



Land Information New Zealand

**Phase 2 - Landonline Enhancement
Prioritisation Process Proof of
Concept**

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Phase 2 Report - Landonline Enhancement Prioritisation
Project.doc

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1 Executive Summary

Land Information New Zealand (“LINZ”) has engaged KPMG to provide advisory services for the Landonline Enhancement Prioritisation Project.

Research completed in phase one of the project resulted in a recommendation that a proof of concept (POC) be completed to test using Web 2.0 tools to allow the participation of users in the prioritisation of Landonline enhancements.

The objective of the KPMG engagement was to provide guidance and assurance that the POC followed a robust and systematic approach and would enhance the accuracy of any business case.

The POC using Wiki software took place over six weeks, finishing the 17th October 2008. During this time a number of objectives defined from phase one were explored.

Our overall assessment is that the POC followed a robust and systematic approach and has confirmed that the implementation of a Wiki will aid the communications and consultation process with users. This is a key part of improving the enhancement prioritisation process.

KPMG supports the development of a business case to implement a Wiki or other suitable Web 2.0 tools and recommends particular focus be applied on the potential tangible and intangible business benefits. A clear understanding of the return on investment from the project will enable better decision making during the Business Case approval process.

This report delivers the findings from the POC which was designed to assess the viability of the research completed in phase one of the project. KPMG have analysed the POC to confirm our findings. Our assessment has identified areas where the POC was successful and areas for improvement. These findings should be considered during the implementation planning of the Wiki or other Web 2.0 technology if a viable business case is produced.

The POC objectives and results are summarised as follows:

- **Usability and effectiveness in involving Stakeholders** – participation was high due to the easy usability of the Wiki. Stakeholders were able to effectively use and be involved in the POC.
- **Electronic discussion and collaboration** - The POC showed that the group could discuss and collaborate online. Numerous benefits to the enhancement consultation process were demonstrated through out the POC.
- **Prioritisation process understanding** - The POC showed a Wiki will enable greater visibility of enhancements and will enable the majority of the Landonline community to vote and view the proposed enhancements. An open structured system such as a Wiki allows stakeholders to introduce ideas, track which enhancements are selected for implementation and understand why they were selected.
- **Ease of use and the understanding of enhancements** – the usability of the Wiki was positive for a large majority of the participants involved in the POC. Functionality gave the ability to provide an explanation of each enhancement using a template.

- **Potential benefits** – there are a number of potential benefits from the POC. Benefits include an increase in the quality of service, Economy/Cost Reduction and process improvements.
- **Lessons learnt** - there are a number of lessons learnt from the POC including lessons around the voting, online collaboration, usability and enhancement details.

2 Introduction

Landonline is the online service for surveyors, conveyances, territorial authorities and other land professionals, providing access to New Zealand's only authoritative database for land title and survey information. It enables land professionals to search, and to lodge title dealings and survey data digitally.

The operation and development of Landonline is funded by user fees and charges giving stakeholders a strong interest in how the system is improved or enhanced.

The stakeholders for the Landonline system include external and internal stakeholders and user groups. These stakeholders and user groups are listed below:

External

- Lawyers and their representative group;
- Surveyors and their representative groups;
- Search Agents; and
- Territorial Authorities.

Internal

- Regulatory;
- Electoral;
- Geodetic; and
- Titles and Survey Processing.

As shown above the stakeholder group is large and diverse, research was completed in phase one to understand the best way to collaborate and deliver a framework to involve the wide range of stakeholders.

Purpose

The purpose of phase two of the Landonline enhancement prioritisation project is to determine if the recommendations from phase one¹ were feasible for Landonline. Landonline survey users were used as a POC group as they represented a wide, diverse number of users.

2.1 Phase One

Phase one of this project was to conduct research to determine best practices for the prioritisation of Landonline enhancements. From the research it was determined there was no single or representative best practice solution to the prioritisation of Landonline enhancements, instead a solution needed to be established from best practice in four key areas;

- Stakeholder management and collaboration;
- Prioritisation techniques and processes;
- Emerging trends; and

¹ KPMG, Phase 1 Landonline Enhancement Prioritisation Project Report. July 2008.

- Related standards.

The two recommended options were;

- Implementation of Web 2.0 tools to enhance the communications and collaboration amongst Landonline and its stakeholders.
- Developing a prioritisation framework based on an eVoting model which, for example would group similar or multiple enhancement themes together and then stakeholders would vote for a theme, an individual enhancements. eVoting models that may apply and require further analysis to determine if they are appropriate for the LINZ Landonline environment are STV (Single Transferable Vote) and MMP (Mixed Member Proportional) because they are both known in the New Zealand environment.

A POC was recommended to determine if these recommendations from phase one were feasible for Landonline.

The full recommendations from the phase one report can be found in Appendix B.

2.2 Objectives

The objectives of phase two of the project were to;

- Deliver a POC which comprised of components of the framework that may be used to test the usability and effectiveness in involving stakeholders;
- Deliver a Wiki - Test adoption/use of the Wiki format for an electronic discussion and collaboration;
- Deliver a set of prioritised enhancements from the POC;
- Obtain user input regarding the perceived relative importance of a selected list of enhancements, thus testing the enhancement process and delivery of actual feedback to support the next round of prioritisation;
- Provide regular feedback as to other's rating of enhancements;
- Provide a final ranking of the enhancements in the Wiki;
- Test that the purpose and outcomes of the prioritisation process are understood by all stakeholders;
- Obtain feedback regarding ease of use, understanding of enhancements etc by application of survey or structured interviews post POC;
- Utilise the lessons from the POC to confirm or modify the proposed enhancement framework; and
- Prepare a recommendation document for a potential business case from the POC.

2.3 Approach

KPMG in conjunction with LINZ determined the scope for the POC.

