

Taking Advantage Of Web Technologies To Increase Service Provision And Decrease Costs

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Introduction

Disability service organisations rarely use all web technologies available to deliver services. I suggest that by using web technologies organisations can reach out to individuals who would otherwise have difficulty accessing their services, and in so doing, reduce some of their costs.

A website should never be intended to replace how service organisations traditionally deliver services. A website should be viewed as an addition to traditional service delivery. This would allow service improvement and provision to customers who are unable to currently access the services.

When talking about traditional service delivery in this paper, I do not refer to the difference between social and medical models of disabilities. "Traditional service delivery" in this context is when an individual has to travel to a specific premise to meet with an individual, usually at a specific time, in order to receive a particular service.

Services That Could Be Delivered On The Web

There are four main areas of service that can be provided on the internet:

- Information and Referral
- Peer Counselling
- Independent Living Skills Training
- Advocacy

These services constitute the core services offered by Centres for Independent Living (CILs), non-profit organisations operated by and for people with disabilities, located mainly in the United States but also found throughout the world¹. While not all disability service organisations follow the CIL model, most service providers offer one or more of these four services.

With a little imagination, other services could be provided as well.

Barriers Related to Traditional Delivery

¹ <http://www.ilru.org/html/publications/directory/international.htm>

There are several barriers that limit an individual's ability to receive services from an organisation or group in a traditional way.

- Transportation
- Opening Hours
- Language
- Impairment

When offering services on the internet, individuals are not limited by having to go to a specific place, at a specific time, to access the services. They can "get to you" from the comfort of their own home at any time they wish.

Transportation

Finding transportation can often be a problem for people with disabilities. Some people are unable to drive. Some people are unable to afford a car. Public transit may not be accessible. Public transit may not provide appropriate routes. Taxis may be either unaffordable or not accessible. Friends and family may not always be willing or able to provide transit.

In some areas individuals live a significant distance away from their nearest (or preferred) service providers. Transportation becomes even more problematic when someone has to travel 100 Km or more to reach the organisation's office.



Opening Hours

The usual opening hours of a service organisation are from 8:30 am to 5:00 pm, give or take a half hour each way. Not everyone is able to get to the organisation's office during those times. Someone may be working full time during those hours and be unable to get away. Someone else may rely on a family member to provide transportation, and that person may work.



Extending the opening hours may reduce this barrier, but it will not eliminate it. Extending business hours increases costs – which the web doesn't.

Language & Communication

While English is the primary language of New Zealand, Māori and New Zealand Sign Language are official languages, spoken by many².



Having employees fluent in all official languages is often not practicable for small non-profit organisations. Providing accurate translations may be easier – albeit not easy and sometimes cost-prohibitive.

There are also many immigrants who may not be fluent in spoken English, for whom written English would be easier to understand.

Impairment

Some individuals may be unable to travel to a physical office due to their impairment. Conditions such as agoraphobia or multiple chemical sensitivity can make trips outside the home extremely difficult, if not impossible. Individuals with chronic pain may also be inhibited by trying to avoid unnecessary movements

Barriers Related to Web-Based Delivery

² http://en.wikipedia.org/wiki/Languages_of_New_Zealand#Statistics

There are of course barriers to delivering services on the web – no service delivery method is perfect for all individuals in all circumstances. While these possible barriers must be considered, many can be reduced at the development phase of the website or content. Other barriers will decrease as broadband network infrastructures are developed and access costs lowered.

- Lack of computer
- Lack of internet service
- Non-accessible website
- Complex language

Lack of Computer

Not every person with a disability owns or has access to a computer. People with disabilities have high unemployment rates, and generally very low income. It is difficult for them to be able to afford computer hardware. It is even more costly if the individual requires assistive software or hardware that is not funded.

Access to computers outside the home in locations such as public libraries, offices, community centres or friends' home is also limited by physical accessibility of buildings, lack of assistive technology, and transportation³.

Lack of Internet Service

Access to the internet is not always possible for those people with disabilities who do have access to a computer. Either the service is not available at all, or it is too costly. Broadband internet is not available in all areas of New Zealand, particularly rural areas. The situation should improve in the coming years. The New Zealand Government's Rural Broadband Initiative (RBI) announced in April 2011 should increase access to broadband for all Kiwis, including those with disabilities⁴.

