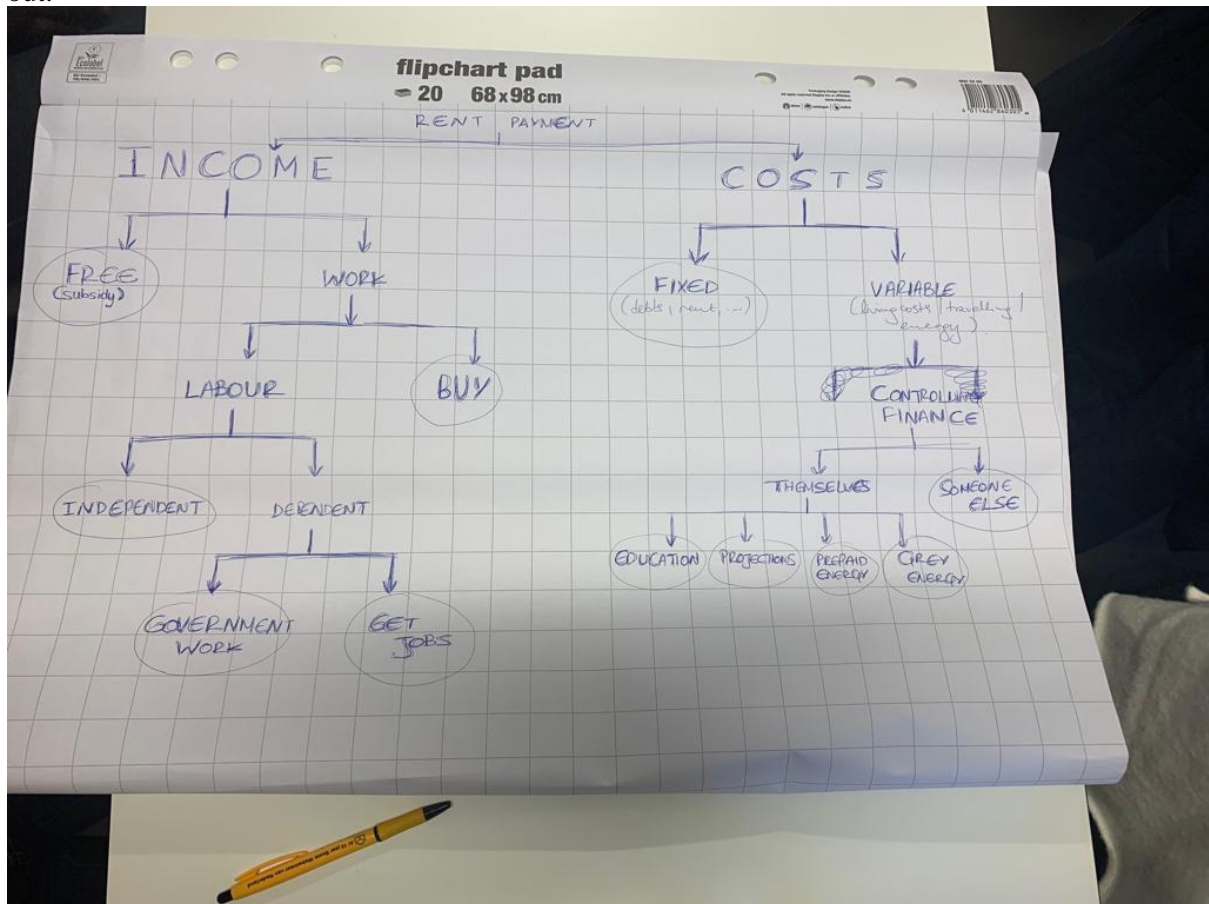
We had two hypotheses. The first one was that the average energy use was too high, the second one was that there was too large variation causing a subgroup of people to use unusually high amounts of energy. Through data from CBS we invalidated our first hypothesis.

