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RP3029e1 Driving a National Social Media Conversation on Energy Efficient Housing Stage 2 – Final Report



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The author(s) confirm(s) that this document has been reviewed and approved by the project's steering committee and by its program leader. These reviewers evaluated its:

- originality
- methodology
- rigour
- compliance with ethical guidelines
- conclusions against results
- conformity with the principles of the [Australian Code for the Responsible Conduct of Research](#) (NHMRC 2007),

and provided constructive feedback which was considered and addressed by the author(s).

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Acronyms

CRCLCL	Collaborative Research Centre for Low Carbon Living
CSIRO	Commonwealth Scientific and Industrial Research Organisation
HIA	Housing Industry Association
MVP	Minimum Viable Product
OEH	New South Wales Office of Environment and Heritage

Executive Summary

This project used the insights gleaned from CRCLCL Program 3 social research projects, particularly RP3029, to develop a web-based platform to support a transition to a low carbon and energy efficient residential housing sector. The platform provides a mechanism for renovators to socialise, discuss their renovations, communicate with trades and manage their renovation projects adopting renovation options in the process that minimises the environmental impact and carbon emissions of the house.

The project aimed to deliver a real outcome for consumers using CRCLCL research to inform project development at all stages. The major output of the project can be found at <https://demo.myrenovationplanner.com/>.

In building this website this project, RP3029e1 sought to do many things:

- To provide sustainability information direct to consumers, when, where and how it was needed during the renovation process.
- To deliver a public policy outcome (lower carbon housing) by creating a viable business which could operate without ongoing Government funding.
- To enable people to engage socially, via the web and in person, to harness the power of peer-to-peer and professional networks in support of low-carbon housing.

To achieve these aims the project participants used lean start-up methodologies, survey and focus group research, agile software development practises and aimed to learn fast and adapt quickly when necessary. From beginning to end the project shifted its focus and project output was altered in response to end-user feedback. The final project output has evolved into more of a planning and project management platform than a social media platform – albeit with a strong social component. The platform has tested well with its target market and the project participants are working with a prospective licensee of the technology to see it launched as a commercial website.

Project RP3029e1 has delivered a minimum viable product website, capable of being licenced to a commercial operator, which could support the delivery of carbon savings. The project participants will actively seek a third-party licensee to realise these benefits after the conclusion of the project.

Introduction

CRCLCL Project RP3029, the predecessor project to this project RP3029e1, researched and market tested the idea of developing a social media platform designed to build mainstream support for low carbon housing. Co-contributions from project partners totalled \$72,500 in cash and 1544 hours of in-kind contribution. The project was very successful at building a coalition of more than 60 supporters, a proposal for prospective collaborators, proposed governance framework and market tested video and messaging.

Project RP3029e1 Driving a National Social Media Conversation on Energy Efficient Housing took the output that RP3029 generated and tested (a social media platform for building and renovating), and made it reality by iteratively prototyping a website, testing it with consumers and building a business case to support its ongoing development beyond the life of the project.

Context

Householders do not currently prioritise sustainable and resource efficient features and practices for their homes at the time of renovation. CSIRO research has identified that terms such as 'sustainability' and 'climate change' have lost their motivating ability with the general public (Hobman and Ashworth, 2013; Romanach, Leviston, Jeanneret, Gardner 2017). Many of the persuasive co-benefits of energy efficient housing, such as health and comfort, are not being recognised and discussed in real estate and renovation information and media, despite these features being high on the typical purchaser's wish list. A representative study of householders, commissioned for the NSW Office of Environment and Heritage, found concerns about environmental impacts and increased cost of living do not significantly influence decisions on changes people make to their home (Bacchetto and Vittles, 2014). The main conscious drivers are based in 'personal perceptions as to what makes a home comfortable, functional', and perceived value relative to what is affordable. Furthermore, this research found that householders do not make the connections between sustainable features and their contribution to a more comfortable lifestyle and functional home. This lack of knowledge and awareness creates a barrier to the demand of features in homes that support a reduction in environmental impacts (Bacchetto and Vittles, 2014).

Although it could be initially assumed that increased information supply is required to increase uptake of energy efficient housing and initiate actions such as conversation, there is already a vast amount of information available in books, fact sheets and on-line from government, corporate and civil society sources. It appears that the process of disseminating the information is of greater and critical importance, and particularly the need to achieve active public participation in information exchange rather than passive supply of information from authoritative sources (see McKenzie-Mohr, 2011; Costanzo et al., 1986). To increase dissemination and uptake, it was proposed that a collaborative conversation could be conducted to respond to this need and this potential.

The RP3029e1 project sought to develop a platform designed to actively engage and influence mainstream audiences through the use of digital social media and television. It initially proposed an interactive, national, digital media based conversation on energy efficient housing. The iterative research and development approach taken by the project led to this goal being refined to focus specifically on renovators (as opposed to home buyers or other stakeholders), and aimed to provide the right information, in the right format, at the right time, to allow renovators to simply and easily integrate energy efficiency and other sustainability measures into their renovation.

Theoretical background

As mentioned above, there is available research on the concerns and interest of the Australian public for energy efficiency and low carbon energy sources and property development (see Hobman and Ashworth, 2013). There is also recent research on the perception of home owners, investors and tenants regarding terminology of energy efficient and sustainable homes (see Romanach, Leviston, Jeanneret, Gardner 2017).

Housing choices in Australia (including buying, building and renovating) have important implications for sustainability. The residential sector in Australia is responsible for 11.7 percent of all emissions, and ~25% of electricity-related emissions (NIES, 2015), and the large majority of energy consumption for residential housing is their ongoing operating energy rather than energy embodied in construction (Sartori & Hestnes, 2007). Since houses last for decades, choices relating to energy efficiency made during building and renovating have major “hard-wired” implications for energy consumption, as well as for water usage and waste generation. Further, changes in the behaviour of house occupants cannot completely overcome this hard-wiring: at least half of energy consumption in homes depends on design characteristics and appliances, the other half (or less) on usage behaviours (Janda, 2011; Gill et al, 2010). Thus, finding ways to influence house design choices can have major and lasting impacts on sustainability outcomes.

Crabtree (2005) noted that little was being done to institutionalise or normalise sustainability elements into housing design in Australia. More than a decade later, this concern is still valid. NSW BASIX and Victoria’s Green Star ratings systems have been implemented, but the vast majority of homes being built and renovated in Australia pay little to no attention to issues of running costs, sustainability of materials, or energy efficiency of major appliances. Average house size in Australia is large compared to comparable countries (although it has begun to decline in recent years), energy intensity is increasing, more affluent families tend to both have larger homes and to use more energy, and their usage is relatively uninfluenced by rising electricity prices (Fielding et al 2009)

The current residential market (including renovation as well as buying and building) is dominated by aspirations for improved lifestyle, and these aspirations are often incompatible with sustainability drivers to have and use less (Maller et al, 2012). In the public mind, sustainability is viewed as “desirable but unaffordable”, with higher purchase prices for “sustainable homes” being cited as a barrier, even though people recognise that such homes have reduced running costs (Yang and Zou, 2013), and despite modelling that shows the total costs over the life of a sustainable home are substantially lower, achieving payback in 12-14 years (Moore, 2014).

Promoting behaviour change in the face of strong levels of inertia cannot be successful through the simple provision of information (e.g. Maloney et al 2010). Rather, behaviour change requires substantial elements outside of information, either in the form of direct or indirect incentives, changes to how options are presented, or the generation of social pressure from examples of alternative behaviours. In this last respect, sustainability elements often suffer from being effectively invisible: with the exception of roof-mounted solar panels, most elements of sustainable design, like additional insulation, floorplan design for passive cooling, and higher-efficiency appliances are indistinguishable from the (less sustainable) alternatives. Thus, there is a strong absence of visible examples of sustainability elements which could help generate awareness, interest, or normative influence about these options. Consequently, finding ways to make sustainability elements more visible and relevant to people is an important precondition for larger-scale adoption of these elements.

Online discussion groups provide a convenient and powerful means of developing social momentum around a specific area or topic. Such fora allow ease of access, have reduced reliance on physical location, and allow for improved reach to many population segments (although they do systematically exclude people without internet access). Such groups can provide a rich source of social influence as well as information and advice to the participants. Simultaneously, they natively

generate extensive data about the structural and social aspects of the online community, with detailed information available about member numbers over time, posting behaviour, conversational content, and the network of relationships that develop in the online space (Ridings & Wasko, 2010).

