



Save the Homes

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Executive Summary

This report presents the outcomes of Task 3.1: the Save the Homes renovation customer journey. The task's aim was to define and elaborate the Save the Homes renovation customer journey based on the two pilot cities, Valencia (Spain) and Rotterdam (the Netherlands). To make the customer journey realistic, this work was closely integrated and interrelated to other Save the Homes activities: establishing relevant contacts and collaboration with relevant key stakeholders in WP2, renovation and financing actions plans within WP3 as also engagement campaigns and roll-out activities within one-stop shops called Citizen Hubs within WP4 and WP6. The methodology introduced a general customer journey framework which was then elaborated by introducing different personas which represent the different groups in the two pilots regarding their views on sustainability and home renovation. However, the produced methodology presented in this report D3.1 can be adopted for other cities customer journeys. As part of the Save the Homes project, it was investigated whether this framework can be adapted for other European cities and feasibility studies were done for the City of Ljubljana (Slovenia) and Sant Cugat (Spain). Furthermore, the framework as elaborated customer journeys for two pilot cities were discussed with two umbrella organizations, International Union of Property Owners (UIPI) and Local Governments for Sustainability (ICLEI).



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1. Introduction

Investments in renovations of homes are vital for the environment, economy, and people's quality of life. Europe is struggling with an aging housing stock where only 10% of buildings currently have A or B class energy performance certificates. Next to that, the condition of a house is increasingly related to health due to demographic and climate change. Living in unrenovated homes can have major implications for your health while improved housing conditions may save lives, reduce health risks and increase quality of lives.

In order to limit the global warming, the carbon dioxide emissions have to be recused to zero. Buildings are responsible for more than 30% of the global energy consumption, so to reach the near zero-emissions goal, the global emissions from existing housing stock must have been decreased by 80-90% in 2050 compared to the levels of 2010. To achieve this reduction, the renovation rate of the EU existing building stock has to increase. The building stock has a large energy saving potential by i.e. improving thermal insulation, energy efficiency of technical installations.¹

Thus, by renovating residential buildings, an opportunity presents to achieve major improvements in health, comfort and well-being, and energy savings. However, the renovation process is complicated and unattractive for citizens due to many barriers in the renovation industry, such as the fragmented construction market and lack of affordable financing.

Save the Homes wants to stimulate home renovation demand and increase the home renovation rate in the EU while simultaneously improving people's health, living comfort, and well-being. This will be done by introducing the Citizen Hub, a one-stop-shop concept which allows all the services needed for home renovation to be provided to the client from a central location. The Citizen Hub will make renovation easier, faster and more affordable by providing the following services:

- Technical assessment,
- Technical offer,
- Contractual offer
- Access to affordable financing options,
- Monitoring and verification of work,
- Quality assurance,
- Independent support.

A customer journey framework has been created to get a complete overview of all the touchpoints during the renovation (demand, supply, onboarding etc) and to see how people go through decision making. The customer journey gives insight in the motivation and barriers of the citizens and how to assist the Citizen Hub can assist them better with the home renovation process.

This deliverable D3.1 contains the methodology, the action plan and elaboration of the Save the Homes customer journey defined for the purposes of this EU H2020 project. The renovation customer journey was defined to set and evaluate a model-based description of reality for the two pilots. In this task, the customer journey concept was elaborated for identified target groups living within the two pilots with all the stops. The customer journeys will be supported with the planned communication activities involving relevant key stakeholders (forming the Demand group of the Save the Homes Advisory Board), action plan with timelines in connection with Task 4.1, linked with marketing principles from WP6. The same methodology will be introduced for the follower cities.

¹ IPCC, 'Summary for Urban Policy Makers: What the IPCC special report on global warming of 1.5°C means for cities', 2018



2. Background context

2.1 Customer journey definition

The customer journey describes the experiences, behaviour, and decisions of a customer when interacting with a brand, service or company in the process towards purchasing of goods or services. The full process describes the entire journey. From the very first contact until completing the actions and being an ambassador after. The journey consists of several steps that are walked through from the customers perspective, the exact number of steps depend on the customer journey model, however when comparing different models for a renovation customer journey a general built-up can be seen²:

1. Awareness and orientation
2. Seeking advice
3. Selecting option
4. Execution
5. Experience (and inspire)

These steps are the base of the customer journey model and follow the decision-making process of the customer. The transition from one step to the next is crucial. The points of interaction between the customer and the company or brand are so-called ‘touchpoints’. The touchpoints link directly to the experience of the customer in each step of the journey. Each step has its own drivers and barriers which show the reasons for the potential customer to continue or to quit the process.



For Save the Homes, we translated these steps for renovations into:

- Onboarding
- Design
- Elaboration
- Construction
- In-use

² N. Nieboer and A. Straub, ‘How do customer journeys regarding energy investments look like?’ *Conference papers of the European Network for Housing Research (ENHR 2018): More together, more apart: Migration, densification, segregation ENHR, 2018.*

D3.1 – Save the Homes renovation customer journey

The general built-up suggests that the customer journey is a linear process. This is often true, however for market development it would be beneficial to include a feedback loop. This can mean that the journey of one customer continues in the journey of another: customers who have walked through the journey can *inspire* (last step) others by being an example and driver for customers in the first step of their journey. But also customers who have already done a home renovation could remain customer after the renovation, with after renovation services or in taking other home renovation measures at a later moment in their lives. The customer journey models suggest that the experiences of the customer have a fixed beginning and end, while in reality the building performance journey is ongoing and does not stop after a finished home renovation. It is important to keep homeowners interested in the (energy) performance of their dwelling and informed about new developments and possibilities of the energy efficiency products and services.



D3.1 – Save the Homes renovation customer journey

In developing and finalizing the customer journey we were also inspired by the results of the Horizon 2020 project [TURNKEY-RETROFIT](#). Turnkey Retrofit developed an integrated home renovation service, leveraging on the business operations of the project partners (4000 integrated building renovations conducted to date). The service is developed as a homeowner-centric renovation journey, transforming the complex and fragmented renovation process into a simple, straightforward and attractive process: all providers on one platform – [Solutions4Renovation](#), where trust is key.

A burden-free experience for the customer (homeowners or board of co-owners), this holistic service allows to manage and upgrade their homes in a simpler and cost-effective way. It will match end-users with the right building professionals and financial options, while assembling the local capacity for deep energy renovations.

At Sustainable Places 2020, Turnkey Retrofit held a workshop, bringing together several H2020 EU-funded projects which aim at creating or replicating innovative “Integrated Home Renovation services” throughout Europe. Each project aims at dramatically improving the quality of the renovation service by covering the whole “customer journey” from technical and social diagnosis, technical offer, contracting of works, structuring and provision of finance, to the monitoring of works and quality assurance. The participating projects were: Turnkey Retrofit, HAPPEN PROJECT, PadovaFit Expanded, Save The Homes, and re-MODULEES.

Next to that, Save the Homes partners also participated at the workshop by Turnkey Retrofit: Evaluating the customer journey in a One Stop Shop for home renovation. Participants were HAPPEN PROJECT, PadovaFit Expanded, re-MODULEES and Save the Homes. The Turnkey Retrofit [Process and impact evaluation strategy for the customer journeys](#), has been shared with the Save the Homes pilot and follower cities as it can serve as inspiration for Save the Homes evaluations elaborating on data collection tools, interviews elaborations, reporting documentation.

2.2 Barriers in the renovation industry

Renovating brings various barriers for homeowners, investors, cities, stakeholders in the demand and supply side, and financial institutions. These barriers hamper the large-scale (deep) renovation of the existing housing stock. The aim of Save the Homes is to identify these barriers and appropriately address them. Once identified in which phase of the customer journey a certain barrier appears and combining it with other factors (like drivers, touchpoints etc), we can adjust the services and communications more towards what the homeowner needs at that stage of their journey. The customer journey is all about bringing all the data together, so we get an overview of what homeowners are going through and use this to improve the process.