2.3.1 In Scope

The scope of the POC was to:

- Provide a collaborative tool to allow users to "discuss" enhancements.
- Provide a subset of enhancements for discussion.
- Provide a simple scoring mechanism to rank enhancements.
- Provide feedback on the ranking of the enhancements provided.
- Apply ranking information and comments to the Remedy 5 enhancements database.
- Determine the management effort required for moderating and maintaining the Wiki (or similar software).
- Determine a requirements list for implementing a Wiki.
- Provide information for a business case and project brief for a full implementation.
- Identify lessons learnt from the POC to be put forward in the event of an implementation of a Wiki for Landonline.

2.3.2 Out of Scope

- A comprehensive evaluation of collaboration software has not been applied for the POC.
- Ranking of all *e-survey* enhancements, (A subset of all enhancements was chosen which reflected the range of enhancements currently being prioritised).
- An implementation plan for a production version.
- Full benefit analysis.

2.3.3 Definitions

Enhancement – Any change (excluding bug fixes) or development to the Landonline system.

Wiki - a Wiki is a type of website that allows the users to add, remove, and edit the available content. It is used as a collaboration tool.

Proof of Concept (POC) - a short and/or incomplete realisation of a certain method or idea to demonstrate its feasibility.

Web 2.0 Technologies - Web 2.0 describes the changing trends in the use of World Wide Web technology and web design that aim to enhance creativity, secure information sharing, collaboration and functionality of the web.

3 Key Findings

A POC was completed for phase two of the Landonline enhancement prioritisation project. This section details the key findings from the POC and is split into five sections:

- Design of the POC;
- Usability and effectiveness in involving stakeholders;
- Electronic discussion and collaboration;
- Prioritisation process understanding; and
- Ease of use and the understanding of enhancements.

The first section provides an overview and understanding of the stakeholders involved. The other sections analyse the key findings through the use of two questionnaires.

The table below summarises the objective, success criteria, results and if the objectives were achieved or not.

Report Section	Objective	Success Criteria	Result	Achieved/ Not Achieved
3.2	Usability and effectiveness in involving stakeholders	The Wiki's ease of use to effectively participate.	All participants used the Wiki even though a large number had never used a Wiki before.	Achieved
		Participation of the users in the Wiki.	All users participated either through viewing, commenting or editing the enhancements.	Achieved
3.3	Electronic discussion and collaboration	Sharing of ideas including best practise and fostering joined thinking.	Several enhancements included joined thinking and shared ideas.	Achieved
		Providing different perspectives.	Many different perspectives from users were captured.	Achieved
Appendix C	Deliver a set of prioritised enhancements	A set of prioritised enhancements.	A set of prioritised enhancements with user input was created.	Achieved
	Obtain user input regarding the perceived relative importance.	A set of prioritised enhancements with user input.	The ranking structure developed for the POC did not completely deliver a set of enhancements reflective of the changing enhancements. The lessons learnt need to be carried through to the business case.	Partial Achievement
3.4	Prioritisation process understanding by the users.	Greater visibility of the enhancement process and contributions to the Wiki.	Users previously had a very poor understanding of the prioritisation process. The users now have a greater understanding and visibility of the process.	Achieved

Report Section	Objective	Success Criteria	Result	Achieved/ Not Achieved
3.5	Ease of use and understanding of enhancements	Enhancements must be easily understandable by all users including users who haven't used a Wiki before.	Significant work went into the enhancements' detail. Enhancements were easily understandable.	Achieved

3.1 Design of the Proof of Concept (POC)

Research was completed to select a tool/service suitable for the Landonline Enhancement Prioritisation Process POC. Three options were determined viable for the purposes of this project;

- **Social Text** – applies next-generation Web 2.0 technologies to the critical challenges facing businesses. Social text Wiki-centric social software solutions are designed for any organization and help accelerate team communications, better enabling knowledge sharing, collaboration, and building online communities.
- **SharePoint** – offers collaboration and document management functionality by means of web portals, by providing a centralized repository for shared documents, as well as browser-based management and administration of them. The 2007 version of SharePoint offers a Wiki function to co-exist with the document management.
- **Other Wiki Software** – There were other Wiki providers available to trial. Many of these other sites were 'Vanilla' with basic templates and limited functionality. To provide the functionality required for the POC significant effort would have been required.

As stated in the scope a comprehensive evaluation of software has not been applied for the POC as the focus was on the functionality that could be provided to fulfil the objectives. A comprehensive evaluation of software and other requirements such as security and usability will need to be completed if a Wiki is to be implemented for the prioritisation of Landonline enhancements.

Social Text was chosen as it was the most user friendly and the easiest to set up and had the required security attributes and ability to have a closed user group. It also provided generic functionality which is not software dependent therefore the findings from this POC can be brought forward to any platform or software.

3.1.1 Stakeholder Community and POC Population.

An email was sent to all *e-survey* Landonline users notifying them of the POC and inviting them to participate. The POC needed to be limited to approximately thirty people due to Social Text licensing costs. Thirty two people replied who were then assessed to ensure a fair representation of the *e-survey* user population.

A questionnaire was sent to the POC group and the remaining population of *e-survey* Landonline users so response comparisons could be made. The thirty two POC participants consisted of:

- thirty one *e-survey* customers; and
- one TA *e-certification* user.

The two hundred and eight other respondents (all other *e-survey* users of Landonline who responded excluding those in the POC) consisted of:

- eight e-search users;
- one hundred and eighty one *e-survey* users; and
- nineteen TA *e-certification* users.

The population included in the POC has a similar makeup to the *e-survey* Landonline population, see figure 3.1.1 for a pictorial representation of this.