Building on prior insights

CRCLCL Project RP3029 engaged a coalition of supporters to develop a concept for a social media platform business which would engage consumers. The coalition was primarily comprised of industry representatives with an interest in promoting residential sustainability. The project team, building on ideas generated by the coalition of supporters developed a website concept and branding. These were tested with consumers using large online surveys. Feedback from the surveys was used to improve the concept and a promotional video was created for the proposed website. The main findings of the project were;

- Unprompted, people very commonly reported that finding trustworthy information was a major concern when buying/building/renovating.
- People's impressions of sustainable housing mostly relates to solar panels and other renewable energy sources, as well as issues of water usage.
- Sustainable housing is predominantly viewed as more expensive, with some indication of environmental benefits – there is only sparse evidence of impressions that the running costs for a sustainable house are lower.
- Those surveyed responded positively to the descriptions/examples of the online resource, with a strong majority finding the notion appealing.
 - The online resource tends to resonate more with women, and more with people who are planning to buy a home, planning to renovate, and those who have previously renovated.
- The services within the online resource were viewed positively, with the majority of respondents seeing them as useful and informative. There was a minority opinion that such a service would cost money and/or that it would not be trustworthy.
 - More specifically, the brand narrative was generally viewed positively, as reflecting shared values and beliefs and as tapping into existing ideas of “what a home should be”.
 - The example website demonstration was similarly viewed positively, and people indicated that it looked interesting and that they would use it. A minority complained that the speech in the video was too slow.

“Build for Life” and “Home for Living” were the two brand names with the strongest positive reactions.

From the insights gleaned from the surveys and during video production a business case was produced which could be used to market the concept of the website to prospective funders and industry partners. CSIRO and OEH took this business concept and video through a business incubator program run by CSIRO – the ON Prime Program – in September 2016.

The On Prime program encouraged CSIRO and OEH to undertake 40 semi-structured interviews with builders and home owners/buyers/renovators to determine their willingness to pay for a service such as that described in the concept document and the video. Ultimately, the outcome of this program suggested that the concept of a social media website was too broad and the revenue base (online advertising) unlikely to be viable to support the business at scale. It was determined by CSIRO and OEH that the concept needed refinement before the website was built and

ultimately commercialised. A revised application to the CRCLCL for funding to support with work was successful and this project, RP3029e1 began in January 2017.

BlueTribe Co Pty Ltd was engaged through a competitive tendering process to undertake business development research activities and to build a 'Minimum Viable Product' (MVP) website which could be used to further test and refine the business model.

Methodology and Findings

Steering Committee and Project

A Steering Committee was formed comprising representatives of the CRCLCL, CSIRO, OEH and the Housing Industry Association (HIA). The SC agreed to pursue an action research/lean start-up approach to completing the project. This approach was chosen as it allowed the SC to iterate and agree on changes in business model, customer profile etc. as information came to light through the research. Action research emphasises experimenting and gaining feedback on what the researcher is doing in the course of an activity (in this case software development). The lean start-up methodology applied to business start-ups emphasises testing concepts with customers early, 'failing fast' (ie. accepting when ideas that seem great are unlikely to succeed,) and on experimenting with real customers as the business develops. An agile project methodology was applied to the software development process to ensure that changes in direction could be accommodated and built into the final product.

Procurement

As the two non-CRCLCL project participants were both Government agencies all procurement was bound by Government procurement and probity constraints. CSIRO and OEH staff managed the project, ran the steering committee and delivered various packages of work where internal skill sets allowed. Contractors and consultants delivered the work where internal capability and capacity were insufficient.

Various tenders and requests for quote were used to procure the consultants that delivered project work. The successful delivery of the project was tied to the ability of the contractors not only to deliver the specific packages of work required, but to be flexible in what and how they delivered the work. This presented some challenges for procurement;

1. Government procurement processes tend to focus on defining the scope of work very tightly and asking contractors to tender their price and a statement of their capability and capacity. This approach is not well suited to sourcing a contractor who is capable of delivering work towards a moving target within a broad budget envelope. The project team settled on a tender request which asked contractors to nominate the skills and experience they would bring to the project within a specific budget. Tender evaluation then ignored price and evaluated responses exclusively on the basis of how well they could meet the required skills, timelines, outcomes and other project requirements.
2. Procurement processes also tend to favour splitting services across specialist contractors as this makes refining scopes and evaluating responses simpler. Again, when the project requires multiple skills to be deployed quickly and in an integrated way this is not helpful. The project team chose to procure a central contractor to build the MVP including user experience design, wire framing, prototyping, user testing and business case development. The successful contractor acted as a project manager, and as a standalone CEO/CE with entrepreneurial and commercial capabilities that acted in the best interests of Build4Life. The successful contractor adopted a sub-contracting approach to ensure that it could deliver across the full gamut of services and was able to compete successfully with much larger firms by using labour sourcing platforms to bring highly skilled individuals together in a project-specific team. This approach proved to be cost effective and efficient. The final deliverable was a MVP (minimum viable product) with a commercialisation pathway and could be licenced the a third party to delivery. Having a project manager who acts as a CEO allows them to maintain a long-term vision for the project by being a potential licensee of the MVP Intellectual Property. The result from the project is a commercial business model that tackles societal problems which is the definition of a social enterprise

Overall maintaining flexibility in what and how the contractor would deliver for the project was critical to the success of the MVP. Although the project team recognised the need for flexibility early it was not easy to use pre-existing procurement processes to deliver the outcome and there was some luck involved in the contractors deployed to the project.



Preliminary business development research

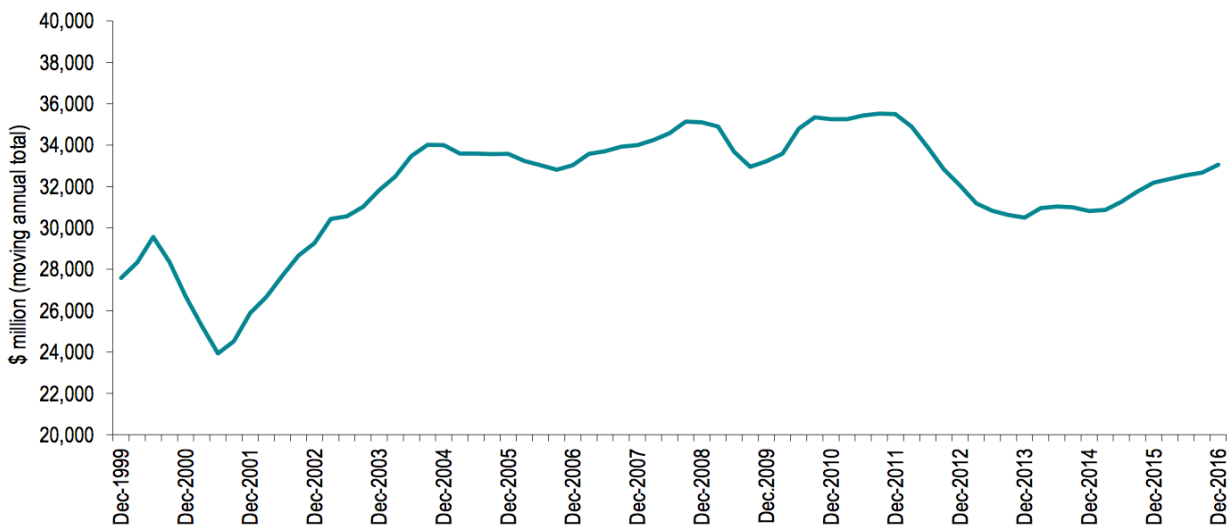
Building on the research undertaken for RP3029 on the size of the building and construction market, the SC agreed that BlueTribe should complete a desktop evaluation of that information seeking a market niche that might offer a more feasible path to commercial success. It was determined that the home renovation market would be the most feasible sub-market to address. This was because:

- Research shows that renovators often miss opportunities to improve the sustainability of their homes due to the complexity of the renovation process;
- The market is large enough to allow a platform business to survive at scale;
- The renovations investment has been relatively steady since 2004 (showing a significant increase from 2001-2004 which also coincided with the smash hit TV program “The Block” which premiered on 1 June 2003);
- This steady trend appears to be associated with past new home building patterns resulting in the number of detached houses in the 20-30 year age group being relatively flat in recent years.

Figure 1 Renovation Investment Trends 1999 to 2016

Renovations Investment in Australia - Moving Annual Total

Source: ABS 5206



- Over the next decade, the number of homes in 20-30 year age group will decline but those in the 30-40 years age group will rise by over 14% providing a relatively consistent pipeline of renovation activity for the next 10 years.