This section summarises the barriers that are most relevant to the homeowners. Four different categories are distinguished; financial, social, institutional, and business barriers

Financial barriers

- Lack of affordable financing
 - High upfront costs
 - High monthly costs
- Lack of financial expertise
- Time-consuming process of arranging financing

Social barriers



D3.1 – Save the Homes renovation customer journey

- Absence of organised, coordinated synergy between social collective interest, private collective interest, and individual interest.
- Lack of information and awareness
 - On renovation products and deep renovation options (fragmented process)
 - On financing
- Lack of clear view on total performances in practice (energy, IEQ, health and well-being)
- Lack of available and understandable information regarding real building performance after renovation: efficiency and comfort benefits.

Institutional barriers

- Real cost-benefit relationship between investments in energy saving measures and profits. It is difficult for financial institutions and investor to make a reliable assessment of the performance and energy savings of deep renovation concepts.

Business barriers

- Mis-adaptation of traditional construction market.
- Fragmented renovation market: supply driven instead of demand driven. No possibility for consumers to specialised services and tailor-made renovation concepts.
- Inability or unwillingness to see renovation as a positive, long-term investment and to assess the costs/benefits (investment return) accordingly.
- Difficulty in decision-making and fund unblocking in multifamily buildings.

2.3 Incentives to renovate

It is not only important to look at the barriers people might have to renovate and help them overcome these. It is just as important to know what drives homeowners towards a renovation and how this fits into the customer journey. To define the drivers, one must ask what the benefits for people are to renovate. Why do they want a renovation and what is in for them the most important factor? We investigated several drivers and made a list of incentives for people to renovate. We did not only look at drivers for homeowners (listed in black) but also investigated what might be possible drivers for contractors to work via a One Stop Shop (listed in blue).

Homeowners

Financial

- Enhanced access to:
 - tax deduction
 - subsidies and grants
 - loans
 - mortgages
 - etc.
- Investment increases property value and differentiates it from other properties
- Lower energy costs (helps being able to finance the investment)
- Learning about the available funding aid options
- Administrative support with loans, permits, etc.
- Creating trust in financing
- Help with decision making: a financial approach that helps to compare between current and future energy expenditure, taking into account the amortization of the investment, maintenance of the facilities as well as the income from the sale of energy



Energy saving

- Energy use reduction and the use of renewable energy sources helps the environment (reduce impact on climate change, improved environmental quality indicators)
- Contribute to a better future
- Reduce prevalence of energy poverty
- Information for decision making: pre-diagnosis and renovation options with potential energy related improvements
- Assessment of results: comparison before-after and planned-realised

Comfort and health

- Thermal comfort
 - Draft reduction
 - Reduction of cold radiation from windows / other cold surfaces such as walls or floors
 - More constant indoor temperature due to better insulating quality of building envelope
- Acoustic comfort
- Natural lighting: improved concentration, more energy.
- Moisture
 - Mould prevention
 - Indoor dampness reduction
 - Fixing of leakage / moisture sources
- Air quality
 - Improved air quality: improved concentration, more energy → improves mental and physical health
 - More insight in IEQ due to sensors / smart monitoring
- Information for decision making: pre-diagnosis and renovation options with potential comfort related improvements
- Assessment of results: comparison before-after and planned-realized (related to smart sensors and monitoring)

Trust/Convenience

- Most effective measures for the dwelling are identified by a trusted, independent actor ('filtering the noise')
- Access to trusted and verified contractors
 - Verified contractors with experience in coordinating renovation projects (scheduling with other SMEs and micro firms necessary to complete the job) and project managing skills allow faster renovation work, minimisation of disruption, potentially resulting in cheaper renovation works.
- Awareness of value of holistic renovation
- Tailor made renovation offers from reliable experts
- Transparent communication, quality assurance
- Development of a comprehensive renovation roadmap (with step-by-step measures and funding links)
- Get comparable offers from trusted and verified contractors



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- Renovation performance report: Comparison before-after and planned-realised
- Feedback enables: rating, satisfaction, sharing results
- Integration of quality assurance procedures into project execution instils trust to execute deep(er) renovation measures. (Quality assurance e.g. through a certain labelling system, certificate, etc. for trusted contractors collaborating with the Citizen Hub)

Contractors/SMEs

Increase revenue and market opportunities

- Increased access to projects and customers,
- Valuable networking opportunities (workshops)
- Increased expertise in state of the art technology (information and training)
- Aggregation of projects (via energy communities or collective purchases)
 - Standardisation of administrative and logistic procedures through project aggregation
- Increased perceived reliability by market (best practices)
- Training and increase in qualifications
- Greater visibility from the hand of the OSS that offers the consumer a greater guarantee and confidence
- Improved competitiveness in the context of sustainable public procurement



3. Strategy

3.1 Relation to other work packages

The customer journey task has a close connection to other tasks and work packages. There's a lot of work from other work packages that have a big influence on the customer journey. But the customer journey also brings important input for other work packages. To develop the customer journey, we worked closely together with other work packages. To make sure our approach for task 3.1 is clear, we want to emphasize the work that is closely connected:

Input:

To map the customer journey, we received input from the following tasks:

Task 2.1: Demand and supply side segmentation

Task 2.3: Supply side: Establishing dialogue and creation of the service supply network

Task 2.4: Supply side: Supporting services for the Citizen Hub

Task 2.5: Supply side: Mapped renovation solutions and supporting services to come to an integrated home renovation offer

Task 2.6: Mapping of financing solutions and schemes appropriate for the two pilots

Task 3.2: Overall design and architecture of the Citizen Hub concept

Task 3.3: Design of the Citizen Hub business model for the two pilots

All these tasks are related to shaping the OOS and therefore of big influence on the customer journey. Mapping the supply and demand side shows us who our target group is (Who will the "customer" in the customer journey) and shows us what we can offer. Next to that, the Citizen Hub is at the centre of the Customer Journey. It is the core of the touchpoints and therefore, how it will be organized is of great importance to able to map the journey people will have.

Output:

The outcomes of the customer journey mapping will serve as input for the following tasks:

Task 2.2: Demand side: Awareness, long-term engagement campaigns strategy and community building

Task 4.1: Engagement campaigns: 'Save the Homes on the move' elaboration to recruit homeowners

Task 6.3: Marketing plan and mix for each of the customers journey stops

Task 6.4: Elaboration of the marketing material for the two pilots

Mapping the customer journey will give insights in the complete process people will go through when they renovate with the Save the Homes OOS. With this knowledge, we can manage the campaigns better because we will be aware of the drivers & barriers and the process people go through.

3.2 Framework for the customer journey

The background information (Chapter 2) and the input from the other work packages (see the previous paragraph) have been used to create the customer journey framework. The elaborated framework can be found in the appendix.



D3.1 – Save the Homes renovation customer journey

Firstly, the five steps and their sub-steps have been defined based on existing journeys³ and one-stop shop⁴ concepts. These sub-steps represent the actions in the journey where the customer actively undertakes these actions or is actively involved in them. This forms the core of the customer journey framework.

The mapping of the demand sides has shown who the target group is, this has been translated to different persona's representing the different targeted citizen groups. Knowing the target groups means knowing their needs, emotions and barriers which have been translated to possible *drivers & barriers* that are linked to the relevant sub-steps in the framework. The same has been done with the possible contact points, called *touchpoints* in the framework, between the customer and Save the Homes.