So, we went to interview. However, people did not want to be interviewed, and some were outright hostile. This was a large blow, as it was the only viable feedback mechanism that we had left at that point. We had a meeting after this and reflected upon the experience in order to find out what went wrong. After this, we decided to do another interview session, this time with the five of us split up in two teams. The teams would speak to people on the streets instead of ringing their bells. We found great results here and managed to procure 15 interviews.

We managed to gather interesting results from the second round of interviews. We found out that there was indeed a subgroup of people with unusually high energy cost. This group had often low/little idea about energy consumption. They often made guesses regarding their energy use or told us that they had no idea about their energy usage. This makes these results a bit difficult to interpret as the accuracy of their statements in many of these cases are not likely to be very accurate. However, at this point we knew two things for sure. There is a group of people that have low/no insight in their energy use, and there is a group of people with unusual high use of energy. We just don't know if this is the same group, but it is likely.

Having been able to conduct interviews, we once again had a sparkle of hope in a project that was more behavioral transformation than it was lean startup. During the lecture we were asked to make an overview of possible problems and the solutions to that. We made something we were all very proud of. We made a very structural overview of possible problems and solutions that we carefully reasoned

out.



We all agreed that we should have done so far earlier, as it was a very helpful overview. However, as our time was limited, we decided to stay with the energy problem first.

We followed our overview via the cost side of the problem → variable → controlling finance → themselves → education. We used this as our assumed solution to the problem that we had validated and therefore used it for our smoke test.

The smoke test was very difficult for us, as we were not launching a product or fixing a problem with a product but were attempting to change a behavior. Changing behaviors has always been very challenging and there are entire fields of psychology dedicated to it, therefore we knew we had quite a tough nut to crack. We did not have trouble generating attention, as enough people on Facebook saw our message (1200 people) but very few showed interest (60) and even less clicked the link (2). Somehow, we were not converting from view to interest. This can be due to several problems: There is no interest, or something is wrong with the add. As our link was included to click (bderp6.com) we found it quite possible that people saw it as a phishing link (we could not change the name of the link). Therefore, our assumption that people are interested in the subject has not been invalidated.

The second problem is the likeliness of an unwilling target group, which is something we experienced during the interviews and during the smoke test (Facebook) as well. This makes it significantly harder to get accurate data and feedback on them.

Recommendations:

We advise Bo-Ex to follow the problem chart above, in order to find the correct problem and solution. We stranded on the education part of the cost side, and therefore we advise Bo-Ex to try alternative ways of educating the residents first. However, a more pressing issue comes first; the identification of the subgroup. We found this group to often have a background of immigration and have difficulties

with the Dutch language. In order to accurately solve this problem, Bo-Ex is first advised to conduct more research into this group of people thereby identifying which of their residents belong to this group and which don't.

Educating this subgroup should be the next step. The group we ended up reaching through Facebook ads, didn't seem interested or thought it was a phishing link. We advise Bo-Ex to try approaching these people through other ways such as fleering or sending a letter. If education does not work, Bo-Ex can simply follow the structure we have laid out and try, for example, prepaid energy or controlling finances in some way. With projections we mean to give tenants insight through providing graphs that give future projections of cost dependent on their energy use.

Finally, Bo-Ex should realise that energy although a variable cost, may not be the main cause of the troubles. The residents of Bo-Ex are amongst the poorest of the country and therefore budgets are already tight. Therefore, we also created an income side to our structure for Bo-Ex to follow. Bo-Ex could, for instance, work together with the government to promote government work or independent work to the residents.

Group assignment 1

Company name: Bo-Ex

Introduction

Our learn startup was assigned to Bo-Ex, a social housing company in Utrecht. Bo-Ex described the following problem to us: The energy use of tenants seems to be too high. As a result of this, some tenants have problems paying their electricity bills, causing them to be unable to pay their rent. As a result of this, they can be evicted out of their homes, and this brings in play large sums of additional costs. Please investigate this and find a solution.

Bo-Ex rents out social rent housing, the rent is always under 700 euro and can go lower depending on individual situation such as size of the household and number of children. People that are eligible for these cannot have a gross income higher than 37000 euro and will have to be lower to qualify for the cheaper social rent housing that Bo-Ex provides.