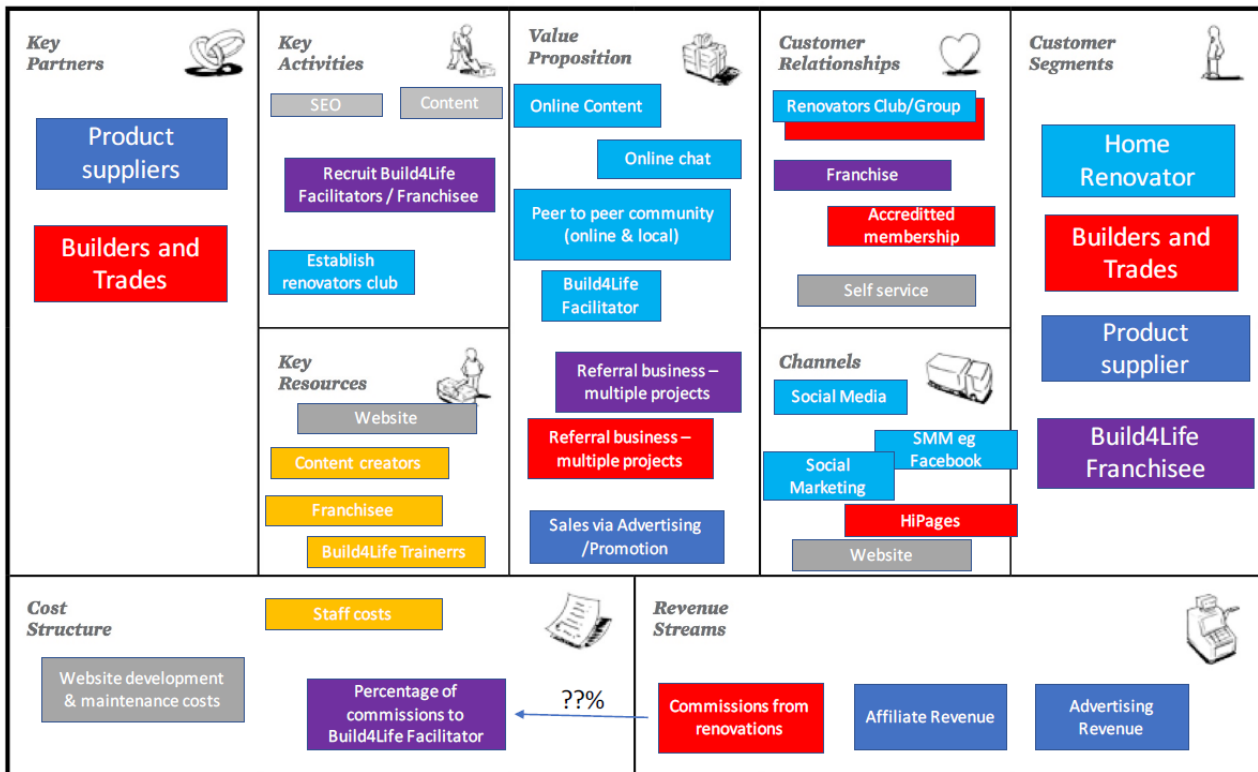
The SC agreed to focus the project on developing the website for renovators and that the proposed business model for Build4Life would connect renovators with service providers within a trusted peer network of other renovators within their own local community.

The unique selling proposition of the proposed business model, and a major point of departure from the original website concept of RP3029, was that a local Build4Life facilitator would be employed by the business to convene local renovators clubs to share knowledge, referrals and create social connections for its members with others in their area. This approach built on the social element of the original concept, localised it further and added a face to face component.

Business Model Canvas

The revised business concept was then developed further in a series of workshops during which a Business Model Canvas (BMC) derived from Osterwalder (2004) was used as a method of visually arranging and interrogating nine elements of a business idea. After many iterations, workshops and discussions a final business model for the MVP was agreed by the SC.

Figure 2 Business Model Canvas



The Business Model Canvas helped to define the value proposition of the website for its various users as an online resource that provides quality content, a connected community, and peer to peer support via local Build4Life facilitators for everyone interested in renovating their home to achieve a safe, healthy, and economical home.

Key product/services were defined as:

- Online content eg. how to; design inspiration;
- Online chat to give real time response to queries (could develop chat bot around Liveability principles to direct enquiries to content);
- Pinterest style boards to store visual renovation ideas; and
- Local Build4Life facilitators;
 - Would be a local franchisee of Build4Life that would convene/connect local people with others undertaking renovations e.g. renovators' coffee club,
 - Would help with information from Build4Life, and
 - Would help connect with local suppliers (perhaps linkage to HiPages) and/or suppliers for work – perhaps help get group discounts from suppliers or suppliers.

Customer Profiling

Following agreement on the business model the SC directed BlueTribe to undertake a demographic analysis of the likely customers of the website. Two board groups of customers were identified - renovators and suppliers.

Renovator Demographic Profile

Based on the BlueTribe analysis, a core market segment that the business model would focus on was couples (with and without children) in the 34-54 age range.

Motivations to Renovate

The top 5 reasons for undertaking a renovation were as follows:

- 35% renovate because they now have time to do it,
- 34% renovate because they now have enough money,
- 30% renovated due to a home purchase (move in and met people in your area)
- 22% Adapting to family change,
- 15% Renovate after discovering something that needs repair (opportunistic)

Renovation Spending Profile

The average renovation spend is \$68,300 although this amount varies depending on the age group.

- 25-34 year olds average spend on renovations is \$41,200.
- 35-54 year olds average spend on renovations is \$80,300.
- Those older than 55 on average spend \$57,500 on renovations.
- 89% hired a specialist trade e.g. 71% electrician, 57% plumber, 40% carpenter

Home Characteristics

82% renovating detached single family dwelling with 80% older than 20 years.

Top challenges facing Renovators

Based on a Houzz 2015 survey the top 5 challenges facing renovators are as follows:

- 36% finding the right service provider
- 32% Finding the right products and materials
- 28% Staying on budget
- 28% defining style
- 27% funding/financing project

Key Influences

The following are the top 5 key influencers for renovators:

- 68% own ideas
- 57% internet searches
- 50% Builder
- 48% family and friends
- 41% hardware store

Other characteristics

Over half of renovations take 6 months or longer in planning through to start or work.

Trade customer profile

In the proposed business model, Build4Life acts as a platform to connect renovators with service and product suppliers with an overarching mission to help deliver sustainable renovations across Australia. Therefore, the other key customer segment is the suppliers. At the time of preparing this analysis, limited information was available for this customer segment. According to the HIA 2017 Renovations Roundup report the following are some of the key characteristics of suppliers in the renovation market.

Market Size

Market size for renovations in Australia \$33billion

Typical Business Size

- 25% sole trader
- 52% 1 to 5 people
- 13% 6 to 10 people
- 7% 11 to 20 people
- 2% More than 50 people

Most Commonly Hired Specialists

- 67% electrician
- 66% plumbers
- 59% painters
- 58% carpenters

Renovation Project Values

- 3% less than \$5k
- 22% \$5k-\$12k
- 20% \$12k - \$40k
- 6% \$40k - \$70k
- 5% \$70k - \$100k
- 13% \$100k - \$150k
- 10% \$150k - \$200k
- 11% \$200k - \$400k
- 9% More than \$400k

