

# Prototype Worksheet

How we might test the essential customer journey touchpoints of the Biogas Milk Chiller

## Plan for prototyping during pilot in October 2016

**WHY** In 2015 we completed a test of 4 prototypes of the Biogas Milk Chiller at 4 different target customers in Tanzania for a duration of 6 weeks. The three goals were: (1) Technical feasibility to acquire Proof of Concept status; (2) Value proposition and business case for the dairy farmer; (3) To improve the usability of the product. The learnings of these tests were incorporated into an improved design of the milk chiller. Reflecting on the past phases, the main technical challenges have been given higher priority than the human-centered design. We realize that the upcoming challenges will lay in the adaptation of the product to the user.

**HOW** We make the shift from focus on technology towards human-centered design, for which testing essential touchpoints throughout the customer journey, as outlined in the next few pages, is key. These tests will be incorporated into the pilot plan.

**WHAT** Test customer journey touchpoints during the pilot of 15 Biogas Milk Chiller units in Tanzania and Kenya. The aims are: (1) Technical validation ; (2) To assess the availability, acceptability, affordability and awareness of the value proposition for end users; (3) To optimize product-user interaction and product-service system.

**WHEN** Starts in October 2016; ends in January 2017. From there, the next phase entails adapting the design according to the learnings from the pilot, to make the design fit for mass production, and to start commercial sales.

## 1 AWARENESS



### Most important question to answer:

How could we best design promotion material such that target customers respond to it?

### How might we test it:

Create and distribute flyers at milk collection centers that promote the product and that says: "Call this number for more information". Note the no. of calls and note what people say and ask. Ask them what got them interested and note the answers.

**Priority ranking #: 7**



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## 2 EXPERIENCE



### Most important question to answer:

How could we best demonstrate the Biogas Milk Chiller in a crowd?

### How might we test it:

Create a Role Play with our sales reps, dairy cooperative reps, and target customers. The sales rep will use large presentation boards to explain various aspects of the product offering, to which the target customers can respond. The demo is recorded on video for further analysis.

Priority ranking #: 6

## 3 CONTRACT



### Most important question to answer:

How could we make the process for customers to acquire lease-to-own financing care-free?

### How might we test it:

A Simgas sales rep tells the story about lease-to-own financing to a selection of 5 target customers using a diagram to show the process, in 1-on-1 conversations. The customers indicate the points in the process that seem complex or infeasible.

Priority ranking #: 3

## 4 INSTALLATION & TRAINING



### Most important question to answer:

What is the best training that is to be given to the customers?

### How might we test it:

Install 5 Biogas Milk Chiller prototypes at 5 customers without giving a training: observe the product-user interaction and note what seems to be (mis)understood. Then incorporate the insights into the first design of the training and test it again with the same customers.

Priority ranking #: 4



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## 5 CHILLING MILK



### Most important question to answer:

Is the Biogas Milk Chiller easier to use than not to use?

### How might we test it:

Do a pilot with 15 models (1st series) of the product and have 15 customers test it for 3 months. Observe user-product interaction bi-weekly. At the end of 3 months, host a feedback session with each customer.

Priority ranking #: 2

## 6 MILK DELIVERY, MILK SALE & PAYMENT



### Most important question to answer:

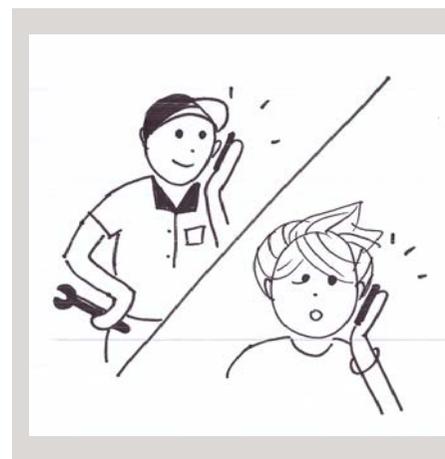
How to keep the rise of temperature of milk during delivery to a minimum?

### How might we test it:

Create 3 different models of insulation bags made to fit milk churns. Have them tested by 15 target customers (per model type: 5 target customers travelling various distances). Have a SimGas technician measure milk temperature before and after delivery.

Priority ranking #: 1

## 7 AFTER SALES SERVICE



### Most important question to answer:

To what extent is our existing customer service center capable of assisting customers with Biogas Milk Chillers?

### How might we test it:

Make a list of questions that specifically regard the Biogas Milk Chiller (technical questions, maintenance questions, payment questions, etc.). Have 15 customers make test calls to the customer service center.

Priority ranking #: 5



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## MILK DELIVERY, MILK SALE & PAYMENT



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Priority ranking #: 1

## MODEL 1: MILK CHURN MEETS WETSUIT

**Goal:** We've tested the effect of 1.5 mm neoprene insulation as a bag around the milk can. What will be the temperature rise after 2.5 hours (average milk delivery time)?

### Test setup:

- Two 5 Liter cans filled with water of 4°C
- Ambient temperature of approximately 23°C
- Starting temperature of the water: 5°C

**Result:** The temperature measured after 2.5 hours makes: 11.8°C when insulated, meaning a temperature rise of 6.8°C; 14°C when not insulated, meaning a temperature rise of 9°C.

**Conclusion:** With a 1.5 mm neoprene insulation covering the milk can, we could decrease the temperature rise with 2.8°C over a time of 2.5 hours in an ambient temperature of 23°C. If we would double the thickness and optimize the neoprene insulation, we think we could double the temperature decrease; this means going from 5 to only 9°C instead of 14°C. Next: iterate, and test again in the field!!