We realized that there were several possibilities and formed our first hypothesis: *“The tenants, on average, use too much energy which causes financial problems proportional to the percentile the tenant is in”*. We planned a meeting with Bo-Ex, and they delivered us the average electricity- and gas use for each of their apartment blocks. We compared these to the numbers delivered by the CBS for similar buildings with households of 3 people (which we argued is most likely on the low side) and found that Bo-Ex tenants seem to use about 25% less electricity and 8% less gas (Appendix A). Therefore, we argue that it is not a problem of a too high average use of electricity and gas.

We therefore turned towards our second hypothesis: *“The tenants have a too high variability in energy use which causes financial problems to those in the higher percentiles of energy use”*. Following this second hypothesis, we argued that there is possibly a sub-group amongst the tenants of Bo-Ex that has these high energy bills causing financial problems. We also set up a first hypothesis for identifying the cause of the problem: *“The high energy usage by some of the tenants of Bo-Ex is caused by a lack of insight in energy usage and energy costs”*.

Our first task was to test these hypotheses and possibly identify this subgroup. We set up a semi-structured interview to test this. This semi-structured interview consisted of questions that would test the following topics: *Do tenants experience a problem themselves in regard to energy bills? Do tenants have an idea of how much energy a “normal” household in their situation uses? Have tenants taken actions in the past to control or diminish their energy costs?* These questions were designed to bring to light if tenants are occupied with energy use and -costs and their insight in these matters.

Reflection on problem interviews

We set out to interview around 40 households that were assigned to us by Bo-Ex the day before during the interview. Our two fluent Dutch-speaking group members rang doorbells and introduced themselves before asking whether it was okay to ask questions regarding energy costs. Not many people responded to this talk and the strategy was quickly changed. Easier words were used such as “school project” instead of “research for Utrecht University” and sentences such as: *“you would really help us out a lot”*. This seemed to boost the response rate as soon after the first person responded to the talk. However, this person was not impressed and aggressively called for them to go away. Luckily, not much later, a first interview was being held. The respondent was an elderly couple around the age of 60 with a Dutch background. This did not conform to our customer persona’s. They had never experienced problems with energy bills and showed to have a rather decent insight in their electricity- and gas costs. They had taken a small step that reduced energy usage, but this was done

out of safety rather than energy use. After walking out it was once again realised that this couple was rather far from our customer persona and that the results from the interview did suggest that there was no energy problem at all. However, the couple did not know whether their energy bill was high or not. They gave us a robust estimate of their energy costs and the interviewers realised it was rather high.

After this more door bells were rung and the interviewers realised that them both being male was most likely not the best way to get people to hold interviews with them. The couple from before had said that most men were away during this time and the people were therefore reluctant to open doors for two strange men. The fact that the interviewers had both name tags and a signed letter from Bo-Ex did not seem to help. People did simply not wish to talk to them.

We finally met a couple who were willing to participate with our interview. This was a couple from Syria with one child. Their Dutch was not perfect but very understandable, they had been living here for 19 years and were moving to a bigger home the following year. The man was the one to be interviewed and he had a very good insight in his energy usage and -costs. He bought newer things for the house with the idea to control energy cost and he could give us a rather precise estimate of his bills. He did not know whether this was low or high, but he guessed that low was the most likely option. After hearing his estimate, the interviewers realised it was about not even 60% of the energy bill of the elderly couple even though having one more person in the household. Once again, our customer personas were not confirmed but rather falsified. Our hypothesis that a lack of insight caused the problems also seemed to keep being falsified.

After this the interviewers did not manage to get more interviews. The end result was that 35 door bells were rung and almost all of them seemed to take up the phone, as the camera lighted blue, but only few responded. Therefore, it was concluded that it was possible that those interviewed might be a subgroup that actually performed well and were not part of the group that experienced problems. It might be possible that the people that do experience the problems as stated by Bo-Ex are those that are not very proficient at dutch and refuse to talk to us. Of course, it is also possible that the problem that Bo-Ex has identified does not actually exist.