Home Typology

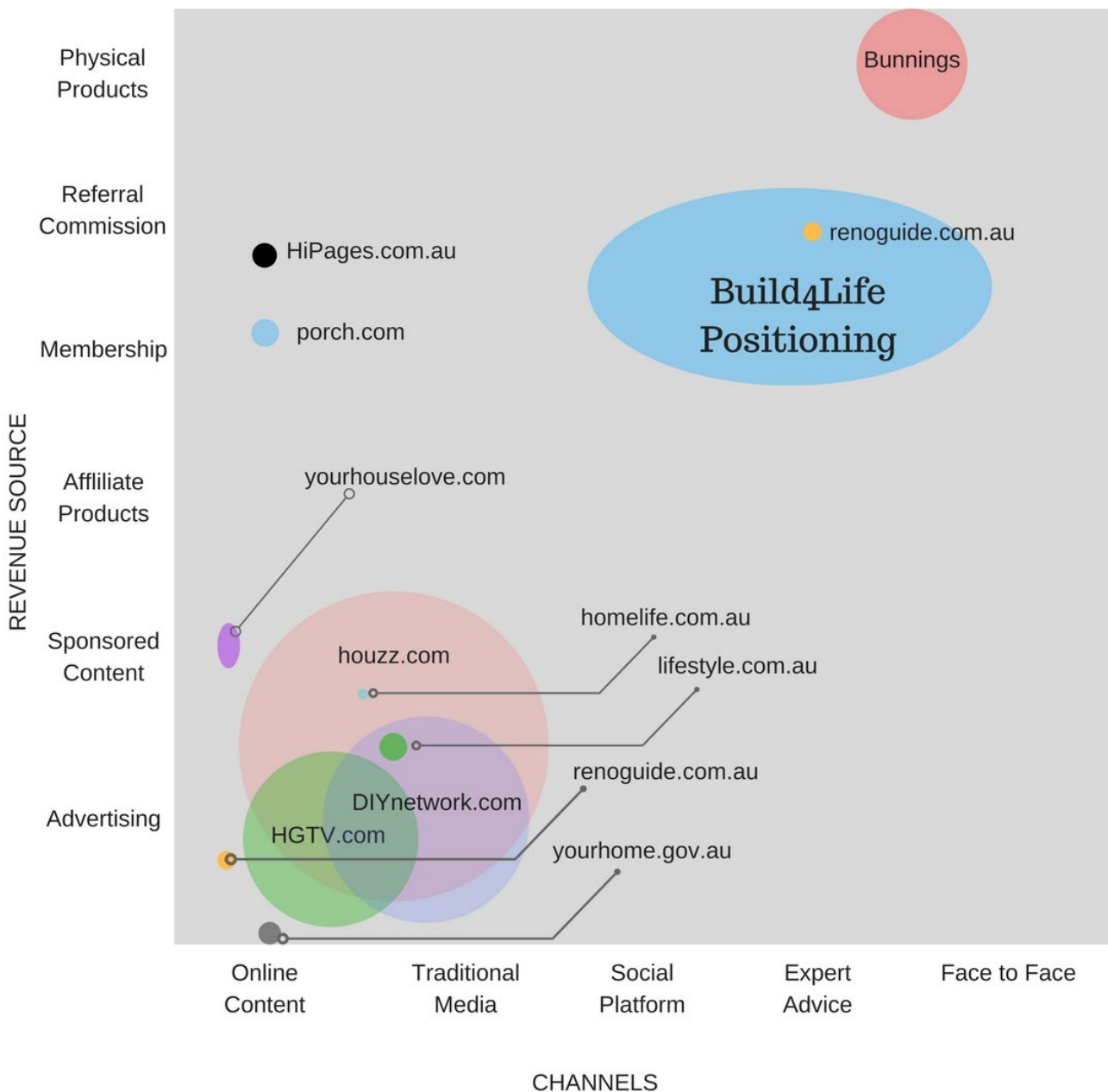
85% detached houses with 77% older than 20 years (29% between 21 and 30 years)

Competitor Analysis

Once the customer profiles and the business model had been established a competitor analysis was undertaken to determine whether other businesses operated in the market. This full competitor analysis can be found in the supporting documents.

The following strategic group map undertakes a comparison of the renovation sector for businesses identified as potential competitors to Build4Life. The strategic group map compares two primary characteristics of the companies; the channels through which they engage with their customers and the primary revenue source for the company. The size of the bubble represents the relative audience/website visits for each company.

Figure 3 Strategic Group Map



The competitor analysis and Strategic Group Map identified that the proposed business serviced a large potential market and was relatively free of direct competitors. On the basis of this, the SC agreed to pursue the development of the MVP.

Customer Journey Mapping

A workshop was then conducted to develop the framework for the MVP. The SC members participated in the workshop and BlueTribe facilitated. The workshop utilised a story mapping technique derived from the software industry and agile development. It is based on understanding a user's journey through a product, how they use the product, and the process they follow. The following is the five-step process used to develop the MVP using story mapping.

- Step 1. Identify the primary goal of the product. What should the software do and what problem is it trying to solve?
- Step 2. Define the process. What process would a user go through using the product ie. what tasks would they need to perform?
- Step 3. Create features list. In this step, workshop participants go through a brainstorming process to identify the features of the product that the user might want to see at each stage of the process. In this step, the SC did not look to prioritise the features but simply to identify features that might help the user solve a problem.
- Step 4. Prioritise the features list. In this step the SC organised and prioritised the feature lists. This was done by considering the following questions:
 - How important is the feature to completing the task?
 - How often will the feature be used?
 - How many users will use this feature?
 - How much value does the feature deliver to the user?
 - How difficult is the feature to implement?
Based on answers to these questions the SC organised the features under each task of the process from highest to lowest priority.
- Step 5. Define the MVP. Once the list of features was prioritised, the SC defined the key features necessary for our MVP. The MVP should represent the minimum number of features that are essential to providing the user with the necessary experience of the proposed product, remembering that we were seeking to test our key assumptions with the MVP.

Figure 4 Customer Journey Map Schematic

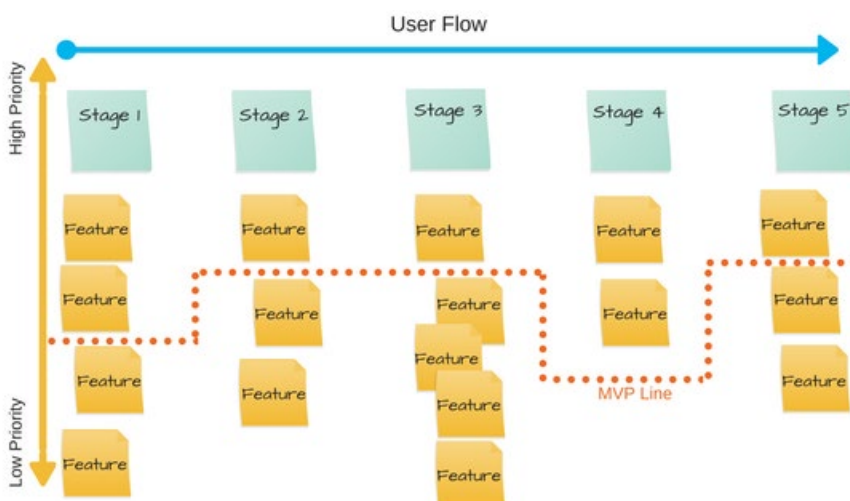


Figure 3 Example Customer Journey Map from the facilitated workshop



Figure 5 Extract from final Customer Journey Map developed during the facilitated workshop.

Why	Fantasia Design	Research Renovation	Collate Ideas	Seek Advice	Plans/Scope	Quotes	Redesign Rescope	Select Trades / Service Provider	Project Phase	Pay Trade	Renovation Complete	Post Renovation
Ethics /privacy approval. Opt-in	Pretty content	Moderated forum (Facebook messenger)	Online Scrapbook – Pinterest API?	Facebook group (local)	Find a professional eg designer, planner, arborist, engineer, energy rater etc	Find trades, local referrals, trade ratings	Social network	Way to view all quotes together - comparison	Scheduling tool to track progress eg book in access to home	Online payment options – Paypal, Credit card, EFT, bit coin	Social share and link to scrapbook. Show off reno feeds into local content	Referrals
Real estate agent referrals	Design trends content made local	Local stories, video stories from renovators club	Scoop.it interface	Facebook messenger to “talk to an expert”	Plans suitable for quoting	Request quotes online	Advice on where to save costs	Way to accept quotes	Payments tool	Escrow service (third party integration)	Automatic feed to facebook group	What I did survey / data capture (use for content creation)
MVP Line		Look for ideas like min	Online account – sign up process	Find people with similar reno	Prize submission process	Receive quotes online		Trade profile – insurance, licence etc, green smart training	Post project status eg photos, stories		Photographer referral / discounts	Trouble? Who to contact
		Read reviews and personal stories of planning processes	Push notifications of friends activity + notifications to facilitators	Renovation coach (moderators)	Floor plan feature eg integration with Google Sketchup	Help comparing quotes		Ratings and reviews, where to source? Review feature for trades	Gold, silver, bronze status for?		Reviews and feedback – write recommendation – how to create incentive to do this	Become a facilitator
		User generated content	Ability to request and collect survey	Renovators club members invited to facebook group	Help with specifications	Break down of costs (standard quote templates)			Database with trade details		Collect relevant compliance certificates	Provide maintenance scheduling and care guides
		My council planning requirements	Visualisation tools	Budgetting tool	Help – I want to talk with	Trades able to input dates			Peer advice		Process with how to deal with XYZ problem	

Developing the business model

Development of the prototype business and website followed three key stages:

- Establishment of pilot renovator club networks;
- Establishment of a trade network; and
- The development and testing of the Build4Life MVP.

Renovators Clubs Recruitment

Initially the project team set up a pilot renovators club to test the viability of local social networks of renovators and the role of the Facilitator. BlueTribe advertised for and found a person suitable for the facilitator role. The facilitator had significant personal experience in renovating and strong local networks, both characteristics predicted by the project team to be important to the success of the business model. This employee and the BlueTribe CEO were trained in basic residential sustainability using a modified version of the 'Liveability' training program operated by CSIRO and supported by the CRCLCL under project RP3039.