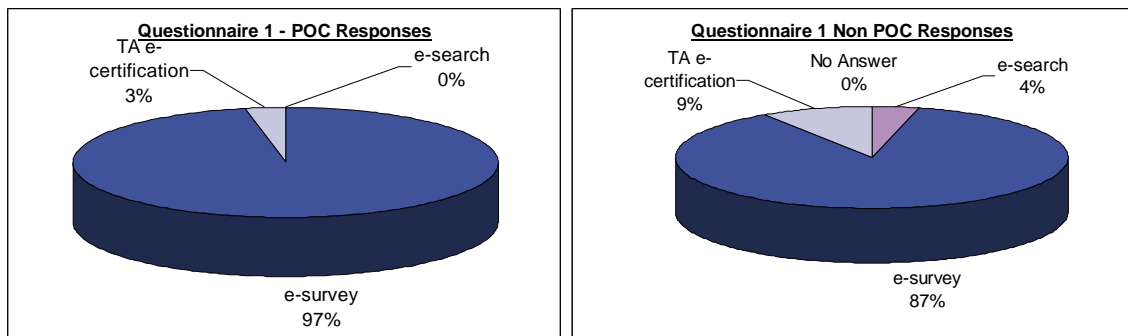


Figure 3.1.1 – What type of Landonline Customer are you?

3.2 Usability and Effectiveness in Involving Stakeholders

For an effective online collaboration using a Wiki, the usability and involvement of stakeholders is vital. Questionnaire

3.2.1 Critical Success Factors

Users must be able to easily use the Wiki to effectively participate and contribute to it. Without this ease of use, the Wiki will quickly become ineffective and will not deliver the benefits identified in the phase one research.

Users must participate in the Wiki through viewing, adding information or voting. Without participation from the users, the Wiki will become narrow sighted.

3.2.2 Results

Throughout the project, statistics on the number of views, edits and comments on the Wiki were recorded. The contributions are detailed as follows:

Views – are when a participant viewed an enhancement, their view was logged.

Comments – these are views or comments of the participants on the enhancement. A comment usually is a participant’s view on the enhancement or suggestions to change the enhancement.

Edits – are changes to the enhancement detail, for example if the detail is in-factually correct or if there are other options which need to be added.

The POC successfully allowed stakeholders to contribute to the Wiki as shown from the statistics obtained. The number of times an enhancement was viewed by a user is detailed below in figure 3.2.1. In appendix C there is a list of the enhancements used in the POC and the number of views, edits and comments are detailed.

The results show that a large majority of users viewed multiple enhancements numerous times. The number of comments created by users are detailed in figure 3.2.2.

The results show that stakeholders participated in the POC and we have seen a large number of views, comments and edits. Twenty four users commented at least once and one user who contributed thirty seven times. There were fifteen users who did not comment on any of the enhancements, however all users viewed the enhancements.

As predicted some participants would be more actively involved in the POC, however the ability for all the participants to contribute and view was available.

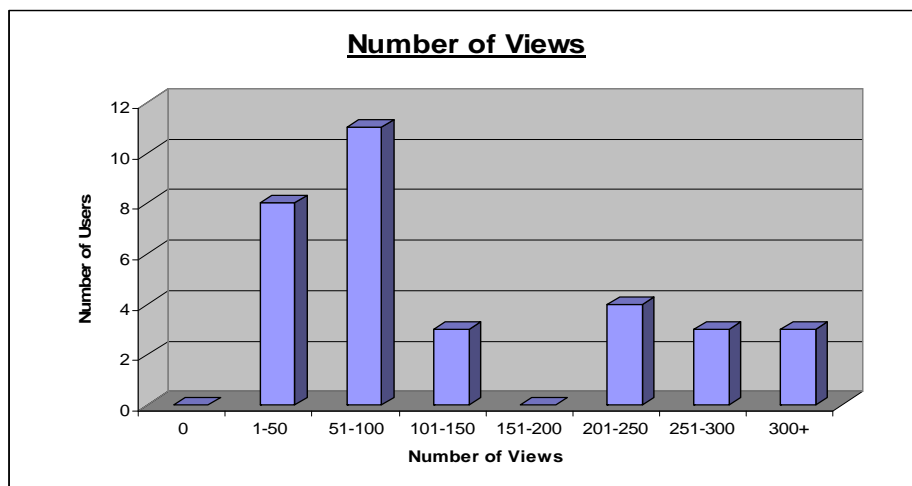


Figure 3.2.1- Number of Views

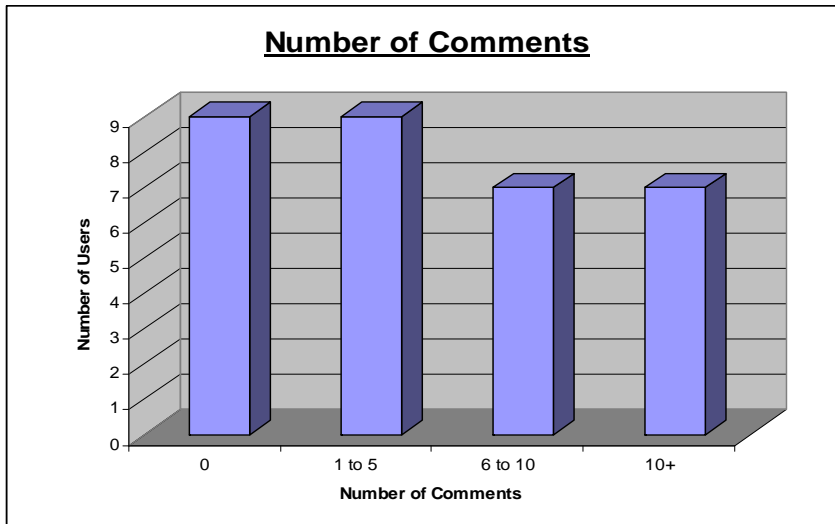


Figure 3.2.2 – Number of Comments

At the end of the POC a second questionnaire was sent to all participants. Sixteen of the thirty two participants answered the final questionnaire. The questionnaire asked the participants ‘How did you rate the overall usability of the Wiki’ from needs improving to excellent. 94% of participants believed that the usability was satisfactory or above and only 6% of participants thought the usability needed improving (see figure 3.2.3). Given that 87% (Figure 3.5.1) of participants had seldom used or hadn’t used a Wiki before the usability of the Wiki was above the project’s expectations.