Validated learning

As a result of our efforts we have learned of several things and encountered several problems. First of all, we have learned that the average energy use amongst the tenants of Bo-Ex compares relatively well to the national average of similar households. This brings us an important step closer to identifying the problem at hand. We have also learned that our customer personas were not accurate and therefore have changed these. Instead of young couple's we have thus far found middle age couples instead. This will help us to better prepare for future interactions with the tenants. We are also suspicious that there may be a subgroup of tenants that have even bigger reservations about talking to us and who's dutch are not very proficient. We base this on people that we saw on the street and the few negative reactions that we had gotten. This means that in future interactions we might have to choose different languages and ways of interaction. We have also learned that direct interviews is most likely not the best way of gaining feedback in this project, as we have experienced difficulty in getting people to talk to us. This could be caused by the time of day, or the gender of the interviewers.

What we have to do next

We feel that it is not yet time for us to pivot. Although, our hypotheses seem to be falsified so far, but our group of respondents so far has been so small to draw actual conclusions. However, collecting feedback from the tenants seems to be difficult, as the tenants themselves seem reluctant to be interviewed. It may be necessary to conduct a second round of interviews at a different time with different people. Other ways of collecting feedback may also be valid. Bo-Ex mentioned that email does not yield many reactions. However, we could also interview people on the streets from the same neighbourhood as they are most likely from the same population. An online survey might be good if we promise a reward. Another way is to contact Stedin (the grid provider) and ask if we can access average information on average energy usage for the different apartment block. This could allow us to

gain feedback through actual energy usage in possibly a short timeframe such as a week. Our advantage is that our population consists of several apartment blocks, which we could effectively treat as small samples of the same population. By doing so, we can run different tests at the same time and thereby increase the rate at which we can gather feedback from numbers on energy usage or amount of people that can pay their rent.

Group assignment 2

Company name: BO-EX

Introduction

After our last reflection assessment, we decided to pivot away from finding a solution as we didn't succeed to validate the hypothesis in the first round of interviews. Consequently, we decided to strive for searching for the causes of our problems. After the first round of interviews we already falsified our first hypothesis regarding financial problems being caused by a too high average in energy use. The data provided from Bo-Ex were not too enlightening as it only contained average energy consumption of apartment blocks over a year. However, we had a productive team discussion that led to two possibilities; First, there is a possibility that a subgroup of Bo-Ex tenants use electricity enormously, Second, there is another possibility that this subgroup have difficulty paying their bills as they spend too much money on luxury goods. We actually got this information during our interview with Bo-Ex. These led us to hypothesize that: *"The tenants have a too high variability in energy use which causes financial problems to those in the higher percentiles of energy use"* and *"The tenants spend too much money on luxury/expensive goods which causes financial problems"*. We decided to focus on where the biggest part of their revenues is dispatched. Consequently, we conducted semi-structured interviews for the second round trying to trace their main expenses that could affect their rent payment. Below, we reflect on the second round of interviews, our validated learning process and what we plan to do next.

The interviews

As far as the interviews are concerned, the first round was not too encouraging as we only acquired two of them. We went door-to-door in a 35 apartment Bo-Ex building, but people were hesitant and suspicious. For the second round of interviews, we had to change our strategy so to make sure it would be successful. So, instead of knocking doors in Bo-Ex buildings, we went out on the streets of this neighborhood on a different time now, to find our personas. In 2 teams, we spent about 4 hours looking for personas and interviewing them about their energy and luxury goods consumption. People appeared to be more cooperative and willing to talk. This shows that people were too suspicious to let people invade in their personal space and are more open to common areas. As a result, we managed to collect 11 interviews at the end of the day, from people with different backgrounds. Below we explain how we conducted the interviews.