The recruitment of the pilot renovator clubs was done by focusing on specific suburbs that matched the customer avatar criteria. Specifically, the project team aimed to identify suburbs with housing stock aged 20-40 years, with households comprised of couples aged between 35 and 54, with and without children, and with incomes greater than \$100k per annum.

A pilot group was established in the Newcastle area. Renovators were recruited from Facebook and via local area letterbox drops. The pilot group targeted customers who fit the Renovator profile established earlier and sought:

- Couples with children who have just purchased a new home;
- Couples with or without children who need to renovate to accommodate changes in family circumstances;
- Couples without children who have just purchased a new home; and
- Couples without children who were renovating for other reasons.

Figure 6 Renovators Club letterbox drop



build 4 life Newcastle Renovators Group

Renovating is too stressful to go it alone.

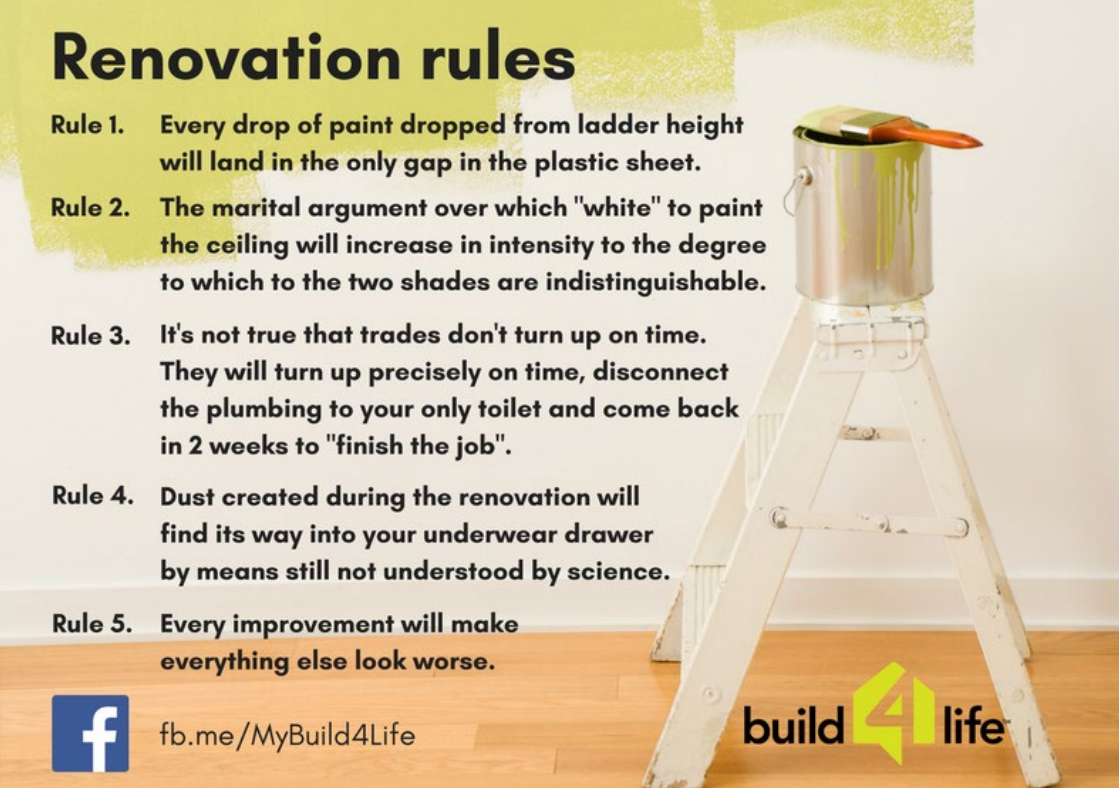
Join over 60 other renovators from around New Lambton Heights in our local Renovators Facebook Group.

- Get the information you need.
- Connect with trusted suppliers.
- Get design ideas.

Just visit our Facebook page and click "Visit group" to join.


 fb.me/MyBuild4Life

Because renovating is more fun together.



Renovation rules

- Rule 1.** Every drop of paint dropped from ladder height will land in the only gap in the plastic sheet.
- Rule 2.** The marital argument over which "white" to paint the ceiling will increase in intensity to the degree to which to the two shades are indistinguishable.
- Rule 3.** It's not true that trades don't turn up on time. They will turn up precisely on time, disconnect the plumbing to your only toilet and come back in 2 weeks to "finish the job".
- Rule 4.** Dust created during the renovation will find its way into your underwear drawer by means still not understood by science.
- Rule 5.** Every improvement will make everything else look worse.

 fb.me/MyBuild4Life

build 4 life

The letterbox drop yielded a conversion rate of 2%.

Renovators were also recruited to a local Facebook group. The Facebook group membership overlapped with the Renovators Club membership and was used to observe interactions and to test the usefulness of online social media to support renovators. A typical recruitment advertisement is shown below.

Figure 7 Renovators Club recruitment advertisement

Kathryn Heatrick shared **Build4Life's** video. ...
November 10 at 10:03am

Please share this video with friends, family and colleagues. We would love for more local renovators in New Lambton, New Lambton Heights, Lambton or Rankin Park to join us, share ideas and tips and join the conversation.

We look forward to welcoming new members and we are planning our first social meet & greet to start connecting with information and professionals in order to make this renovation journey much more enjoyable.

Watch the video, click the link, join in!

Renovations can be stressful without the right knowledge or help

363 Views

Build4Life
Published by James McGregor [?] · November 5 at 6:51am Like Page

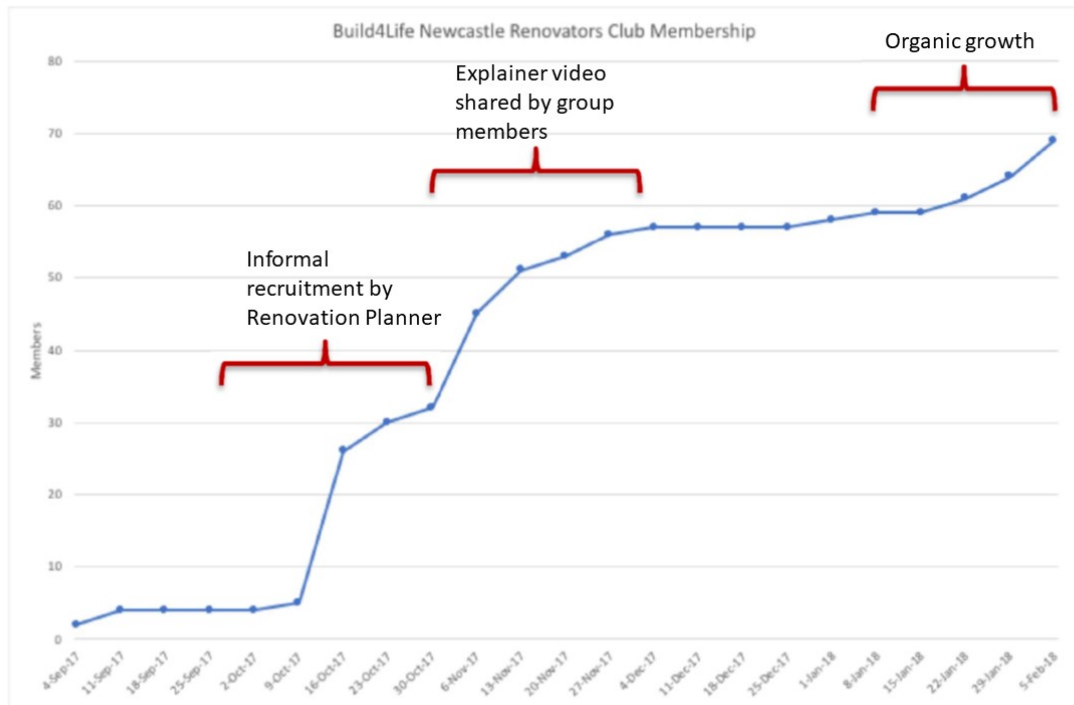
You are invited to become a member of our Newcastle Renovators Club Facebook Group - here is the link <http://bit.ly/2zUj9L1>

Build4Life is an exciting new initia...
[See More](#)

Like Comment

Recruitment of renovators to the Facebook groups was successful with the group recording a large increase in users after the advertising and a steady increase thereafter.

Figure 6 Renovators Club Facebook group membership



The Facebook group was surveyed to validate the customer profiling undertaken earlier. The survey validated the target customer profile as consisting of:

- mainly mothers (81%)
- aged between 36-45 (54%).