Based on the barriers in the renovation industry and the barriers of the target groups, risks have been defined. These are again linked to the relevant sub-steps in the framework. The mapping of the supply (and demand) side has been used to define the financial and renovation guidance needed in each sub-step, the guidance is also directly related to minimising the dropout risks.

Lastly, the framework also includes the Save the Homes goals for each of the five stops.

³ MaREI, 'One Stop Shop digital platform: EU H2020 Turnkey Retrofit project no 839134', *MaREI Retrofitting Homes Symposium*, 2020.

⁴ J. Cicmanova, M. Eisermann and T. Maraquin, 'How to Set Up a One-stop-shop for Integrated Home Energy Renovation? A step-by-step guide for local authorities and other actors', 2020.



4. Save the Homes Customer Journey

4.1 Objective

The goal of the Save the Homes customer journey mapping is to get insights in the process that people go through when renovating with the Save the Homes Citizen Hub. The mapping also provides knowledge about the emotions, motivation and barriers of the customer. This knowledge is used to adjust the process to optimise the customers journey and the communication with the customer.

These will be discussed in more detail in section 4.2 Customer Journey. The stops, representing the different stages of the renovation process, are comparable to those seen in already existing research (see section 2.1 Customer journey definition). Each step of the customer journey aims to offer support and information at the right time to smoothen the renovation process. The five stops have been elaborated by linking the information from the other work packages (see section 3.1 Relation to other work packages) to the sub-steps taken and decisions made by the customer while going through the process. This way, a clear insight is given into what interactions are foreseen between the citizens and Citizen Hub facilitators and what the actions for the Citizen Hubs are per phase of the journey. Providing the right information and support at the right moment is crucial, therefore, the required financial and technical guidance has been mapped and linked to the different steps in the customer journey. This includes clear, and meaningful information about the renovation process, financial options, energy performance, IEQ and well-being impacts. What kind of *touchpoints*, information, and guidance is needed depends on the emotions, needs and wants of the customer at that point in their journey. These aspects are included in the customer journey as *drivers and barriers*. Relevant drivers and barriers are of course very person specific, therefore several possible drivers and barriers have been included in the general Save the Homes customer journey and these can be further narrowed down and specified when considering a persona specific customer journey. Knowing the emotions and barriers of a customer means that also the risks, which are possible *dropout moments* for the customer, can be defined per phase. The insight that is gained by mapping these risks and the reasons behind them helps in optimising the journey and preventing, or minimising, the dropout risks.

The customer journey mapping will be implemented for the two pilot cities, this will include adapting and specifying the general framework to persona specific journeys for each persona created for the pilot cities. These city-specific journeys will be used to shape the development of Citizen Hubs offers for each pilot case (Obj 1). After the pilots, the same mapping methodology, using the general customer journey framework as starting point and then specifying it further to the needs of the city's inhabitants, will be used to develop the customer journeys for the follower cities.

The customer journey framework as developed in this deliverable, will help reaching the following Save the Homes goals:

- a) 4500 homeowners made contact with Citizen Hubs throughout the project and made an appointment at the OSS office (from Stop 0 to Stop 1);
- b) 1800 of these homeowners did a deep renovation of their homes (from Stop 2 to Stop 3);
- c) 80% of the homeowners entering Stop 3 were satisfied about the quality of the journey and the quality of the renovation (Stop 4). The success indicators defined for each customer journey phase at the pilots are met.
- d) Customers journeys are mapped for the follower cities.



4.2 Customer Journey

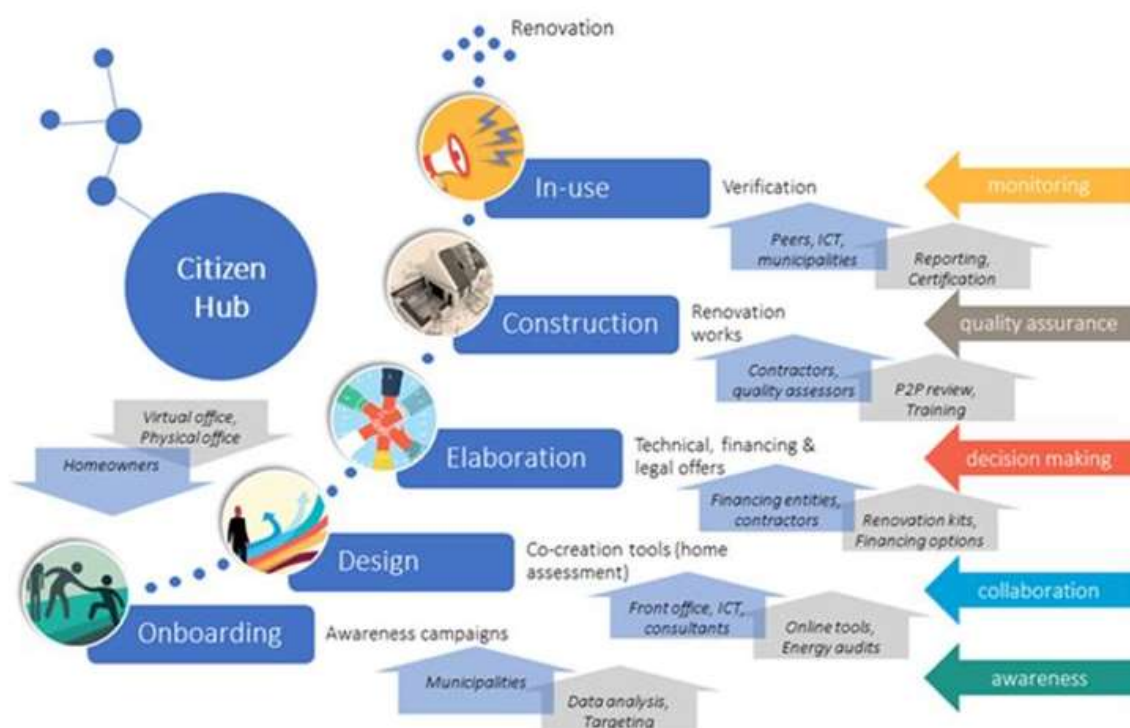
Each phase of the customer journey intends to ease the renovation process and makes the whole experience user-friendly and appealing. Each phase has its own goal where the overall aim is to drive decision-making and facilitate quicker renovation actions. The five phases of the Save the Homes customer journey are as follows:

- Stop 0: Onboarding
- Stop 1: Design
- Stop 2: Elaboration
- Stop 3: Construction
- Stop 4: In-use



The figure above summarizes the main objectives of each of the phases.

The figure below represents in visual the key objective, tasks, key stakeholders and key processes of each of the customer journey phases.



Stop 0

Objective based on people's needs and barriers:

Stop 0 is the **onboarding phase**. This is the start of the customer journey, the first touchpoint is establishing contact with the citizen with the aim to create an emotional response. The citizens will be approached in an informal way, both with online and offline campaigning. The choice of channel



D3.1 – Save the Homes renovation customer journey

will be based on the persona being targeted and the content of the campaign will be connected to the drivers and barriers of that persona.

Due to the COVID-19 pandemic, the focus in the pilots will be mainly on raising awareness via online channels (i.e. social media, news-email from the local energy community) or other channels with indirect contact such as radio or newspapers. Word of mouth is also a very important channel; local ambassadors can inspire their neighbours by sharing their success story, for example with video testimonies or an open house.

The next touchpoint after establishing first contact is providing more information to the citizen to increase their interest. The channels of this touchpoint are still indirect, such as information on the website or in informative emails. When citizens take the step of getting more involved and doing their own research they move from stop 0 to stop 1.