Non-Accessible Website

Websites must be built with accessibility in mind, especially considering the target market that disability service organisations aim for. There are several ways to increase a website's accessibility, for example: using images and alternate text appropriately, providing captioned videos and transcripts, ensuring proper colour contrast, or ensuring keyboard-only navigation is possible.

Web accessibility could be the topic of several presentations in itself. Please refer to the World Wide Web's Web Accessibility Initiative's Web Content Accessibility Guidelines (W3C's WAI's WCAG) for further information about website accessibility⁵.

Complex Language vs. Plain English

Plain English "*is a generic term for communication styles that emphasise clarity, brevity and the avoidance of technical language*"⁶. Plain English is language that everyone in your audience can understand. It is important to avoid the complex language often favoured by government entities and academia. Plain English increases content accessibility for everyone, including people with learning impairments and non-native English speakers.

³ <http://rtc.ruralinstitute.umt.edu/TelCom/Divide.htm>

⁴ <http://www.beehive.govt.nz/release/rural-broadband-initiative-underway>

⁵ <http://www.w3.org/WAI/intro/wcag>

⁶ http://en.wikipedia.org/wiki/Plain_English

Plain English, like web accessibility, could be the topic of several presentations. Please refer to the Plain Language Association InterNational's website⁷ for more information.

Web Based Technologies

We have to think beyond "brochure" style websites. The brochure style of website has a handful of pages, gives basic contact information, and provides limited information about the organisation and the services it offers. To increase service provision, a whole range of web technologies may be used. These technologies may be used by themselves or in relation to one another.

Web technologies evolve all the time. New technology is introduced, and existing technology becomes more affordable, or easier to use, or simply becomes obsolete. Keeping a site up-to-date is mission critical to its success. Adding new content is also very important.

Text or HTML Pages

Providing Information and Referral is the most obvious use of text/HTML pages. The website can provide information about the organisation and about the services offered. But it can also provide specific information that users may be looking for or referral to other sites that may have further information.



For example, an individual is looking for Sign Language Interpreters. The organisation's website may list a few reliable interpreters they have worked with in the past, or they may direct to an agency that provides interpreters. Another example could be that of an individual who wants information about accessible housing. The organisation's website may list building specifications related to building ramps or strengthening bathroom walls for grab bars, or may list the names of reliable builders they have worked with in the past, or may list possible funding sources to pay for housing modifications.

⁷ <http://www.plainlanguagenetwork.org/>

PDF documents

Avoid PDF documents to deliver content, unless the user needs to print the information within a set format. PDF documents are often not accessible, break the flow of reading, make saving and printing difficult⁸.



Blog and Email Newsletters

Informing your customers of what is happening with your organisation can be difficult. The traditional newsletter is costly to produce, costly to post, and is often too late to deliver “fresh” news. Writing blog posts or creating email newsletters provide a solution to the time and cost factors related to traditional newsletter or mailing methods of communication.

Emails can be an effective way to deliver time sensitive information, such as advocacy alerts.



Care must be taken that the people on your emailing list have requested to join the mailing list, otherwise communications can be deemed to be unsolicited electronic messages, or “spam”. It is

⁸ <http://www.useit.com/alertbox/9605.html>

illegal to send spam in New Zealand under the Unsolicited Electronic Message Act 2007⁹.
Unsubscription information should be provided in the emails.

Podcasts, Audio and Video

Different people have different learning styles. For some people the written word is most effective. Other people benefit from seeing or hearing a person talk. A series of short video and/or audio documents, referred to as podcasts, can be provided. Podcasts may be recorded specifically to deliver content on the website, or may be recorded during presentations or training sessions run by the organisation.