Comments from the participants indicated that some would have liked further information on how to use a Wiki, but the results clearly show they were still able to use the Wiki without full training. To improve this benefit training or tutorials could be created to teach the users about the full functionality of the Wiki. This result shows that the usability is acceptable to all users even if the initial understanding of the users was low.

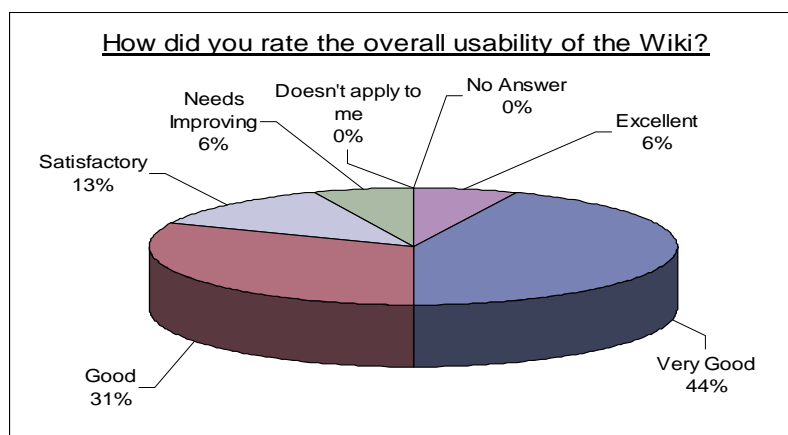


Figure 3.2.3

The questionnaire also asked participants 'Would you use a Wiki again to participate in the enhancement prioritisation process'. The results show 94% of participants would use a Wiki again to participate in the enhancement prioritisation process. (Figure 3.2.4)

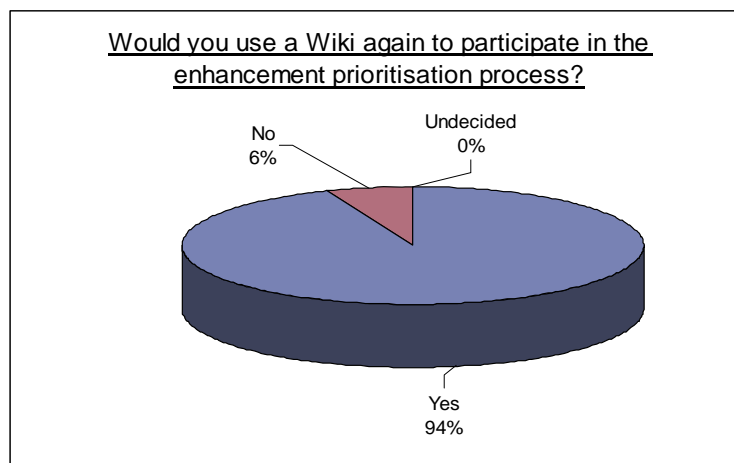


Figure 3.2.4

These results show that a large majority of participants in the POC rated the usability satisfactory or above and would use a Wiki again to prioritise enhancements.

3.3 Electronic Discussion and Collaboration

Electronic discussion and collaboration instead of face-to-face meetings will allow more users to become involved in the prioritisation of enhancements.

3.3.1 Critical Success Factors

For electronic discussion and collaboration to be effective stakeholders must be engaged. As the previous section (3.2) showed, there was sufficient involvement from stakeholders. As well as being engaged attributes of effective collaboration are;

- Sharing of ideas including best practise and fostering joined thinking; and
- Providing different perspectives.

3.3.2 Results

The POC showed that the group could discuss and collaborate ideas online. There are numerous benefits which were demonstrated throughout the POC, these include;

- The engagement dialogue was genuinely reflective, as different members of the group offered different perspectives on an issue;
- Ideas were shared which were relevant to Landonline enhancements;
- A forum was provided for analysis of enhancements, and discouraging the spread of poor practices;

- The POC expanded users own knowledge, by picking up ideas from others, particularly by sharing best practice and by allowing others to contribute;
- Reducing the possibility of narrow mindedness, where users only interact with their immediate colleagues and have little awareness of what happens elsewhere in the user community;
- Fostered ‘joined-up thinking’ where problems were not seen in isolation, and
- Providing and opportunity to build larger networks of people, within the user community.

All of these benefits demonstrate that the POC successfully proved the effectiveness of the electronic discussion and collaboration.

If the Wiki is to be implemented, users who do not wish to participate in the online collaboration will be able to participate through the current channels such as the helpdesk and email. This will enable users to contribute even if they are not comfortable with using the Wiki.

3.4 Prioritisation Process Understanding

For the POC to be effective users must understand the process of Landonline prioritisation enhancement process.

3.4.1 Critical Success Factors

The Wiki must demonstrate that users understanding of the prioritisation process is improved from the Wiki. This will be shown by the greater visibility of the enhancement process and contributions to the Wiki.

3.4.2 Results

A Wiki page was set up explaining the prioritisation process. Over 50% (137 out of 240) of the users questioned prior to the start of the POC were not familiar with the current Landonline prioritisation enhancement process (shown in Figure 3.4.1).