Main StH goal:

The goals in this phase are raising awareness and getting people curious. StH should show people the possibilities of a home renovation project in such a way that they will be enthusiastic and interested and thus take a next step: actively searching for more information via Save the Homes channels. Information in this first stage must be easily available and clearly show the citizen what Save the Homes is and what the benefits are as opposed to the traditional home renovation processes that people might have encountered previously.

Potential risks leading to drop-out:

One of the risks in this stop is that the targeting campaigns are not sufficient to reach the citizens. It is therefore very important that the channels being used are relevant for the targeted persona. Another risk is that the follow-up is too hard: citizens are not interested enough to look further into the project or do not encounter the right information (for them) and lose their initial interest which prevents them from moving to the next stop.

Already in this stop, it is important to match the expectations of the customer and the intentions of StH by providing a brief but clear explanation the process that the citizen will walk through when taking on a renovation project with Save the Homes. This will allow for a smoother process and less dropouts in later stages due to miscommunication and unmet expectations.

Potential touchpoints:

Touchpoints to establish the first contact could be:

- Campaigning in an informal, playful way at popular sports in the city
- Spreading awareness via community meetings or newsletters at neighbourhood and district level
- Social media (e.g. a post about Save the Homes on the page of the municipality)
- Ads in newspapers

After the first contact has been established possible follow up touchpoints are:

- Matchmaking events and information sessions (possibly via local community meeting)
- Website with information and interactive tools
- Sign up for playful/simple home assessments such as Sensi / 30 second test

The touchpoint where the customer seeks direct contact with the Citizen Hub is point where they move onto stop 1.

- Contact form
- Call
- Physical hub walk-in visit



Stop 1

Objective based on people's needs and barriers:

Stop 1 is the **design phase**. It focusses on providing information and tools to the citizen such that they can gain more insights and orientate themselves. At the end of stop 0, the homeowner has started their own research with the information and tools provided by the hub. The information and tools have to be provided to the potential customer in a customer friendly and digestible way. Different online tools are promoted to let people do a simplified version of a home assessment by themselves (BHG/Alliantie+ '30 seconds sustainable housing test' and IVE 'online energy audit for your home'). Renovation packages will be created tailored to building type and persona needs and drivers. With a first assessment of the dwelling, the tool can give an estimation of the renovation package(s) best suited to the homeowner and their dwelling. This will speed up the process due to aspects such as the main characteristics of the dwelling and the problems that the homeowner experiences in their dwelling already being known when the homeowner seeks contact with the hub.

With financial online tools (provided by different banks), users can according to the energy audit recommendations understand which scenario can be mobilized based on the needed investments. Further advice allows analysis of suitable and available financial schemes such as loan options, subsidies, and grants. This information will not only be available within a tool, also a simple and clear overview will be available (on the website and/or in a physical brochure) of the different renovation measures linked to the investment that would be needed to implement it and linked to the subsidies and grants that are applicable.

The homeowner can contact the Citizen Hub to get a personal appointment. The appointment, whether this will be a physical meeting or an online meeting, will be for the customer to get personalized advice on renovation package to improve the performance of the home in a confidential manner. The input provided by the customer in the tool will be taken further by OSS facilitator to combine products from different producers, craftsmen and allows to compare the prices in a single point (methodology from the H2020 TripleA-reno project). Building owners will be able to see for themselves how inefficient their house is by using existing tools, furthermore potential solutions are introduced streaming the most efficient renovation packages suitable for their home. Further financial advice will include the analysis of suitable and available financial schemes and, in the end, a provision of a summary guide of financial assistance (offer) specific to the renovation project is given.

Main StH goal:

The goals of this phase are increasing knowledge of the homeowner and giving them insight and trust in the process. Educating the homeowner is about increasing their financial literacy and making the financial process transparent. Another aspect is increasing the knowledge of the homeowner on technical level about to the possible renovation possibilities and the impact, not only regarding energy use and costs but also on the topic of comfort and health. The homeowner will also be informed about the process that they will walk through when joining Save the Homes; what the different steps are, what is expected of them, and what they can expect from the Citizen Hub.

Potential risks leading to drop-out:

Up to this point, all the advice, information and tools provided to the homeowner have been free of charge. At the end of this phase, an action plan proposal will be provided to the homeowner. In the next stop, this action plan will be tailored and personalised specifically for the situation of the homeowner, this will include services by professionals which cannot be free of charge. When the homeowner accepts the action plan proposal and wants to move to the next phase, they will pay a service fee for the upcoming advice. When the homeowner is not satisfied with the action plan offer, this does not mean that they automatically drop out of the program. Follow-up meetings with the hub can be organised to see where the needs and wishes of the homeowner are not met after which the plan can be revised and a new action plan proposal is made.



Moving from this phase with free information and advice to the next phase where a service fee has to be paid is the largest pain point of this phase. The hub has to be able to show homeowner the differences between the advice they received and what they will receive when continuing the journey. Uncertainty of homeowners in combination with the financial barrier forms a large dropout risk. Other risks in this phase are smaller, however not less important. Such as risks with regard to not having the right information and tools available, or not being able to convey the information in a way that is suitable for the homeowner. Another possible dropout could come up when the homeowner has issues seeking contact with the hub. Contact information has to be clear and easily available and the hub has to get back to the homeowner sufficiently fast to make use of the interest they had when initiating contact.

Potential touchpoints:

- Tools and information (on website and/or brochures)
 - Automated advice by the tools
- Contact form/information
- Appointment
- Advice fee (first real commitment)

The first touchpoint is the interaction of the homeowner with the information and tools available on the website. The second touchpoint is the homeowner actively seeking contact with the hub, this contact establishing can vary from the homeowner filling in a contact form and being called by the hub to plan an appointment to the homeowner visiting the physical hub location and talking to the staff.

Stop 2

Objective based on people's needs and barriers:

Stop 2 is the **elaboration phase**. This is the phase of organising the financing, renovation packages, decision making and preparing for the construction of the renovation works. In this stop, the real complexity of renovation is covered which makes it a stop with a high dropout risk, therefore the touchpoints are designed such that they ensure sufficient support to citizens. The main gain here is that the citizen is not left alone but will be guided through this process while getting the technical offer (assistance on choosing the right technical renovation package), financing advice (to find the most suitable financing option based on analysing the chosen renovation package and the personal financial situation), regulatory support (offering a contractual template and guidance on the legal aspects) in a holistic and understandable way.

First, the hub will assist the homeowner in choosing the right renovation package by providing more tailored advice and using more complex tools with customised options and results. After that, the hub can also assist with the preparation of the renovation works by providing contact information of trusted installers and contractors. Simultaneously, financial guidance is provided. The exact options for the homeowner are elaborated based on subsidy and loans analysis, and support is offered in obtaining the financing. The client cannot get a loan or subsidy via the hub, this has to be arranged directly with the bank, municipality, or government instance. However, the hub can assist the homeowner by explaining the process beforehand and providing checklists so the client has an easy overview of what steps to take and what information to provide to the financing instances.

When the financing has been arranged and the renovation professional has been hired, then the renovation contract with Save the Homes will be officially signed and the actual renovation process can be started which make the client transition from this elaboration phase to stop 3 where the home renovation works will take place.



Main StH goal:

The most important goals in this stop are informing and guiding the customer; making it easier for them to obtain the required financing, and clearly communicating the renovation offer in such a way that they are comparable to other offers/possibilities. The gains in this stop are guidance and full understanding of the process for the homeowner, trusted relationships with the staff of the hub, and assured quality of the renovation professionals recommended by the hub.