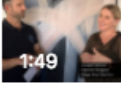
Their biggest challenges with undertaking a renovation is

- not having enough time (27%),
- concerns over budget (46%),
- and finding reliable suppliers and supplies (19%)

Most were renovating because they felt they needed more space (50%) or to update their home (23%) with the top 3 renovation activities being bathrooms (88%), kitchens (69%), and extending the home footprint (46%). The most important things for renovators when completing the renovation was functionality, keeping to budget, and good communications with the suppliers.

Throughout the testing of the renovator club concept, a number of videos were produced to try and drive visitors to the Facebook group. The following is an overview of the videos that were developed and the number of views (both paid through boosting the post and organic traffic) between 1 November 2017 and 28 February 2018.

Figure 8 Renovators Club video content

Video	Published	Minutes Viewed	Video Views
 Your invitation to join our Newcastle Renovators Facebook group	● 11/09/17 8:59PM	181	566
 Invitation to Join Our Newcastle Renovators Group	● 11/04/17 12:51PM	136	437
 Interior Design Tips with Louise Hatcher	● 12/12/17 9:40PM	77	288
 Interior Design Trends with Louise Hatcher	● 12/10/17 7:49PM	63	241
 Renovations Tips - How to determine your style with Louise Hat...	● 12/08/17 9:41PM	52	167

Trade Recruitment

One of the roles of the Build4Life Facilitator was to establish the local Suppliers network and get them to “sign-up”. Where possible Suppliers were identified using the following channels:

- Direct contact using existing classified services like the yellow pages;
- Via partner networks e.g. HIA; and
- Geo-targeted Social media marketing (paid and organic).

Note that the market research shows that one of the most significant channels for marketing to Suppliers was the radio. However, for the pilot phase it was determined that this channel did not provide sufficient control over location and was best considered for the scale up phase. Suppliers were interviewed to determine their opinions of the various proposed functions of the MVP.

Renovators Club and Suppliers Interviews

19 interviews were undertaken with suppliers and renovators to obtain more detailed qualitative information on the proposed MVP. Interviews were semi-structures and carried out at various points throughout the development process. The interviews are described below:

4 suppliers in Newcastle

3 suppliers from around NSW

9 renovators in Newcastle

3 renovators in Sydney

The interviewees were involved in a range of renovation projects at the time of their interviews:

- 5th home renovation
- Fixer-uppers to live in
- Fixer uppers to sell
- Selling house & moving abroad
- New pool
- New kitchen
- New deck
- New indoor/outdoor bathroom

Although there was strong support for many of the proposed functions of the MVP developed in the customer journey mapping exercise, the support for a prominent social media component was lower than expected. This was interesting as all the previous research had led to the premise that social media was a good way to convey information to renovators at the time they needed it most. The key demographic of women with children found the social media aspect of the MVP too time consuming. Although activities such as sharing images and ideas and connecting with quality advice were appreciated, managing costs, managing suppliers on site, finding skilled suppliers and communicating effectively with suppliers were generally more important.

Suppliers did not see value in engaging with renovators on social media except to advertise. Suppliers valued the MVP offerings of document control, variation management and website/gallery services higher. Suppliers also valued being connected to renovators less highly than renovators valued being connected to suppliers. Suppliers in general had no trouble finding work and were not actively seeking work. Suppliers did value 'good' clients and were interested in finding work where their creative and technical skills were valued and utilised.

The Financial Model

The project team considered a number of revenue generating models throughout the MVP development process. Although the final financial model had not been confirmed at the time of writing some things were clear:

1. Website advertising revenue alone would be insufficient to support the intended functions of the platform. Further, the market for this type of advertising was crowded and unprofitable for all but the largest websites with multi-million dollar advertising budgets themselves.
2. Interviews with suppliers indicated that charging them a commission on jobs they obtained using the site was viable. The basic business model was built around this revenue stream.
3. The structure and services offered by the website provide the possibility of charging renovators using a 'Freemium' model. In this model basic services of the website may be accessed for free with more sophisticated tools and services offered at various rates by subscription.
4. The site could also act as an escrow service holding payments between renovators and suppliers until work is complete.

Testing these models with real payments was beyond the scope of this project. Renovators and suppliers were interviewed on their willingness to pay under various models and none of the possible options were ruled out. Ultimately the final financial model will need further iterative testing and this can only be done if the website goes 'live' and offering services. Willingness to pay surveys provide a good indication of the viability of the business but this can only be validated by a commercial operator of the platform.

A business model showing the viability of the platform using a supplier commission model can be found in the supporting documentation.

Building the Minimum Viable Product (MVP)

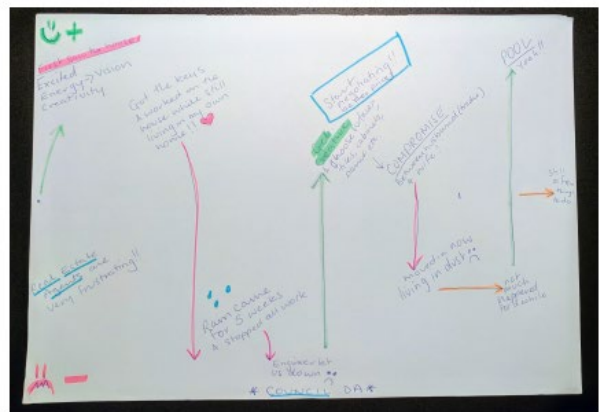
As the Renovators Club and suppliers research proceeded, BlueTribe also began to develop the functions of the MVP website. Suppliers and renovators were interviewed to determine their perceptions of the process of renovating. Interviewees workshoped their renovation experiences with the interviewer and their responses recorded on a whiteboard.

Figure 9 Example of workshop notes

“Talk me through the renovation process you went through”

Draw and describe:

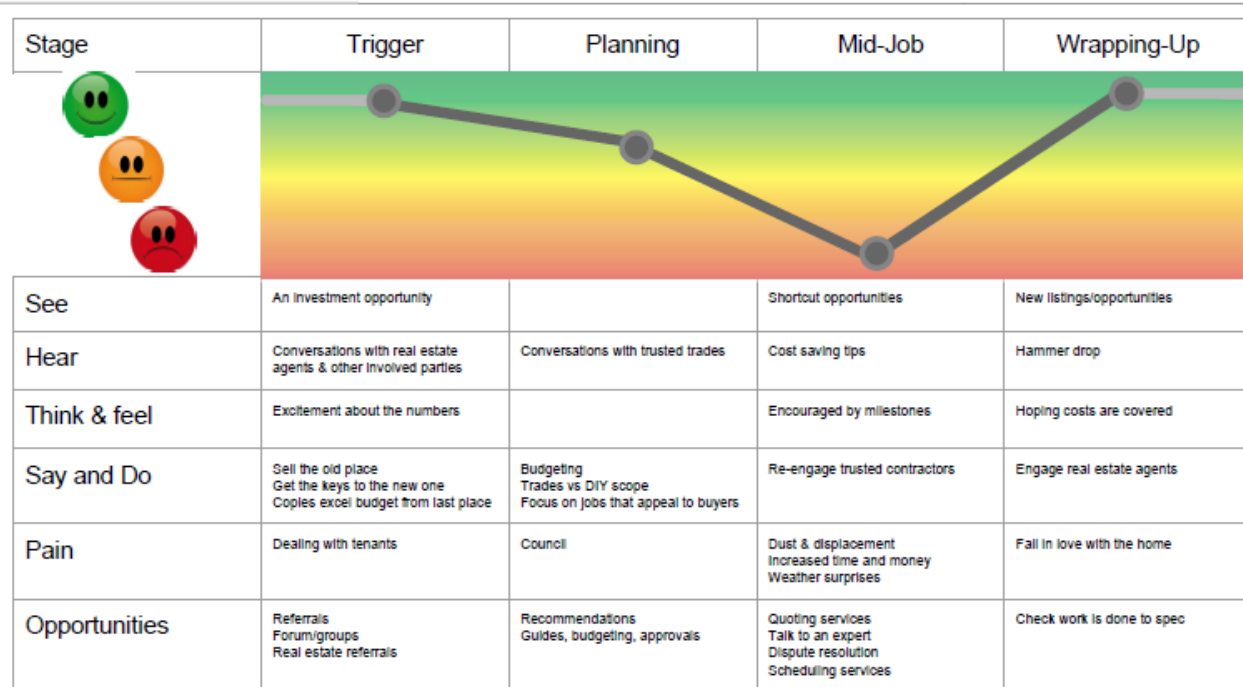
- Rough timeline
- People involved
- Information sources
- Devices you used
- How you decided on a trade
- Time of day? Length of time for each step?
- How did you feel at the different stages?



These perceptions were then visualised according to renovator type to aid the development of the website services. An example for a renovator planning to 'flip' the property (ie. renovating to sell) can be found below.