Firstly, we started with demographic questions so to trace the background of the interviewees. After that, we proceeded with some targeted questions regarding energy, electrical appliances and luxury goods. We used the above order of questioning on purpose so to build up a conversation-like interview and acquire as much information as possible. The electrical appliances questions placed second, as in case the tenants were highly careful with their energy then a big part of their revenues was devoted for other purchases. Then, as a last part of the interview we added the part of luxury goods that was out of question as expected, considering the low income of our target group.

The age range of the interviewees was between 35 and 55 years old, and members of families. Most of them are unemployed or low-income workers, with annual wages up to 25000 euros. The majority of them were of an immigration background with some small exceptions, usually 1st and 2nd generation immigrants. Firstly, we asked them about their energy bills, whether they are manageable and if they have an insight in them. 7 out of 11 interviewed people had a really good insight in their energy bills, while the rest of them did not at all. As a result, it came out that the people that actually had insight, ended up spending less money on energy bills than the rest. As fast as their energy

provider is concerned, we had a clear pattern in the answers; Eneco is the lead player in this neighborhood and only very few of them switched a provider. That clearly concludes, that people do not pay the needed attention to their bills so to make a market research for a better and more affordable energy provider.

The next phase of the interviews was asking the interviewees regarding the goods they do buy. Also, for this question, the pattern was clear. Almost all of them answered that they do own a relatively big, new TV – or more than one – but this is not the interesting part. The interesting part is that all of the tenants informed us that they paid upfront for these appliances and not per month, a fact that shows their preference to have a financially hard month than engage to a financial obligation for a certain period of time. This decision making shows that they really do understand their financial situation and are trying to get rid of expenses that easily can be attached to. The next interesting thing about TVs is that many tenants blame these appliances as well as their smartphones for the high energy consumption and high bills, though it is appeared to be a necessary good to this people, as they live in an isolated neighborhood far away from the city center.

To sum up, people in relatively poor districts of Utrecht usually are found in two separate groups; The first one consists of people with high insight of their energy consumption who end up partially controlling their bills based on the financial state. The second group consists of people with no insights of their energy usage; these people end up paying a lot more compared to the firstly mentioned group. Hardworking and full of obligations, many of them also with major health problems, they are trying to overcome the isolation of their districts through entertainment.

Validated learning

After the second round of successful interviews, we have found the pattern in variation energy use between tenants who have information and insight on their energy use and those who live in the dark and just hope for their energy bill to be lower than preceding months. From the interviews we found that people who don't have insight on their energy use tend to have higher energy usage and most of them were isolated migrants with Turkish and Moroccan descent. However, based on the interviews we cannot conclude that their expenditure behaviour toward the purchase of luxury products like television and methods of payments have any correlation with their financial difficulties in meeting their financial obligations like paying bills and rent. This is why we did all the interviews outside, due to tenants' hesitations to open doors for us. Thus, we could not have much insight on what products they use and in turn. It is very difficult to conclude if they have luxury products based on their answers. For example, when we asked them about their television devices the answers given were mostly based on the size of either small, medium or large and not TV actual size and brands which is the primary determinants of Television size.

Based on the above analysis we have validated our hypothesis 2 and it is without any doubt that there is a big variation in energy usage between tenants that eventually leads in defaults for rent and bills obligation. And these variations are due to information asymmetry between tenants because there are tenants who were completely in control of their energy bills with more information and techniques on how to minimize energy usage. However, our hypothesis 3 could not be validated or invalidated because we couldn't gather enough information on value of their products such as Television and because of their incomplete answers with regards to their values which did not give us clear picture on value of their products and their payment arrangement.

Although we were not yet able to validate or invalidate our third hypothesis on the possible presence of excessive spending, causing financial problems, we found an indication in our interviews that health problems could be another possible factor which an important cause of financial problems of tenants can be. In more than half of the interviews, tenants have mentioned all different kind of health problems which affected their financial situation either direct or indirect. For example, two interviewees which are both low-schooled workers and have worked throughout their lives, are now struggling to pay their bills as their physically tough jobs caused knee and back problems, resulting in being not or only partially able to work. This leads not only to a decrease in their income as they will work less hours, but also to an increase in their costs, as their medical costs went up to pay for a

surgery or frequent hospital visits. Also, other interviewees mentioned the presence of health problems, and how such problems can lead to financial problems for everyone.