Potential risks leading to drop-out:

As mentioned before, the main risk in this stop is the high complexity of a renovation process as this can overwhelm the client and make them reconsider their willingness to renovate. Another risk is that the client is not satisfied with the design or with the offer, this either results in dropout or it takes the process a few steps back, possibly even back to the action plan presented in stop 2. There are also risks that not directly related to the hub, but are dependent on third parties such as communication with the bank and renovation professionals. Loans and/or subsidies getting declined is a risk that cannot directly be taken away by the hub, as interference between the bank and customer is unwanted. However, it could be possible that the Citizen Hub would have a contact person at the bank to contact when customers get back to the hub with problems regarding obtaining the financing.

Potential touchpoints:

- Home assessment
- Meeting renovation advice
- Meeting financial guidance
- Final plan (= renovation advice + financial advice)
- Offer(s)
- Signed contract

Step 3

Objective based on people's needs and barriers:

Stop 3 is the **construction phase**. The renovation will be realised according to the plan that was agreed upon at the end of stop 2. The renovation quality will be assessed during and after the renovation to ensure the total quality of the renovation works and provide evidence to the homeowners that their investments are well spent. To ensure quality, the stakeholders responsible for construction should be verified parties. This includes data on quality control, quality levels and needed skills, and training and skills development to perform good quality renovation works linked to the required quality levels (using input from IEE BUILD UP Skills and H2020 Construction Skills projects like the BuildUP Skills Advisor app, LoS).

In this stop, the customer will have direct contact with the contractor. The Citizen hub will provide tools (personal project dashboard) where both the homeowner and the professional doing the renovation works can keep track of the progress. The homeowner can give their opinion or state questions via questionnaires on this dashboard. The contractor will provide a periodic report by keeping track of the progress with the dashboard. This creates transparency and trust. When the renovation works are finished, the homeowner will receive a final report that concludes on the taken measures and their quality evaluation and the benefits of the home renovation. The Citizen Hub will also provide general information on the possibilities of installing smart meters and IEQ sensors and the advantages of monitoring dwelling performance.

Main StH goal:

Save the Homes wants to realise renovation works with a high quality and communicate the quality and progress in a transparent way to the homeowners. The aim is to gain general trust among the homeowners with regard to the quality of the renovation works and the benefits of the renovation.



This will lead to positive experiences which will be shared by homeowners, resulting in positive peer-to-peer communication about StH.

Potential risks leading to drop-out:

Risks in this stop are related to the process and quality of the renovation. The process itself has certain risks such as that the contractor cannot start soon enough, the planning is not adhered to, or there are unexpected (not informed beforehand) influences on the daily life of the homeowner. The other risk is that the quality delivered is not according to standards or that the renovation did not result in clear improvements in energy use and quality of the indoor environment. The risks in this phase are less likely to cause a drop-outs than those in the previous stops because the contracts have been signed and the renovation works have started, however, it will result in bad experiences and bad publicity.

Potential touchpoints:

- Personal progress dashboard
- Questionnaires (for homeowner and contractor during renovation works)
- (Periodic) report
- Satisfaction questionnaire (for homeowner after renovation works are finished)

Stop 4

Objective based on people's needs and barriers:

Stop 4 is the **in-use phase**. This stop focusses on monitoring the performance of the dwellings and educating the homeowners about the home improvements and the use of smart meters and sensors. The home improvements will be communicated to the homeowner with a validation report, the original dwelling's performance will be compared to the performance of the improved dwelling. This way, the homeowner has a clear overview of the improvements and their influence on energy use and IEQ. The monitoring data on the energy performance and IEQ will be translated to information interesting for citizens based on the methodology from H2020 MOBISTYLE & TripleA-reno project. The education about the home improvement and the (optional) installing of smart meters will help the homeowners to maintain a more sustainable way of living. It will be easier for them to stay actively involved with the performance of their dwelling and to make conscious choices regarding sustainability in their day to day life.

This phase also gives people to opportunity to share their opinion on the renovation works itself and the fully guided process of the hub. The homeowners' opinion (public or anonymous) will be used to further optimise the customer journey.

Main StH goal:

The goal is to educate homeowners about the improved building's state (energy efficiency, IEQ) as also to inform them how to maintain the sustainable way of life in the new indoor conditions.

The experience from city's early adopters (role-models) will be shared with other citizens to inspire them to join the movement; raising the overall awareness and acceptance of deep renovations and rebuilding trust in renovation work and its quality. The multiple measurable benefits will be highlighted (going beyond energy savings) that can nudge the homeowners to undertake home renovation to improve energy use and family wellbeing and health.

Potential risks leading to drop-out:

In this phase, the risks will not lead to a drop-out of the program. However, it may be the case that monitoring is not wanted by a customer with regards to privacy and data usage. The largest risk is that the improvement of the renovation works is not measurable, noticeable, or communicated properly



D3.1 – Save the Homes renovation customer journey

to the homeowner. The homeowner then may be unsure whether they got what they were promised. This or other bad experiences along the way could result in bad publicity instead of the positive showcases that are aimed for.

A risk for the project itself is that not enough homeowners will share their opinion on the end of their project, as this sharing of opinion will be used as dissemination in stop 0 to reach new customers. Also, little feedback means that the process cannot be optimised properly based on the customer experiences.

Potential touchpoints:

- Validation report
- Information / usage guide on smart monitoring
- Questionnaires



5. Follower cities

After defining the customer journey together with the cities of Valencia and Rotterdam and creating a customer journey framework for Save the Homes One Stop Shops, we set up a meeting to discuss this framework with follower cities Sant Cugat and Ljubljana. Here, we discussed the customer journey framework, the current initiatives in the follower cities and the lessons learned.

5.1 Sant Cugat

Sant Cugat has insights in the barriers to renovate for homeowners in their city and linked these to the relevant challenges addressed by Save the Homes.

Approximately a third of the population in Sant Cugat is starting to do some form of refurbishment to their dwelling, but this is not controlled or initiated by the Sant Cugat municipality. The refurbishment rate and the self-consumption of renewable energy is much higher for single-family homes than for multi-family buildings.

There are many tools and local initiatives already available, which are especially relevant for the onboarding, design, and elaboration phases in the customer journey. Some of these tools and initiatives come from the municipality of Sant Cugat, others are made available by private companies. Currently, the main challenge is that all these available initiatives are not linked together. One of the institutions in place is the Oficina Local d'habitatge (OLH), a local housing office, which offers advice on aspects such as the housing stock market, renting houses, municipal housing developments. It also offers aid for access to sheltered housing and rehabilitation of built houses. However, the OLH does not work in the area of energy efficiency or home renovation.

Important is to create a local (energy) office which links all the current initiatives together and makes it possible to strengthen and mobilise these valuable initiatives.

The customer journey methodology as set up for Save the Homes, will help in making the process more aligned to the steps home renovators take and it helps to bring different actors together. The customer journey also gives insights in how other cities (Rotterdam, Valencia) are approaching the One Stop Shop concept and how barriers are overcome in these cities. As a follow up to this, meetings will be planned for the municipalities to compare their customer journey and One Stop Shop approach so they can learn from each other and see if they can overcome similar barriers together.

5.2 Ljubljana

In Ljubljana, the current situation is that public buildings are being renovated, however the renovation awareness for private building owners is lacking. The current top-down approach made that a lot of information on the supply side and mapping of dwellings is already available. A bottom-up approach would allow to create more insight in the needs of the residents of Ljubljana and to create more awareness among private home owners. Save the Homes could help with awareness campaigns.

There is an energy office present in Ljubljana; Eco Fund, which is a Slovenian environmental public fund that promotes environmental investments. Residents can visit the office to get free advice. Also here, the customer journey framework can be used to optimize the One Stop Shop process and get better insights in the barriers and the motivation of homeowners and which factors in their journey influence their decisions.

Based on this meeting, another meeting will be set up between the municipalities in a later stage to compare the way people go through the customer journey and to see if they face similar challenges.