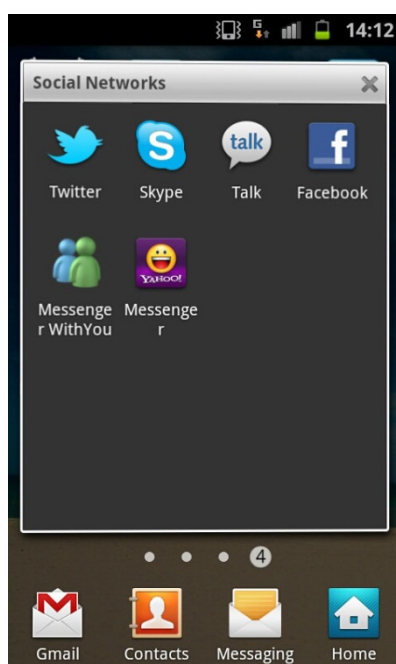
Podcasts can be an excellent way to deliver Independent Living Skills Training. Spoken instructions and video demonstration make for a source of information most people learn well from. For example, a podcast can discuss how to use an accessible public transit bus while showing both a bus' lift being employed, and a kneeling bus' ramp being deployed. Training on how to use the public transit system in your office would have to rely on video to demonstrate these two different busses.

Podcast accessibility

While podcasts are a great way to deliver content, it is important to remember that unless the video is captioned, people who are deaf or with hearing impairments will not be able to benefit from the audio segment of the video. Similarly, people who are blind or have a vision impairment will benefit from audio description of the image.

Live Chat & Social Media

Sometimes customers need to interact with your organisation. A conversation may be more appropriate than simply providing content for the person to read or view – in other words, sometimes a dynamic interaction rather than a static one is better. Staff members may be available to the customers through live chat or the use of social media.



⁹ <http://www.legislation.govt.nz/act/public/2007/0007/latest/DLM405134.html>

Live Chat applications such as Yahoo! Messenger, MSN Live Messenger or Skype can be linked straight from the organisation's website. They permit live communications "in real time" between an employee or volunteer and a customer, in a variety of formats. The format most often used is text, but video calls may be conducted. Phone calls to/from a landline can be made on Skype. Skype may also be used for video calling, allowing users to use Sign Language.

Social media such as Twitter or Facebook can be used to broadcast news and upcoming events. They can also be used by your customers to ask questions and for your organisations to answer them. The answer to questions may be as simple as referring the individual to a specific page on your website, or may invite the individual to email or phone in.

Mobile Web

Most people have mobile phones. Today's smartphones, such as iPhone or Android devices, allow people to access websites, or access services through applications referred to as "apps". Even basic mobile phones now let users access web services.



The organisation's customers will be able to access the information if the organisation's website took into account mobile devices during the development phases.

An organisation may also wish to develop a specific "app" for customers to use. This app could push organisation news directly to the customer's phone, or call for action on specific advocacy activities.

Content Development

Before developing the website, content must be available. Often organisations rely on employee knowledge which is not written anywhere. Whether the knowledge is about the organisation's procedures or information for customers, it must first be written down.

The content structure and format(s) for the website must be determined early. This structure is based on employee knowledge of their customers' needs. Once the structure has been determined, individual pieces of information can be developed. In some cases the information will already have been written down, for example a fact sheet about personal care assistants. In other cases the information is fragmented in several different places. In yet other cases, the information exists only

in an employee's brain, unwritten. In all cases, the content must be formatted to fit in the website's structure and format.

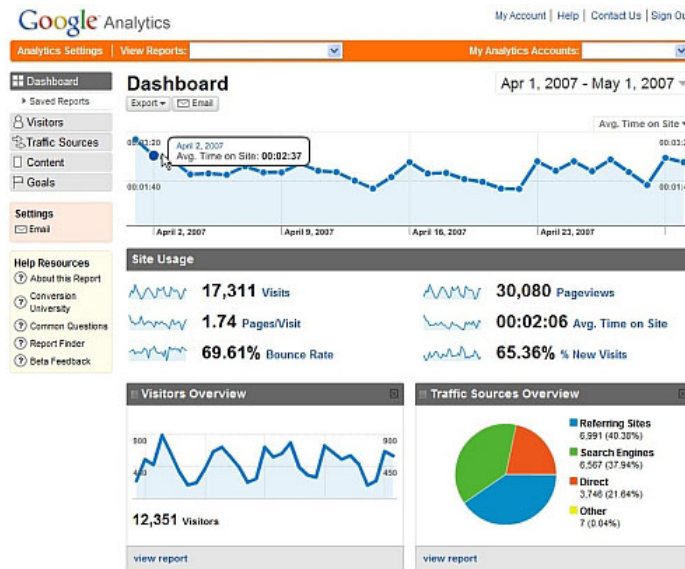


Gathering, writing down, and developing content may be the most difficult aspect of working towards web-based service delivery for an organisation. Having all the information written down, indexed and classified will benefit the organisation greatly. The information will be easier to locate, and if staff leaves employment with the organisation, their knowledge remains with the organisation.