This indication leads us to developing another hypothesis on the cause of financial problems:

Hypothesis 4: *“Direct and indirect medical costs are the most important cause of financial problems for the tenants”*.

What we have to do next

In the next round of interviews, we want to test this extra hypothesis by gathering as much information as possible on this matter. Medical costs can include direct costs like health insurance costs, costs of hospital visits, costs of medicines costs, dentist costs, etc. Furthermore, we would also be interested in the indirect costs of a bad health, which are mainly the (opportunity) costs of losing your job or hours and therefore having a drop-in income. As this seems to be a very important factor in the ability of tenants to pay their bills for our current interviewees, we are really interested if this is also the case for a bigger group of tenants. We expect this to be the case, as we assume that tenants in social housing are more often low-schooled workers and have on average more health problems (and therefore also more medical costs) than other tenants. However, as these are still assumptions it is important to gather a substantial larger amount of data on this matter to verify this. For these interviews we will conduct again a semi-structured list of questions to obtain information about the medical situation of the tenants, their medical bills and their ability to pay their other bills as a consequence of that.

Regarding the energy usage, we will try to find out how much these people are interested in controlling their energy bills by setting out a smoke test. We will set up a website with useful tips on how to control your energy usage and how much you can save monthly by changing to a new habit or by just adjusting to a new procurement pattern. This website will contain a landing page with an introducing story on saving money on energy, to obtain interest from the viewer. From there, there will be a link/button to another page where all the money saving tips and techniques will be mentioned. These tips and techniques will be our Minimum Valuable Product (MVP). From the number of visits on the website and especially the number of redirections to this second page will measure the interest of the tenants to our MPV. This will give us the indication of how interested people are on controlling their energy usage and how useful the tips are.

Group assignment 3

Company name: Bo-Ex

Introduction

For this round we were asked to set up a smoke test in order to validate our Minimum Valuable Product (MVP) We decided to go ahead with the validated hypothesis: *“The tenants have a too high variability in energy use which causes financial problems to those in the higher percentiles of energy use”*. In order to further validate this hypothesis, we decided on create the landing page; <https://uubderp6.wixsite.com/mijnsite>. A click on the “Lees de tips” bottom directs visitors to tips on saving money on energy consumption, our Minimum Viable Product. The Unique Value Proposition of these tips were its simplicity to comprehend, apply and its financial reward of applying it. By doing this we were attempting to test the following. First, we were testing our target group’s interest in saving money on energy. We decided to test this with the landing page, assuming that a hit on the landing page symbolizes a degree of interest regarding the subject. Second, we aim to test the willingness to take action. We assumed that a click on the “Lees de tips” or the like button will indicate deeper interest in the and possible actionable reaction. However, one can argue that this is not good measurement of willingness to take action as clicking on a webpage takes very little effort. To counteract this, we created a Facebook page where we can create a post, share it and measure actual engagement.

A difficulty for us was the language of our customer persona’s. During the interviews we experienced many instances in which the primary, or preferred, language was not the Dutch one. Our intention was to take this into account by making a multilingual website. We have chosen for the languages of Dutch, English and Turkish. With three very big buttons accompanied with flags of the respective countries we have made it very easy to access the website in people their own languages in those cases that Dutch brings them difficulties.

Reflection on Key Metrics

In order to reflect on key metrics, we gathered information from google analytics. We decided to use google analytics because our group members are more familiar with it. On entering google analytics we first set up a goal called: Go to Tipspage. We added a funnel as well. Due to this, google analytics filters out those people who first go to the landing page and then go to the tips page. We intended to use this measure to track the click rate.

We decided to measure sessions length on the tips page. This will allow us to grasp a sense of interest in the tips. In addition to this we can easily test the sense of actionability, like on the tips tby simply visiting the page.