6. Conclusions

Save the Homes Customer Journey methodology was developed to provide a strategic approach for the local municipalities and relevant stakeholders organizations to understand better their target groups: homeowners. It has been an iterative process that had been discussed and shaped together with the two pilot cities (Valencia and Rotterdam). This proposed process was also in later stages discussed with the follower cities. The customer journey methodology has also been discussed with consortium partners having broad EU outreach (ICLEI and UIPI). One of important remarks was that for the homeowners, communicating co-benefits (health, well-being) can be crucial as this is what is important for the homeowners.

The work on Task 3.1 showed that having clear customer journeys combined with good marketing campaigns is essential in order to overcome the current barriers and increase homeowners' interest into renovations. Nevertheless, working on the customer journey mapping, it is clear that all these activities take time, and it will take time before convincing homeowners to commit to actual renovation measures. One of the observations during the customer journey mapping was that decision making process will take time, so it is smart to start small and then scale across to obtain relevant volume. Realization and reporting of the customers satisfaction during the customer journey stops and identified touchpoints is part of Task 4.6 and will be reported in D4.6. Offering step-by-step renovation might be valuable as in the end, it is about longer-term renovation plan where despite doing renovations in steps and therefore go through various renovation customer journeys, they can do more.

7. References

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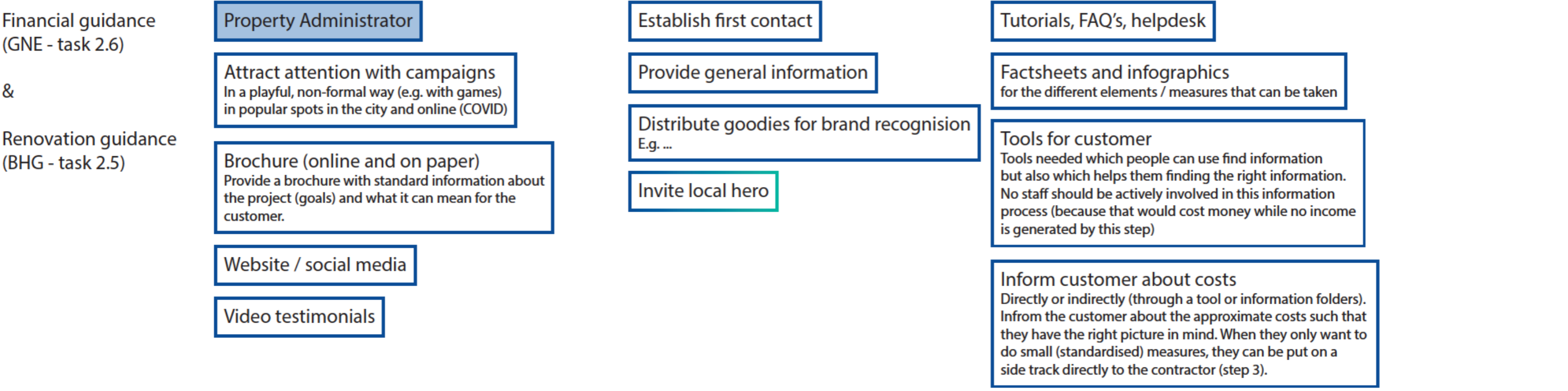
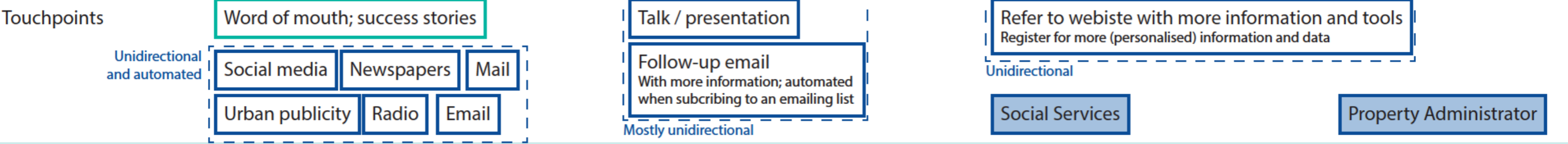
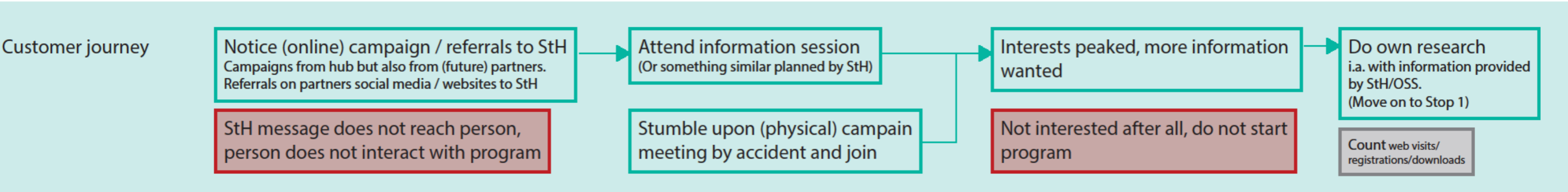
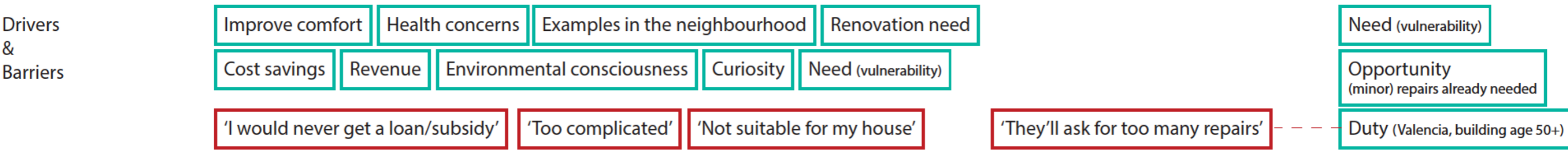
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8. Appendices