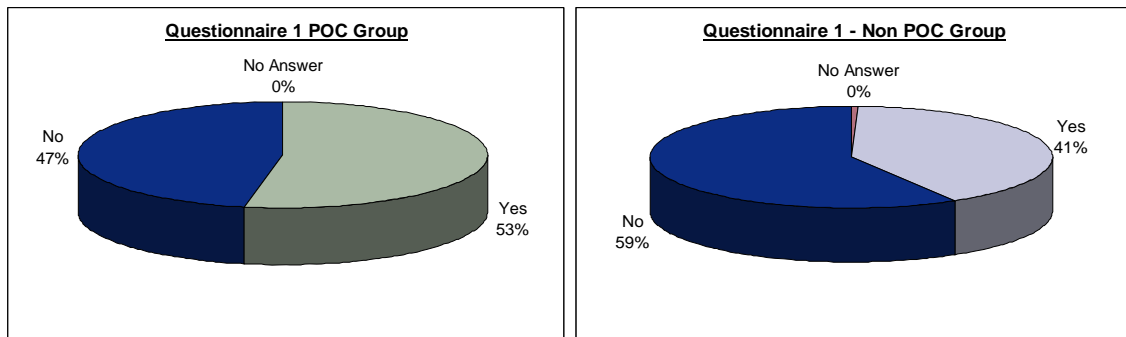


Figure 3.4.1 – Do you understand the current enhancement prioritisation process

A high number of users who were unfamiliar with the existing prioritisation process, which makes this a driver for LINZ if they wish to be transparent with how they prioritise the Landonline enhancements. As the users are the stakeholders it is sensible that they are involved in decision making of how Landonline can be enhanced.

Only 2% (5 people as figure 3.4.2 shows) of the 240 people who answered the first questionnaire were not interested in how the Landonline enhancements were prioritised.

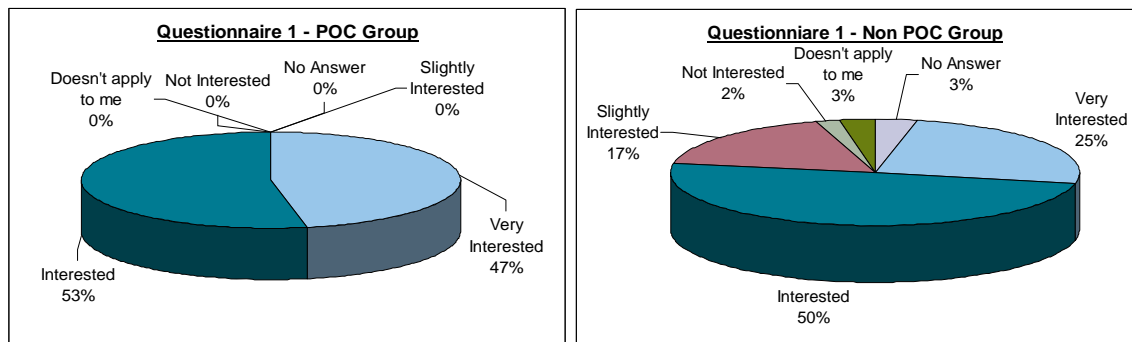


Figure 3.4.2 – How interested are you in the prioritisation of enhancements for Landonline

The current process of prioritising enhancements enables any Landonline user to submit an enhancement which will be logged into the Remedy system and later prioritised by a focus group (3-5 Landonline users in conjunction with LINZ personnel). If the enhancement is prioritised high it is assessed for feasibility to be included in the next scheduled work package to be implemented. Under this process there is very little visibility and transparency of the process and the enhancements to Landonline users and there is very little opportunity for Landonline users to develop a greater understanding and raise concern/change or object to the enhancements.

94% of users from the POC (as figure 3.2.4) said they would use a Wiki again to participate in the enhancement prioritisation process. Therefore this shows an understanding of the process from the users as they are willing to use the Wiki again.

The POC showed a Wiki will enable greater visibility of proposed enhancements. It will enable the majority of the Landonline community to vote and view the current proposed enhancements and track which, and why enhancements were implemented. This approach is significantly better than the current 3-5 user representatives for the *e-survey* users because of the wider knowledge base, perspectives and reduction of time, cost and effort involved.

The benefits of having a larger population (rather than a small focus group) are:

- More users will have the ability to vote and have transparency of the enhancement process;
- The Wiki will better enable LINZ meet the customers needs;
- The Wiki will give users the ownership and transparency of enhancements which they want; and
- The Wiki allows for self moderation of ideas and comments in a neutral environment.

3.5 Ease of Use and the Understanding of Enhancements

For a tool such as a Wiki to be effective, one of the aspects which must be considered is the ease of understanding enhancements.

LINZ has put significant effort into increasing the detail of each proposed enhancements by developing a template outlining the enhancement, the implications for users and what the beneficial outcomes of the enhancement will be. Suggested improvements have often been delivered to LINZ with little or no detail. The new template process allows for systematic assessment, categorisation and documentation of all proposed enhancements in an easily understood format.

3.5.1 Critical Success Factors

The Wiki must allow for ease of use and understanding through its enhancements. The enhancements must be easily understandable by all users including users who haven't used a Wiki before.

3.5.2 Results

A survey in the form of a questionnaire was sent to the POC participants at the start and again at the end of the POC. This was used to determine if there had been any changes in perceptions and opinions around the use and understanding of using a Wiki to prioritise enhancements as a result of the POC.

The questionnaire asked if the users had used Wiki's for online discussion to gauge the current users understanding of Wikis. Figure 3.5.1 shows the results of questionnaire of the current usage of Wikis for Landonline users.

As figure 3.5.1 shows 84% of users seldom or haven't used a Wiki before. This means the maturity of users using the Wiki is low and there was a potential of users not contributing and understanding the Wiki.

Similarly with the other respondents, 87% of users seldom or haven't used a Wiki before.