We believe that using these three metrics should be enough to test the second part of our assumption regarding the commitment to save money on energy bills. We primarily used bounce rate of the landing page for testing primary interest in the subject of saving money on energy. A bounce is when

someone visits the website and immediately leaves. This should be a clear indication of no interest in the subject whatsoever.

A new problem arose, which are the crawlers sent by google to identify the webpage. These analytical robots identify possible changes to it and gather information for google search engine. As these crawlers (they crawl the page) are not actual people but robots instead, we need to filter them out of the data. This is easily done as such crawlers are often from outside the Netherlands and because google analytics offers an option to filter them out. This was of course done.

We have had a total of 13 visitors in a period of one month. 9 were from the Netherlands, and 2 from Turkey. However, only 4 people used the Dutch language. Which means that either our idea to use several languages was very successful, or us group members have secretly checked out the webpage causing "Fake Results". These fake results are difficult to remove out of the equation, as, although we can filter IP addresses, IP addresses change all the time.

Our bounce rate was 38.1% for the whole website, 38.89% for our landing page and 50% for our tips site. But once again, these results can be polluted by our own views.

We do not have demographic results yet, as our number of users are too low.

After all of this, we have decided to look into our acquisition, with the assumption that direct traffic is caused by our own views on the website. We found that out of 13 users we had 2 organic 1 via Amazon (no idea how), 1 was not provided, and 2 referrals which came from Wix itself.

At this rate it is not helpful to further to further analyze key metrics, as evidently the number of users are too low. Therefore, we have decided on aggressively pursuing our target persona.

Validated learning

Looking at the metrics gathered we found a huge lack of visitors. This is primarily because we have not taken a big effort to attract them. We all found ourselves with little to no time and energy during the holidays resulting into this case. Therefore, as we need the metrics to, hopefully, validate our assumption, we have chosen to aggressively pursue our target persona.

We have decided to do so in the following ways. First, we have set up a Facebook marketing campaign. We have set the area to Kanaleneiland (which is where we held the interviews and were many of Bo-Ex's residents live) and applied many characteristics of our customer persona to accurately target them. We have decided on two separate advertisements, one for English and one for Dutch. We hope to, in the future, add a third one for Turkish.

In addition to this, we have decided on sharing our advertisement in many Facebook groups that identify with our target group. It is okay if this also attracts people outside of our customer persona, as we can filter those out in google analytics through the demographics page provided, we have enough users.

We each chipped in 5 euro's so that our total advertising budget is 25 euros. We manually set the pay per click (on our advertisement leading to our website) to a max of 10 cents. Although this will cause Facebook to display our advertisement less often, we can get at most 250 users this way through the advertisement alone. We need to remember that we are not building a sustainable number of users on our website, but only buying enough users to validate our hypothesis in addition to future hypothesis.

What we have to do next

As stated in the validated learning part, we need will following aggressive measures to increase our users, with the target of drawing in at least 20 users a day. By doing so, we will be able to do a hypothesis test each day allowing us to quickly work through our hypothesis and learn more about our target persona.



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Gesponsord ·

...

Learn how you can save € 500 per year on energy bills

[Vertaling bekijken](#)



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...

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Our running facebook advertisements


Appendix

Old customer persona's

Diego

	Backgroundd <ul style="list-style-type: none">- Works for 2 years- Has a girlfriend and a dog- Income: 20.000€ /year	Biggest Challenges <ul style="list-style-type: none">-Bills: too bad at financial management-Not responsible-Struggles with his work because of his back pain
Name Diego		
Age 28 years old	Goals or Objectives <ul style="list-style-type: none">-He wants a promotion or a better job-Ideally income up to 30.000-32.000€-Would like to win the lottery	Common Objections <ul style="list-style-type: none">-Peer pressure for socializing VS bills VS medical costs for back pain injections
Highest Level of Education VMBO graduate		Biggest Fears <ul style="list-style-type: none">-Losing his job-Losing his friends-To be kicked out of the house due to his debts
Industry Post Office	Hobbies <ul style="list-style-type: none">-Plays videogames and lucky games-Hangs out with friends	
Organization Size 1-10 employees		