8.1 Customer journey framework

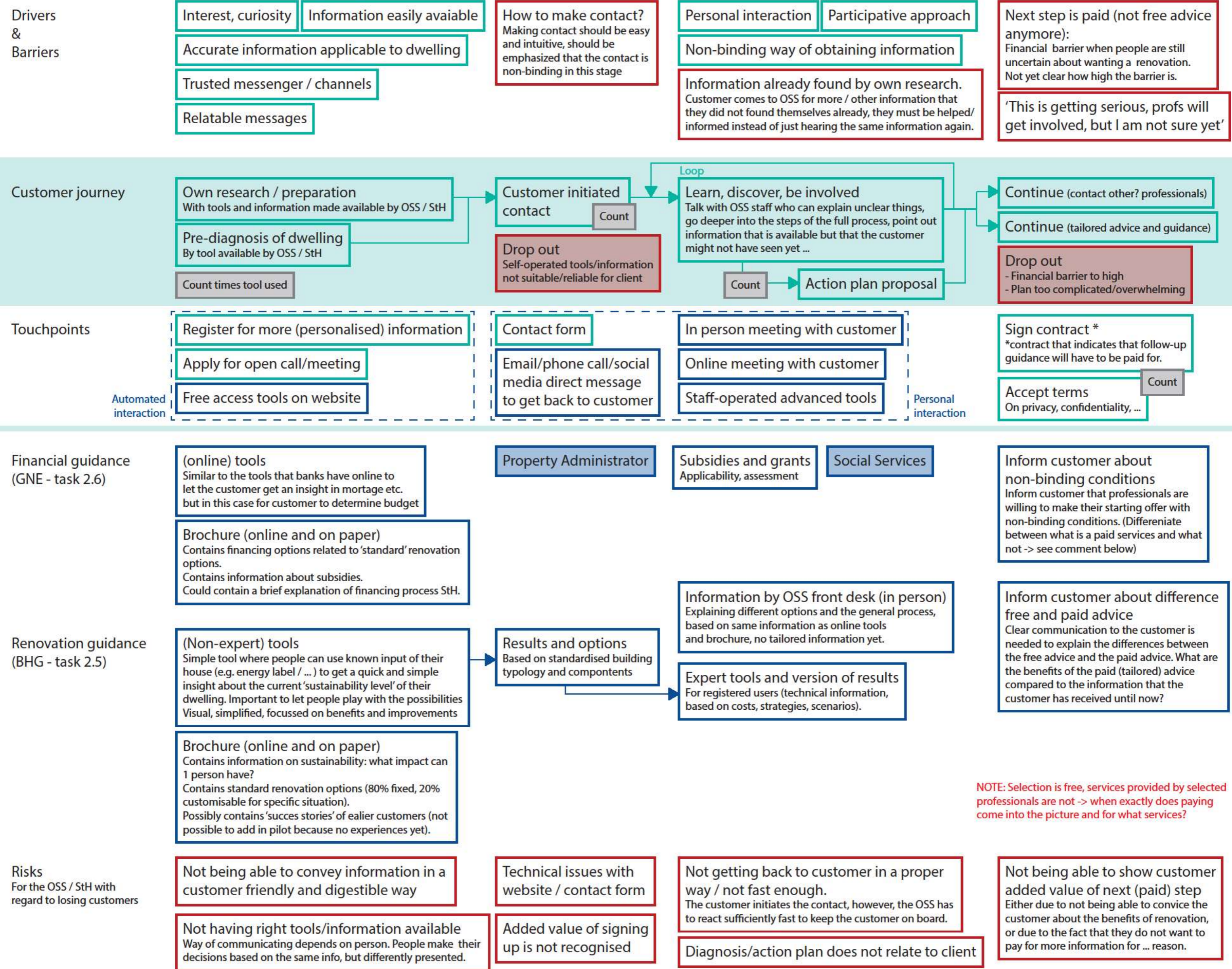


Stop 0: Onboarding phase



- Goals**
- Get project leads
 - Show people possibilities of project, make people enthusiastic so they take the next step in getting more information and getting more involved (Stop 1)
 - Make the brand recognisable so people will remember it when thinking about home improvements

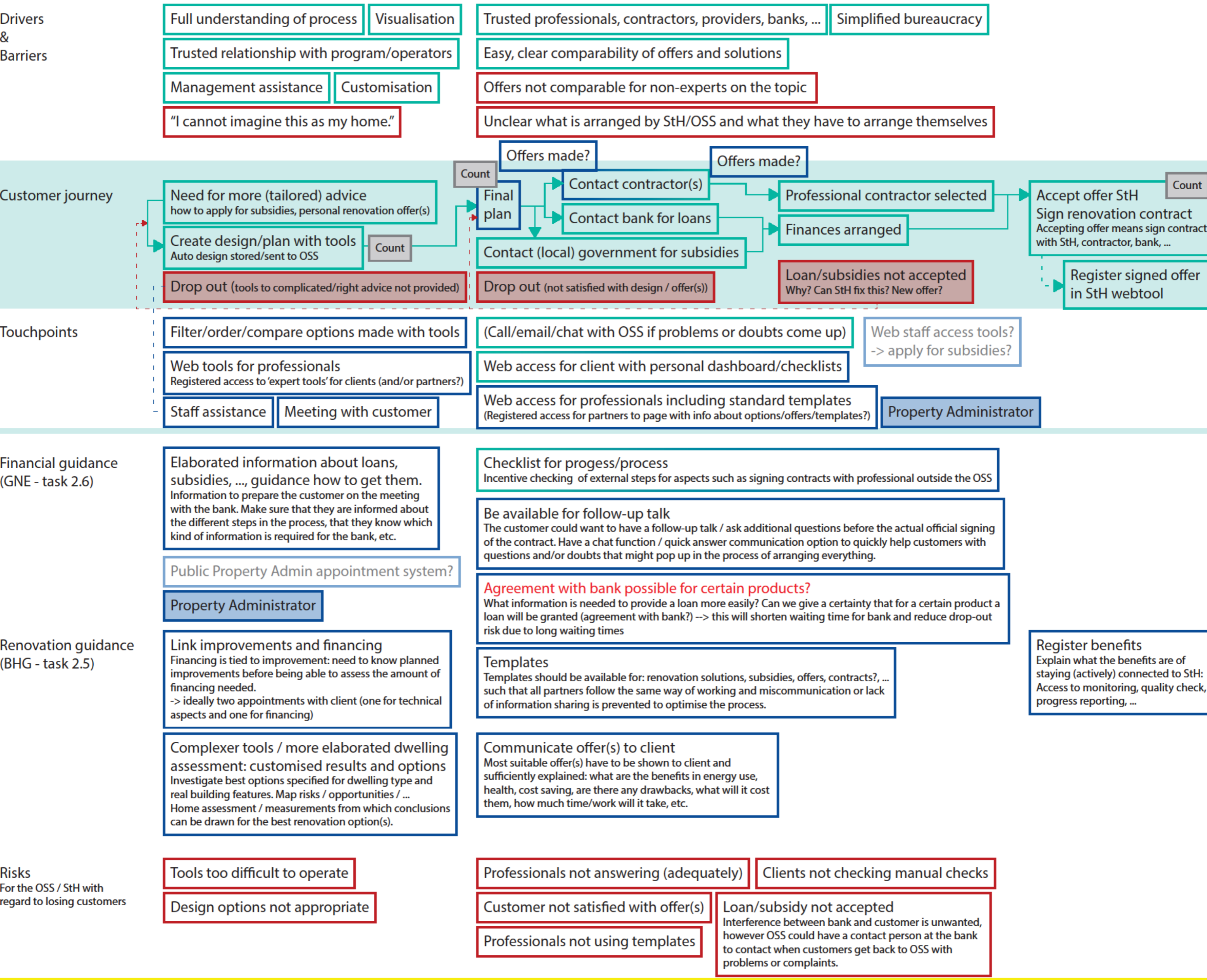
Stop 1: Design phase



NOTE: Selection is free, services provided by selected professionals are not -> when exactly does paying come into the picture and for what services?