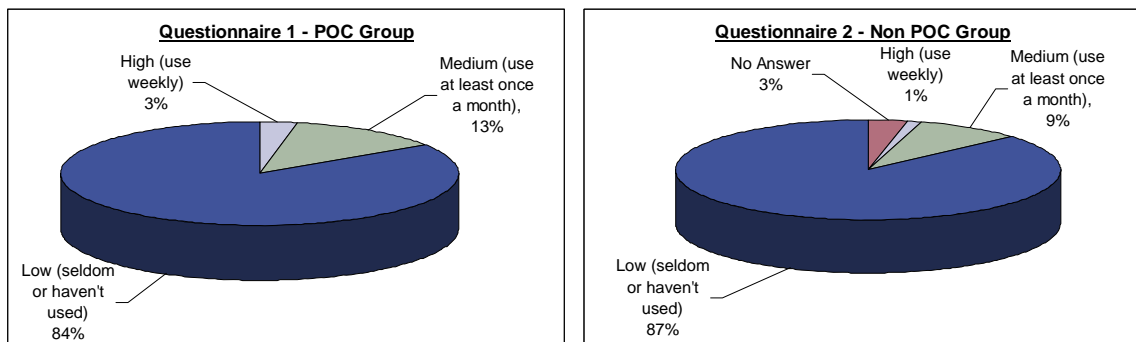


Figure 3.5.1 – How often do you use a Wiki?

The first questionnaire then asked the users if they thought Landonline customers would use a Wiki to participate in the enhancement of the prioritisation process.

88% of users thought Landonline users would use a Wiki to participate in the prioritisation enhancement process. The other respondents (72%) thought that Landonline users would use a Wiki to prioritise enhancements.

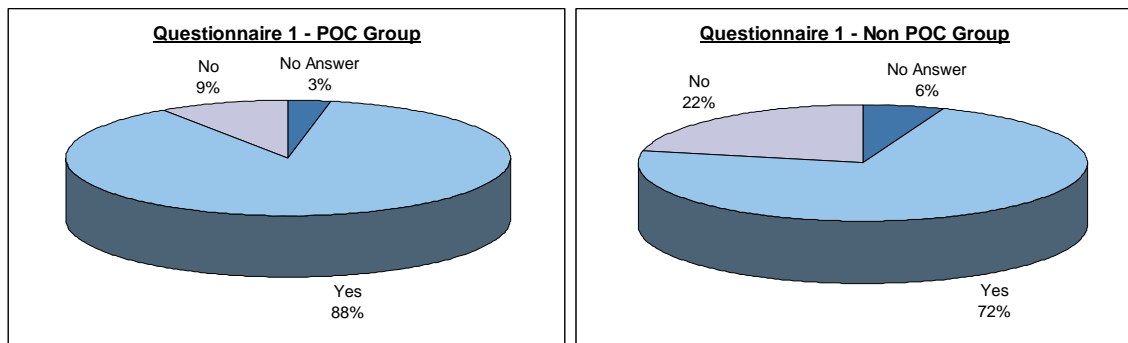


Figure 3.5.2 – Do you think Landonline users will use a Wiki to prioritise enhancement?

As shown in figure 3.5.1 and 3.5.2, the ease of use was shown in two ways, firstly (figure 3.5.1), which shows that 84% of the participants seldom used or haven't used a Wiki before. Secondly (figure 3.5.2) which shows that 88% of users thought Landonline users would use a Wiki to prioritise enhancements.

All participants used the Wiki (as figure 3.2.2 shows) and although not all contributed on the Wiki, 62% of participants contributed through comments. This shows that even though participants had seldom used or had not used a Wiki before, a majority of participants were able to contribute to and use the Wiki.

The questionnaire sent out at the end of the POC for the Wiki asked participants; 'Would you use a Wiki again to participate in the enhancement prioritisation process'. 94% of respondents from the POC answered 'yes' they would use a Wiki again to participate in the enhancement prioritisation process.

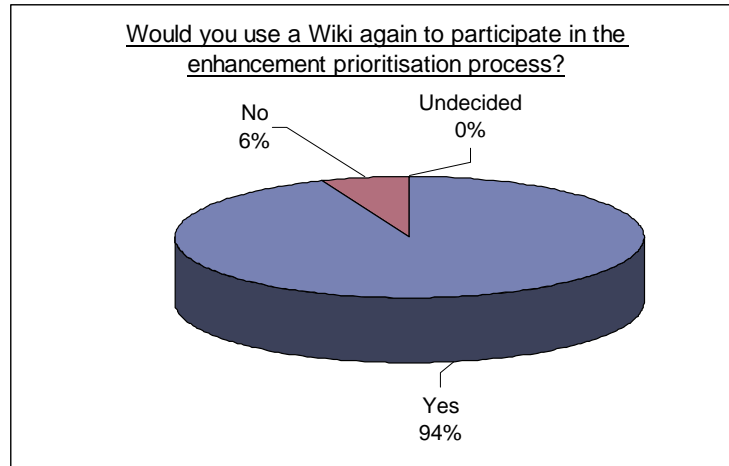


Figure 3.5.3

Before the Wiki was created, details obtained from the users for enhancements were sometimes limited in detail and required further investigation to ensure proper understanding. This created difficulties for LINZ as some enhancements required further interpretation by LINZ..

Significant work into creating enhancements with meaningful information has been undertaken by LINZ and has resulted in the understanding of enhancements being high amongst all POC users. The use of a template within the Wiki ensured that key fields were filled in and has been a large contributing factor to the success of the users understanding.

To encourage discussion and voting of enhancements it was critical that each description could be understood by users. In addition to the compulsory fields, the ownership of the enhancement was with the user who suggested the enhancement. It is in the best interest of the user to create a detailed description if they want the enhancement to be voted on and eventually implemented. If the description is poor then the enhancement will simply not be discussed and will not be voted on. Examples in the POC Wiki included five new enhancements that were created by e-survey users with minimal input from LINZ staff to clarify the requirements, an example of an enhancement is in Appendix D.

The detail within the enhancements has increased the users understanding of enhancements and helped them use the Wiki to prioritise enhancements.

4 Potential Benefits

KPMG have explored a number of potential benefits which have been determined from the POC.