Statistics

Most service organisations are required to keep track of the number of individuals served through their services. The numbers are reported to funding agencies and government entities.

In traditional service delivery, it is relatively easy to keep track of how many individuals have been provided with information – a tally is kept of the number of calls made about a specific topic. It is more difficult to gather information about customers' demographics. In some cases the funding agency requires the organisation to specifically ask about a customer's age, ethnicity, gender, disability status, and several other demographic data. Customers are not always keen to provide that data – they want to get the service they are after, no more, no less.



Keeping track of either information and referral data, or demographic data is as simple, and as complex, on the web as it is in traditional service delivery. Web statistics packages (such as Google Analytics) can be used to track the number of visits to a specific page, or group of pages. How long each page is viewed can be measured. The general location visitor is from can be garnered from their IP address (allowing the organisation to determine how many people visited from their direct service area, and how many visited from outside the area, or even outside of the country). Further demographic information could be garnered through the use of secure online forms, free registration, or an invitation to contact the organisation directly.

Costs

Developing a website can be costly. There are not only financial costs involved – developing a website and related content can take a lot of time. The majority of these expenses are upfront costs. Once the website is ready, maintaining the site and content is not as expensive.



Some of the costs to consider include:

- Web development
- Web hosting
- Software purchase
- Staff and volunteer training
- Content writing
- Podcast development
- Podcast captioning & audio describing

Apart from seeking funding or donations, initial costs can be reduced by using FOSS software, using volunteers, and planning content delivery phases appropriately. On-going costs may also be reduced, particularly employee travel.

FOSS

Free Open Source Software (FOSS) refers to software that is *“licensed to grant users the right to use, study, change, and improve its design through the availability of its source code”*. In this context, *“free refers to the freedom to copy and re-use the software rather than to the price of the software”*¹⁰. However a lot of FOSS software is provided at low or no cost. FOSS software is available to conduct all activities related to web and content development.

Volunteers

In my experience, many disability service organisations want to recruit volunteers, but don't have programmes in place to use such volunteers. Using volunteers for data entry or content development can be a good use of the volunteer's time. While minimal overview from staff for quality assurance, using volunteers to develop content can free employees' time.

Content Delivery Phases

Not all content needs to be ready before the website's release. It may take time to produce all the information in a web-usable format. This could delay the website indefinitely. Plan a solid content structure for the site. Then launch the site with limited content, and keep adding new material. This will help keep the site fresh, and lower initial development costs.

Employee Travel

Travel for employees can be very costly. The actual costs involved in owning and insuring a vehicle, maintaining it, and purchasing petrol are significant. The time spent travelling to a customer's location is also wasted staff time – while they are driving, they are unable to accomplish other tasks. The demand on staff travel is reduced when a customer can access the services online, and travel-related costs are reduced.

Conclusion

Disability service organisations would gain by using web technologies to deliver services. There are some initial costs and time involved before a full range of services can be offered on the web. In the long term the organisation will gain by being able to reach more people and provide services in ways that are appropriate to a wider variety of needs.

¹⁰ http://en.wikipedia.org/wiki/Free_and_open_source_software

This approach to service delivery may require a paradigm shift from the organisation, and that may not be easy to achieve. This approach also requires the organisation to coordinate their information in a standard, documented way. Relying on individual and institutional knowledge that exists only in an employee's brain is not sufficient.

Web-based service delivery will reduce many barriers to services for people, and even eliminate some barriers entirely. Tracking the use of information and customer demographic is easier in some respect than it is in traditional service delivery, and also offers challenges.

A study comparing the numbers before and after providing services through web-based technologies would likely yield very interesting results.