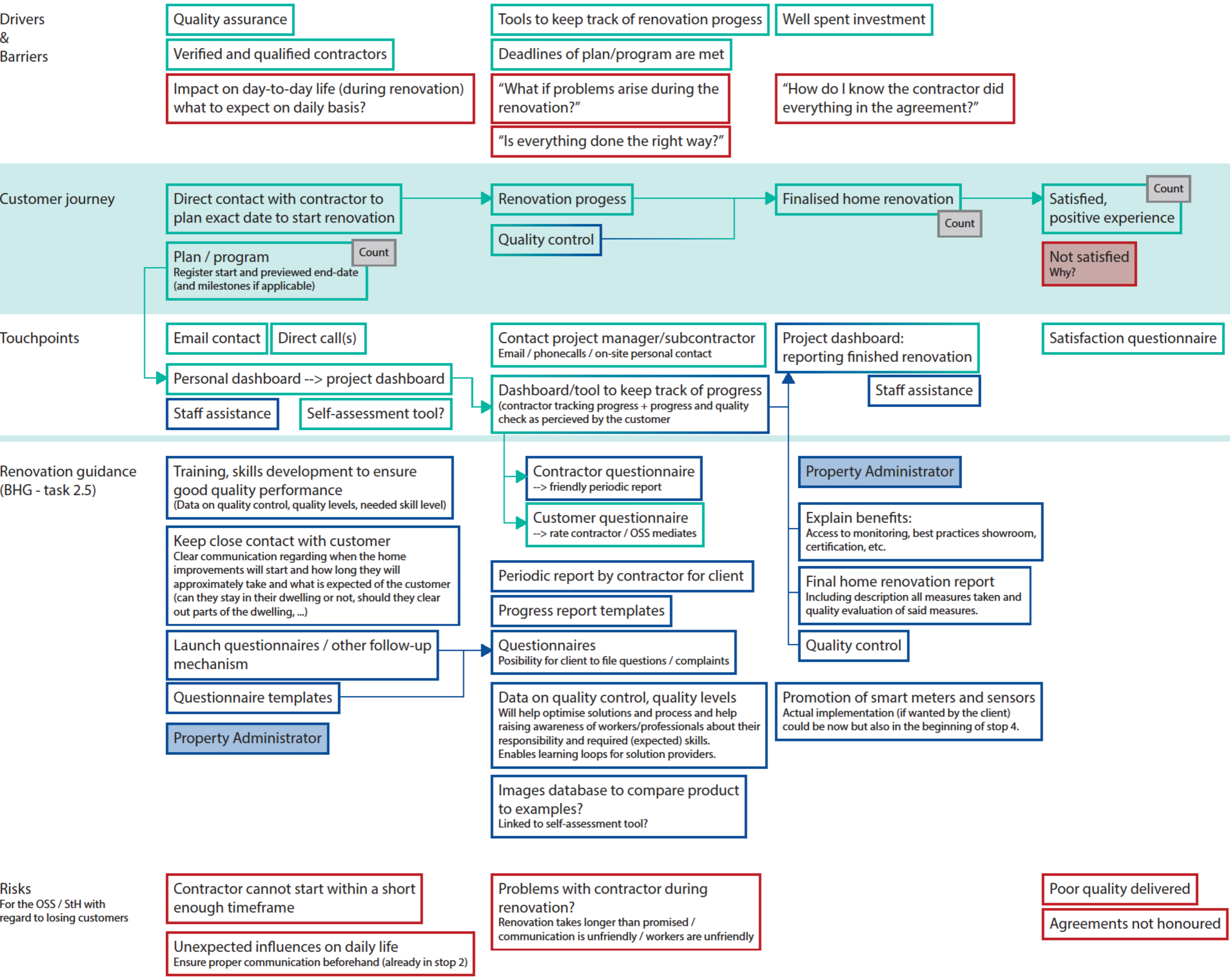
- Goals
- Increase financial literacy of customer; make financial process transparent.
 - Increase knowledge regarding renovation possibilities and impact of investing in sustainability (not only regarding costs / energy use but also regarding comfort / health).
 - Make customer enthusiastic and interested with prospect of smooth process.
 - Make people certain enough about wanting a renovation that they are willing to take the next step (stop 2) to paid advice and guidance.
 - (Filter out people who will not be able to proceed in later stages because e.g. financial problems.)

Stop 2: Elaboration phase



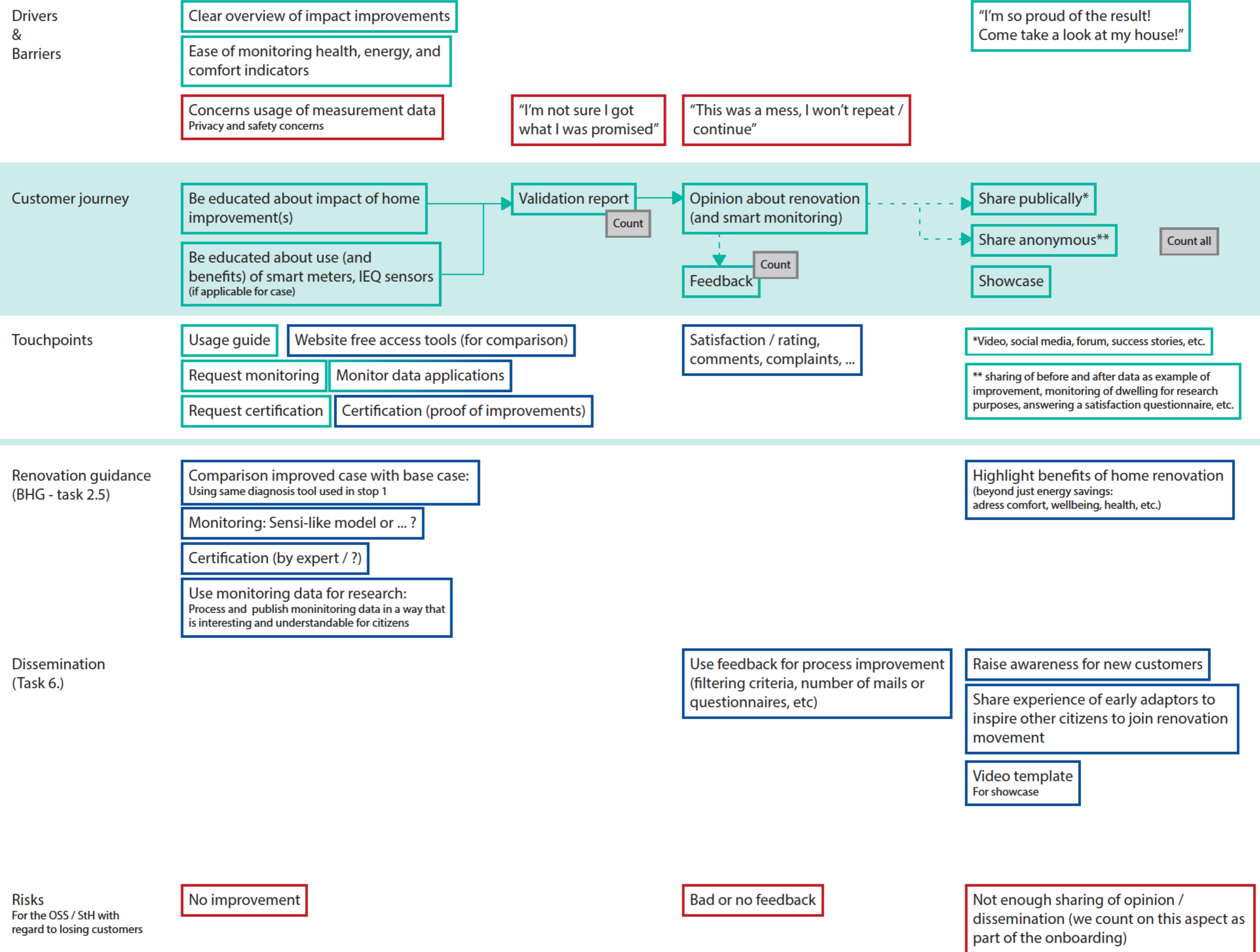
- Inform and guide customers in such a way that (organising, arranging, selection and contractual) financial aspects will not form a barrier anymore.
- Make it easier for customers to get a loan / subsidy in order to make it possible for them to actually go through with the renovation. (This goal should automatically be reached when the first goal is reached.)
- Clearly communicate the renovation offer to the client in a way that is clear and attractive to them.

Stop 3: Construction phase



- Goals**
- Ensuring quality
 - Proper renovation?
 - Giving clients a good experience such that they can share their experience (positive peer-to-peer communication)
 - Gain general trust amongst homeowners about quality and benefits of the renovation works

Stop 4: In-use phase



- Goals**
- Educate homeowners about improved state of building (regarding energy, health, comfort, cost saving, etc.)
 - Inform homeowners to maintain a sustainable way of life in the improved indoor conditions
 - Spread positive experiences of homeowners (peer-to-peer, role-models, local hero)
 - Raise awareness and acceptance of deep renovations and (re)built trust in renovation work and its quality