Benefit Type	Benefit	Measure
Quality of Service	Users of Landonline will have transparency over the enhancement prioritisation process.	Number of users participating in the process.
Quality of Service	LINZ will be able to make better decisions on which enhancements to prioritise by using a Wiki as all users will be able to contribute. This should lead to better understanding by users of the selection of enhancements for a release.	Survey of users to gain the level of understanding.
Quality of service	Users' contributions via a Wiki will enable LINZ to make better informed decisions on which enhancements to prioritise due to greater transparency and reduced ambiguity. In addition there will be greater transparency both of the requested enhancements as well as the rationale behind their selection.	User feedback on the quality of enhancements being made to Landonline.
Quality of Service	Users will be able to contribute to enhancement definitions. The Wiki enables the users to define the enhancement requirements clearly by modifying the Wiki and adding comments. This clear understanding of the enhancement will lead to the development of more appropriate solutions.	Quality of solutions developed. This could be measured by a survey amongst users and LINZ staff. There will be savings in terms of cost, time and effort from defining the requirements early rather than the large costs from changing requirements mid way through development.
Economy/Cost Reduction	Using a Wiki will allow cost effective input of users regardless of where they are based. The cost of transport, administration and the 'focus groups' effort would be saved if a Wiki was implemented. It would not take long for the investment to cover the costs associated with the implementation of the	Obtain costs from transport, time and effort to conduct the current focus group. Compare these costs with the ongoing costs of the Wiki.

Benefit Type	Benefit	Measure
	<p>Wiki.</p> <p>This is also aligned with the Governments focus on reducing its carbon footprint.</p>	
Economy/Cost Reduction	The reduction in work effort required from the LINZ Landonline team is reduced due to the quality of the enhancement detail.	Measure the amount of time spent on confirming requirements and enhancements over a period of time.
Process Improvement	By creating a Wiki LINZ will be able to prioritise the enhancements with less resources. Initially there may be extra effort required to maintain and run the Wiki, however once the Wiki is well understood it will be self moderating and require significantly less effort.	Measure the time spent by LINZ to prioritise enhancements. This should be reduced over time, and effort will be able to be transferred into other areas.
Process Improvement	Having the entire user population able to vote and rank enhancements will enable LINZ to have greater visibility of what a broad range of users believe should be prioritised for Landonline.	Quality of new enhancements compared to the old enhancements. The number of users voting and contributing to enhancements.
Process Improvement	Communication between LINZ and Landonline users will be enhanced through instant access to information and views.	Measure the communication between users and LINZ over a period of time.

5 Lessons Learnt

A POC to determine the effectiveness of a Wiki to aid in the prioritisation enhancement process and collaborate users thoughts, comments and ideas on enhancements for Landonline has been completed and has been positive.

Lessons learnt can inform both the design and risk management of any future implementation project and should be included in the Business Case. Therefore it is important to document the lessons learnt for the potential of the Business Case being created for this project or any other project.

There are a number of lessons learnt from the POC which should be analysed further if implementation of a Wiki is to occur. The lessons learnt and suggested actions are detailed in the table at the end of this section.

5.1.1 Collaboration

The Wiki is a useful tool for collaborating ideas to allow participants to effectively discussing potential enhancements. The Wiki helps the LINZ staff clarify the proposed enhancements before they are submitted to developers for implementation. A Wiki or similar type of collaboration and discussion tool should be implemented.

Throughout the POC there was a Wiki page which users could comment on the Wiki. A questionnaire sent out also allowed users to comment on the concept of a Wiki.

A number of users commented that they were unsure of the enhancement prioritisation process. An educational process should be completed to ensure that all users are aware of the process. If the Wiki is to be implemented an educational page should be created to ensure that users understand what the Wiki is for and to maximise the benefit from the Wiki and add value to the prioritisation process.

The number of participants contributing in ways other than voting was high, approximately 70% made comments. If the Wiki goes ahead participation may be lower as the POC only included users who had volunteered to be involved.. The participation was greater than the current process that uses a panel of 3-5 users.

A significant amount of input was provided by a small number of contributors. Research shows that this is a typical pattern of collaborative systems (refer Clay Shirky on Institutions vs Collaboration

www.ted.com/index.php/talks/clay_shirky_on_institutions_versus_collaboration.html). All contributions recorded which is an improvement over the current process of a small group providing input. The input is visible for all users able to access the Wiki.

5.1.2 Voting

The voting process used for the POC was basic. A simple ranking of 1-5 was used for two questions;

- Rate the benefit of this change; and

- How dissatisfied would I be if this was not delivered?

This ranking allowed the user to indicate the importance of the enhancement. These values were then aggregated manually to show the relative position of each enhancement weighted by the number of users who had ranked the enhancement.

This exposed some issues. For example if users had voted for an enhancement, and then someone had significantly edited the enhancement under the POC, the votes would still be retained and may not reflect the revised views on the enhancements.

The mitigation for this and a feature of the Wiki is to use the monitoring tools provided that alert a contributor to changes allowing a user to revise their ranking.

The process for voting requires more analysis into how to create a fair and reflective voting system to accommodate the enhancements and changes in enhancement detail.

A possible framework that would be tested would be to:

- Allow an initial ranking as above. Note that individuals may change the value of the rank 1-5 without incrementing the number of votes. This would be used to assemble an indicative order of importance.
- Select the top 30 (or an agreed manageable number) of enhancements from this list and then have estimates applied showing the effort required and allow users to rank and comment but not edit the requirement for these items. This activity would be for an advised period of time at the end of which the top ranking items would be transferred to the work program for the release based on the development window and resources available.

5.1.3 User Training

A few users were unfamiliar with Wikis. An educational process should be completed to ensure all understand a Wiki and the benefits from using this technology. Despite this lack of familiarity users participated in the discussion. Training may see better utilisation of the Wiki features such as “Tag” – user applied taxonomy for searching.

5.1.4 Wiki or Other Tool

Users suggested the use of an online document/discussion/questionnaire instead of the Wiki, which is valid as the POC used the basic functionality of a Wiki and was almost used as a discussion board. Moving forward as the users become more comfortable with the Wiki, additional functionality would be used which wasn't fully utilized in the POC.