Figure 10 Example of User Experience journey mapping output

Journey Map - Flippers



MVP functions identified at the customer journey mapping stage and validated by this early research were prototyped and presented to rand suppliers for feedback. Development of the MVP website followed a lean User Experience (UX) design process.

Key findings of the prototyping phase interviews were:

Suppliers

- Many suppliers are technology averse - they only use what is required.
- Suppliers who are looking to start or expand their base are keen to engage in online platforms.
- Suppliers who have had negative experiences (e.g. with competitors) or have a significant backlog are not willing to put forth effort to attract additional leads.
- Variety is one of the favourite things about their role - it provides a source of creativity and avoiding the mundane. The thought of an office job makes them cringe.
- One of the hardest parts of the job is finding trusted suppliers, 'subbies' or staff.
- The concept of 'dream customer' or 'customer from hell' didn't really resonate - all projects have ups and downs. Perhaps the phrase "There's no such thing as problems, only projects" applies.
- Big risks to a project include timing, well defined scope and lack of documentation.
- Photos are mainly taken by those who have an opportunity to have big before and after impact. Suppliers in the middle often skip this step.

- Web presence is often a mere formality, to show a few photos of work they have done. It's often done once, with little updating after that.

Renovators

- Local design trends shouldn't be local at all, in fact they want to source ideas from anywhere.
- Website registration isn't a large hurdle, but guides and checklists are preferred to be accessible without providing personal details.
- A facilitator (or Reno Planner as one called it) is seen as a huge benefit, especially for those who have had a good experience before or are less price sensitive.
- Quote standardisation was well received with renovators (suppliers may be less keen).
- Local trades, even within the neighbourhood is practical and has a community feel.
- Leveraging off a network of users (e.g. be my architect) was well received, but needs critical mass.
- Automatic actions (feeds to Facebook, or automated messages between trades/dependencies) did not test well. Users want to be informed and in control of the process.
- Most were open to making payment through the service.
- Mobile usage is critical to the success of various tasks, like checking work is done to spec or photo sharing. Some users anticipate (or at least desire) to conduct most if not all activities on their mobile.

Further information on supplier and renovator responses to specific functions of the site can be found in the supporting documentation 'UX Interview summary findings'. Each function was developed in wireframe and tested and retested with Suppliers and Renovators until the first release of the MVP was released to <https://demo.myrenovationplanner.com/>.

User Testing

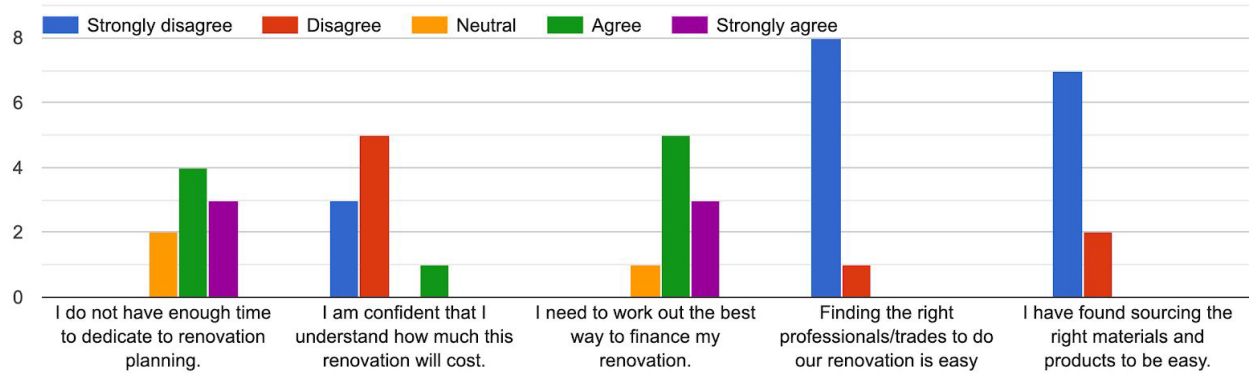
Once the MVP was deployed BlueTribe recruited 13 users to the site and surveyed those users regarding their renovation experience and their perceptions of the MVP site. The full results of those surveys can be found in the supporting documents.

The first series of questions asked in the surveys was to validate previous data from the customer discovery phase of the project. The demographics of the users involved in the testing match the target audience of females between 35 and 55 years old most likely in a household with children.

The top five pain points (identified in earlier surveys) of not having enough time, understanding the budget, organising finance, finding reliable trades and sourcing the right materials all continued to be significant. Kitchen and bathroom renovations continue to feature highly in most renovators plans.

Figure 11 Renovator 'pain points'

Select you level of agreement with the following statements about your renovation



The second part of the surveys sought user feedback on specific features of The MVP website. Users were asked about their first impressions of the website. In general users liked the clean look of the homepage for the website although many suggested that a pricing page was needed describing the costs of the services offered.

Users were then asked to explore the homepage and to describe what service was offered from the site. The word cloud derived from responses clearly shows that users identified that the site offers a renovation planning service.

Figure 12 Word Cloud responses to the MVP



Users were then asked to use budget tool and to describe what they liked least and most. In general user feedback was that users wanted more information about how pricing was determined and wanted greater flexibility to edit various inputs into the budget tool.

The next part of the survey tested willingness to pay for the services offered by the website.

Figure 13 User expectations about pricing.

Pricing	Average	Range
Expect to pay	\$1375	\$500-\$2000
Expensive	\$3250	\$1000-\$4000
Very Expensive	\$5250	\$2000-\$8000

Overall the survey found strong support for the concept and business model. 56% of users indicated that they would recommend the service to friends based on what they had heard.

Conclusion

RP3029e1 offered a novel way for the research, Government and industry sectors to work together to look at solutions to solving a large-scale problem. The work has already attracted the attention of the research community (a case study is being prepared by the University of New South Wales at time of writing), among policy makers and industry. If the MVP is successfully licenced this project will possibly be the first time that Government, Industry and the Research community have teamed up to create a viable business which solves a policy and social problem.

In undertaking the project, the participants have come to some informal conclusions regarding this type of approach.

Flexibility and adaptability are vital.

If we consider the typical project development lifecycle within Government, most Government services employ a waterfall methodology to project development which usually involves some variation on the following sequence:

Discover – assess the business/policy context, establish a mission and vision.

Define – define the benefits/need and establish your objectives.

Plan – Create your operating plan, financial plan, and establish KPI's.

Execute – Put the plan into action and reap the rewards of your detailed planning process.

The above “ready, aim, fire” approach is the traditional foundation of any MBA curriculum and therefore it is little wonder that Government policy implementation in the area of social or environmental (sustainability) innovation also adopts a similar waterfall method. The dilemma for the design of sustainability strategies is that this waterfall method assumes you know exactly what solution you need to implement, understand the problem it is solving for the customer/end user and that you have existing processes to put it all in place. However, in sustainability we are trying to create new scalable products or services that are often innovative or disruptive in an environment of extreme uncertainty and complexity.

When viewed through this lens, the development of sustainability strategy and sustainability programs has more in common with start-ups than established organisations and therefore the waterfall processes we use for creating our sustainability strategies are simply not fit for purpose. Government departments are perfectly structured for *executing business models* from their governance models through to supporting systems and processes. However, start-ups, like sustainability teams, are in the business of *discovering new business models*. This distinction is at the heart of the lean start-up method employed in the Build4Life project.

The lean start-up method employed in the Build4Life project has three key elements:

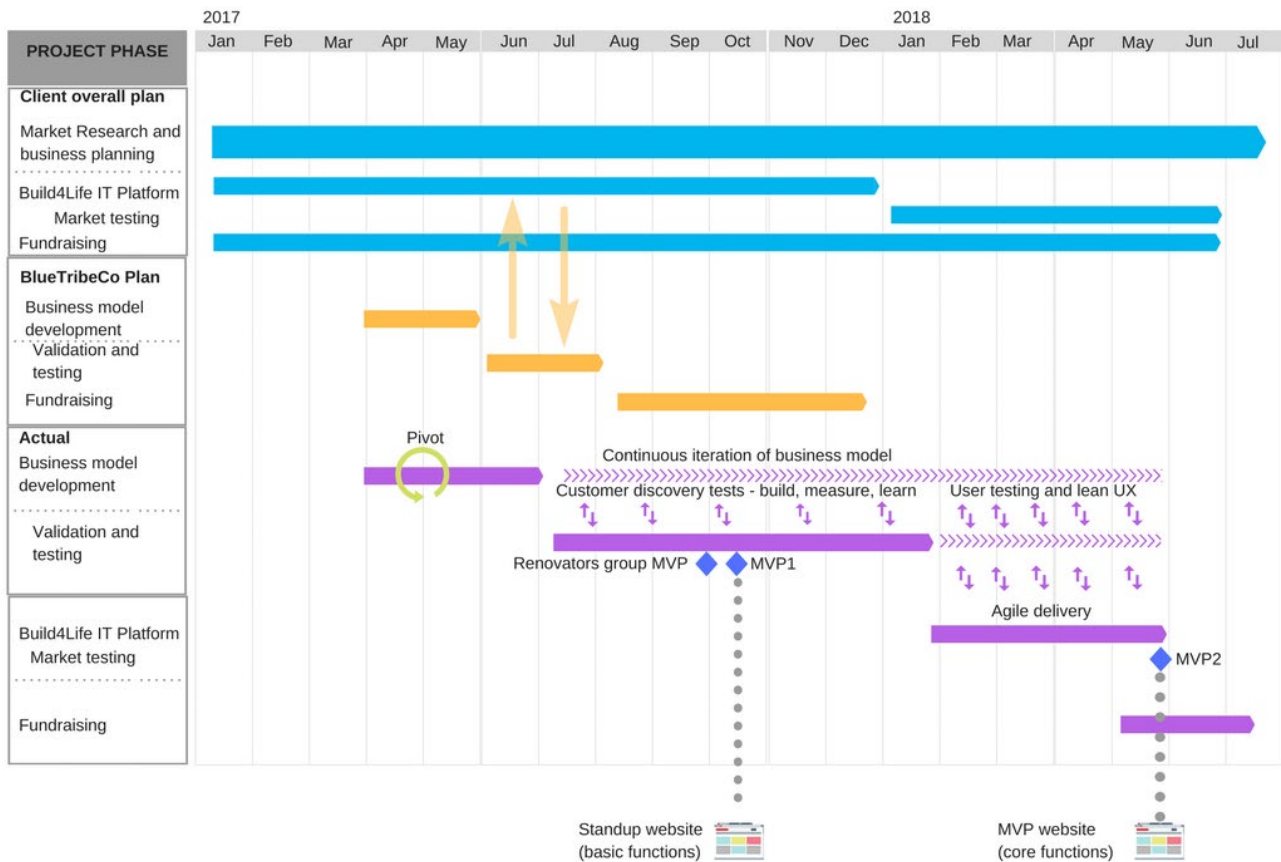
First, rather than write a detailed project plan based on what amounts to a series of best guesses, lean start-up practitioners accept that all they have are a series of untested hypotheses. These hypotheses are organised using a tool called the business model canvas which describes the nine basic building blocks of a business model – in other words how your solution delivers value for you and your customers.

Second, lean start-up practitioners then test these assumptions by soliciting customer feedback to test their hypotheses. They do this by talking to customers about all aspects of the business model with an emphasis on gleaning information at speed within a build, measure, and learn cycle. The feedback is used to adjust the assumptions and then repeat the cycle with minor adjustments to the offering (iterations) or changes in direction (pivots) where the idea is simply not working. In some cases, this phase also involves building a minimum viable product (MVP) or prototype allow customers to provide feedback.

Third, the lean start-up process uses agile development which is a methodology derived from the software industry. Rather than using the “ready, aim, fire” waterfall development process described above, agile development is based on developing a solution iteratively and in small measurable features with constant customer testing and feedback – a bit like building a home one brick at a time (and changing the design as you built).

The diagram shown below provides a comparison between the proposed overall plan for the project as envisioned by the client in the tender document for this contract (blue), the conceptual plan proposed by Build4Life by BlueTribe during the tender (orange), and finally the actual project schedule that eventuated over the course of the project (purple).

Figure 14 Actual vs. Expected project progress



The lean start-up methodology employed on this project is based on using customer feedback to validate key assumptions underpinning the business model. For a purely digital product this validation can be achieved through testing of the prototype website. Build4Life was originally envisioned as a digital product and hence the original plans reflected this approach. Early customer feedback and market analysis resulted in the decision to pivot the business model in April/May 2017 from a purely digital social media platform to the model with a Build4Life facilitator who convened a local renovators club to share knowledge referrals and create social connections for its members with others in their local area.

This pivot resulted in a change to the way that we validated the business model as it was no longer just a digital solution but had a physical face-to-face element that needed to be tested. To test this aspect of the model the project team decided to establish a minimum viable product (MVP) of this component of the business model which took the form of a renovator’s group in the Newcastle area NSW.

This change in approach offered numerous benefits to the project and significantly de-risked the build of the IT platform as the original plan would have seen the wrong product being built. The only aspect of the original project scope that was not delivered was the fundraising strategy. This was due to resources being directed into customer discovery activities to validate the business model, but it also became apparent that in order to approach potential investors that the project team would need to have better validation data to support an investment decision.

Procurement, legal and probity issues.

Legal, policy, procurement, probity, commercial, intellectual property and governance issues should be identified at the outset, and risks mitigated early. The RP3029e1 was successful because it was able to deliver an outcome which was defined only in terms of what it should achieve and not what it looked like - until it was built. The major findings for others who might follow in the footsteps of the project are as follows:

1. Ensure that the project management methodology is flexible and not bound by tightly defined outputs but by outcomes.

This requires intensive and hands-on involvement by funding parties in project decision making as this cannot simply be outsourced to contractors or consultants. The project partners or funding bodies need to maintain close oversight of the project development to ensure that any pivots in the output are acceptable and meet the overall intent of the project. Further, contracts should be written to include clear stage gates at which development can be reviewed and, if necessary, re-calibrated to accommodate changes in strategic direction.

2. Establish the legal approach to commercialisation.

Many options were canvassed during the development of the MVP. Ultimately it was decided to issue a licence to one or more third parties to enable them to commercialise the MVP rather than any of the project participants functioning as the business owner. Licensing provides a limited range of options for controlling the behaviour of the ultimate operator of the business. This was deemed acceptable in the circumstance for this project but may not be for other projects. The ultimate choice in how to exploit the project IP should be driven by the intended long-term outcome and the specific, short term probity and legal issues constraining the actions of the project participants. Where possible, the medium to long term outcomes should drive the approach to commercialisation.

3. Establish the intellectual property ownership to facilitate the eventual commercialisation of the IP.

In this project the ownership of the IP was determined by the pre-existing agreements governing CRCLCL projects. These arrangements were sufficient to allow commercialisation by licence. Ensuring at the project development stage that the IP is unencumbered and ready for commercialisation on completion of the MVP would have allowed it to reach the public much quicker than was the case for Build4Life.

4. Consider procurement processes and constraints early and find ways to use them effectively.

This might include procuring a product whose elements are still to be refined, using a strict budget and comprehensive capability and capacity requirements. This approach puts some pressure on the contractor and project manager to work well together so that resources are deployed on the most critical functions or outputs first and 'left-over' resources deployed to lower priority functions later. Trust is critical and interviewing tender respondents and doing quality reference checks can help to ensure that the final relationship is as productive as possible.

The project delivery team should also meet regularly to ensure that expectations of all parties are being met and that the project has not deviated from its intended trajectory (as varied by the agile process). The RP3020e1 team met for weekly 'work-in-progress' meetings, monthly steering committee meetings, and were also in daily email and phone contact.

5. Engage early with contractors and consultants and assume they might one day become partners.

In the case of RP3029e1 one of the contractors involved in the project expressed interest in being an eventual licensee of the IP. Fortunately, the probity and governance requirements of the various IP owners and the commercialisation option (non-exclusive licencing) allowed this request to be seriously considered. In future projects, this possibility should be considered early and efforts made to ensure that governance or probity requirements do not prevent a fortuitous outcome.

Further, it may even be possible to engage contractors and consultants at the outset on the basis that they might have the opportunity to become commercial partners if the project is successful. This may ensure that contractors and consultants have a greater interest (and investment) in delivering a truly commercial outcome while meeting the needs of the original funding bodies.

Finally, but perhaps most importantly of all, trust among the project partners is vital. Establishing good working relationships with good communication is vital to a successful project outcome. This is harder to codify but was critical in the delivery of RP3029e1.

The delivery of public policy outcomes using business and social enterprises has much promise as a tool for government. Collaboration is key and the project partners wish to thank the CRCLCL for trusting that research, industry and government could come together to create something unique which will hopefully continue to benefit the Australian community for many years to come.

Implications for carbon emissions.

The business model developed during the project indicates the website would reach maturity after around 7 years with approximately 4350 active users. At this scale it is expected that over 88,000 tonnes of CO² would be abated annually for the life of the business. That these savings can most likely be delivered at a financial benefit to the homeowner and to the business is an endorsement of the approach taken by the project.

Final Steps

At the close of the project the project partners had agreed to licence terms to be offered to prospective commercial operators of the website and were actively involved in licencing discussion with one party.

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