Katja


	Background <ul style="list-style-type: none">- Cleaner at small restaurant in Oudegracht- Unemployed husband- A child of 12 years old	Goals or Objectives <ul style="list-style-type: none">- Desperate in need of a better paid job, preferably around the income of €35.000- She wants to be able to send her child to a special education teacher and move to a better house
Name Katja		
Age 42 years old	Challenges <ul style="list-style-type: none">- Too many costs, for instance electricity bills, medical costs and rent costs- Financial struggles- Transport problems her car isn't working	Hobbies <ul style="list-style-type: none">- Plays with her children- Knitting clothes- Makes candles
Highest Level of Education VMBO		
Organization Size Employed	Biggest Fears <ul style="list-style-type: none">- She is worried she might get kicked out of her house- She fears her medical costs might increase- She fears the energy costs and taxes might increase- She fears her welfare payment might decrease.	Common Objections <ul style="list-style-type: none">- She loves knitting clothes and making candles but she cannot make a living out of this.- She want to go to Morrocco on vacation but she cannot afford it.

New customer persona's

Eva

	Background <ul style="list-style-type: none">-Member of a family of 4-Lives with her husband in Kanaleineiland-Basic pension income-Both children are married-Her husband has low income too	Biggest Challenges <ul style="list-style-type: none">-Many unpaid bills-A loan that needs to be repaid
Name Eva		Goals <ul style="list-style-type: none">-She would like to be able to help their children financially-Wants a bigger house so for their grandchildren to be easier to visit
Age 58 years old	Hobbies <ul style="list-style-type: none">-She hangs out with the neighbors	
st Level of Education high school education		
Industry Manufacturing	Biggest Fears <ul style="list-style-type: none">-Loan and debts to be left in her children-Not to manage to save some money for an urgent case	Common Objections <ul style="list-style-type: none">-Manage their debts VS support their children financially
rganization Size 1-50 employees		

ed

	Background <ul style="list-style-type: none">-Father of a family of 3-From Syria, they live in Netherlands for the last 19 years-38.000€ / year income-Really satisfied with his job	Biggest Challenges <ul style="list-style-type: none">-Costs will increase when they will settle to the new house-His wife will probably have to look for a job so to can afford a bigger house and more comforts.
Name Mohamed	Biggest Fears <ul style="list-style-type: none">-Their financial situation to get worse because of the new houses' massive costs.-Regret to live their current house	Goals <ul style="list-style-type: none">-To move to a bigger home next year-To plan a family vacation back to Syria
Age 42 years old		Common Objections <ul style="list-style-type: none">- Low cost housing VS Comfortable and big new house with massive costs
Highest Level of Education Some college, no degree		
Industry Manufacturing		
Organization Size Self-employed	Hobbies <ul style="list-style-type: none">-Watching hockey with his son-Going for hiking	

Appendix A

Complex	Electricity 2017 in KWH		Natural Gas 2017 m3	
Stanleylaan I	1321	0,7994879	988	1,15878744
Alexander de Grotelaan II	1819	110,09%	1043	122,33%
Alexander de Grotelaan III	1835	111,06%	994	116,58%
Alexander de Grotelaan I	1606	97,20%	1137	133,35%
Alexander de Grotelaan IV	1589	96,17%	1226	143,79%
Columbuslaan I	1348	81,58%	332	38,94%
Columbuslaan II	1492	90,30%	1067	125,14%
Columbuslaan III	1639	99,19%	1072	125,73%
Magelhaenlaan I	1769	107,06%	384	45,04%
Magelhaenlaan II	2036	123,22%	368	43,16%
Magelhaenlaan III	1696	102,64%	376	44,10%
Rooseveltlaan I	1694	102,52%	1067	125,14%
Rooseveltlaan II	1636	99,01%	1030	120,80%
BOEX Average	1652,307692		852,6153846	
National average all houses	1550		940	
National average flats from 1975-1991 + 4 people (2016) CBS	2175		930	
	75,97%		91,68%	