There were concerns around users being able to modify any part of the Wiki. This would be of concern if the Wiki was open to the public. The POC was a closed user group of professionals which logged all acts completed by a user. As with most Wiki's the Wiki in the POC was self moderating and the only interjection necessary was done when comments were off topic.

If a Wiki is to be implemented into production for the entire Landonline user group a closed user group would be required. This is consistent with the existing Landonline access.

Another option would be to have two sections to the Wiki, a suggestion area where enhancements can be commented on and edited until the enhancement has been established. Once established, the enhancement would be moved to a voting area where the enhancement cannot be modified and only comments and votes could be made.

5.1.5 Time and Effort

The total time and effort required to be spent by LINZ staff for activities such as moderation and monitoring was minimal. The effort required from LINZ was dependent on the phase of the POC. For example, when the enhancements were being loaded LINZ there was focused efforts by LINZ however once the enhancements were loaded there was significantly less effort required from LINZ.

In conjunction with the templates and other benefits from the Wiki, there will be less effort required to prioritise enhancements.

By creating a sufficiently detailed enhancement, the collaboration between users was increased and effort required from LINZ to populate the enhancement was reduced or eliminated.

In addition to the detail within the enhancements, there is a need for the system owner to remind users to participate in the Wiki. For example, when the Wiki was first opened there was significant activity, this decreased after a week, a reminder notice was sent out and again and the level increased again.

The Wiki contained RSS feeds which could automatically notify users of changes or additions to an enhancement or the site. As the maturity of the users increases this feature will be fully utilised and will reduce the effort to remind users.

Below is a table of the lessons learnt from the POC.

Lessons Learnt Area	Lessons	Suggested Actions
Voting	The process for voting requires more analysis to create a fair and reflective voting system to accommodate the number and frequency of votes for the enhancements to determine the urgency or popularity.	Further analysis into a fair, reflective and transparent voting system needs to be completed.
Voting	When an enhancement is edited with votes already recorded, the previous ranking still exists even when the enhancement may have been altered significantly.	Enhancements need to be grouped into two groups, a 'suggestion' box where details of the enhancement are finalised. Once finalised enhancements are submitted to be prioritised for implementation and LINZ can complete further work and estimates.
Collaboration	The Wiki is a useful tool in collaborating ideas for the participants in effectively discussing potential enhancements. The Wiki helps the LINZ staff clarify the proposed enhancements before they are submitted to the developers for implementation.	A Wiki is a useful tool for the collaboration and sharing of ideas and should be considered for defining and ranking Landonline enhancements.
Collaboration	Discussion amongst the Wiki users in some instances resulted in self-moderation of the Wiki and users were able to share best practice ideas and tips in a collaborative way.	A Wiki is a useful tool for the collaboration and sharing of best practice ideas and should be considered for educational purposes.
Collaboration	The number of participants contributing other than voting was high with approximately 70% making a comment. This was from a subset of self selected participants where participation could be expected to be high. The participation was greater than the current process that uses a panel of 3-5 users.	Proceed with the Wiki and encourage participation by promoting the system through user associations and by email reminders of the timing of work programme selection.

Lessons Learnt Area	Lessons	Suggested Actions
Collaboration	<p>A significant amount of input was provided by a small number of contributors. Approximately 70% of participants contributed in ways other than simply voting. All contributions are recorded which is an improvement over the current process where a small group provides input on behalf of the wider community.</p> <p>The input is visible for all users able to access the Wiki.</p>	<p>Ensure that there is communication of the items selected for a release. Updates of these documents/pages can then form the basis of the release notes allowing users to see the discussion behind the item.</p>
Collaboration	<p>The benefits of using a Wiki could be obtained by using other software that is user-friendly, with familiar front end e.g. a discussion board or web page with a comments function and voting capability.</p>	<p>Any software must be intuitive and simple to use for effective participation.</p>
Usability	<p>Users were reluctant to create new enhancements in case there was one already existing.</p>	<p>Any future Wiki includes an effective search function and an easily identifiable way to start a new enhancement suggestion (i.e. a link to a template).</p>
Time and Effort	<p>The Wiki helps the LINZ staff clarify the proposed enhancements before they were submitted to the development team to be implemented.</p>	<p>A Wiki is a useful tool for the collaboration and sharing of ideas and should be considered for defining and ranking Landonline enhancements.</p>
Time and Effort	<p>By creating a sufficiently detailed enhancement, the collaboration between users was increased and effort required from LINZ to populate the enhancement was reduced or eliminated.</p>	<p>Complete the amount of detail obtained in the POC to ensure a consistent level of detail is captured. This is in place for survey enhancements but will be required for Titles, Geodetic and Infrastructure suggestions.</p>
Time and Effort	<p>Some users may see using the Wiki as a time cost to their business.</p>	<p>Any software must be intuitive and simple to use for effective participation.</p>
Time and Effort	<p>While some Wiki's allow anonymous contributions attributing edits to identified participants assists in moderating input and ensures self regulation amongst a professional group.</p>	<p>Maintain identified contributions. This could be increased to allow user groups for special interests.</p>

Lessons Learnt Area	Lessons	Suggested Actions
Time and Effort	By creating a sufficiently detailed enhancement, the collaboration between users was increased and effort required from LINZ to populate the enhancement was reduced or eliminated.	Complete the amount of detail obtained in the POC to ensure a consistent level of detail is captured. This is in place for survey enhancements but will be required for Titles, Geodetic and Infrastructure suggestions.
Time and Effort	Users need to be reminded about participating to ensure that there is sufficient awareness and collaboration of ideas for the enhancements.	In conjunction with a known process, users need to be reminded to comment and contribute at key stages throughout the enhancement process. This can be achieved through a range of tools including, RSS feeds, emails and notifications.