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## Using eExtension to enable change in the rangelands

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### Introduction

In the same way our Australian rangelands are incredibly large and diverse, yet with many specific ecosystems, our communication and change programs need to be wide reaching yet targeting specific audiences. While this is at times challenging, utilising some modern communication technologies can improve our effectiveness without necessarily increasing costs.

Einstein is attributed with defining insanity as doing the same thing over and over again and expecting a different result. So if we are not content with the relatively low rates of adoption of innovation in the agricultural sector, which have been described as 'modest at best' (Pannell et al. 2006, p. 1407), we need to consider new approaches. We have been using face-to-face and paper-based communication for many years, and we should continue to do so. However we should complement these with electronic communication modes for even greater success. eExtension is the use of electronic technologies, such as webinars and YouTube videos, that enhance face-to-face and paper-based interactions to enable change (James 2010, p. 156).

### The flipped classroom

Of course face-to-face interaction is the best way to build trust and rapport, and is especially important at technical workshops where the content is often complex and difficult to communicate easily. However, instead of spending time at the workshop covering the new subject material, the *flipped classroom* approach can be used to engage learners before the main event (Burns & Schroeder 2014; Sams & Bergmann 2012; Tucker 2012). Printed articles and YouTube-style videos (which could be distributed on DVD to Internet challenged areas) can be studied by the workshop participants before the workshop, so that when they arrive they can better discuss the interpretation and application of the material into their own settings. This adult learning approach enables the participants to build on their existing knowledge and experiences (Kolb 1984).

### The learning journey

At the conclusion of the workshop, we too often conclude the proceedings and leave the participants to their own devices to implement the often complex concepts discussed during the workshop. Alternatively, we can take them on a *learning journey* that might last 12 or 18 months after the initial workshop. That way we can virtually walk alongside them as they consider adopting the innovation in their various situations. Webinars allow us to check in with the participants every few months to continue the conversation without anyone needing to travel. This allows participants to ask further questions as they trial the recommended approaches, and enables them to share their progress with other members of the group.

This positive peer group pressure can encourage other members to adopt the innovations, resulting in much higher levels of adoption than if we treated the workshop as a flash in the pan activity. We could invite some of the participants (who we know have already adopted some of the innovations) to share what they did and how it has improved their business. Then the others might think "Well, if Bill did it, then maybe I can too!". We all know that farmers (like most adults) prefer to learn from

one another's experiences (Kolb 1984). They like to lean over the fence and see what their neighbour has done. Webinars enable them to easily share photos of their activities and discuss the outcomes.

### Social media

Facebook, Twitter and other social media channels can also be used as ways of continuing that conversation. These channels allow the informal exchange of ideas and learning between group members and help build a sense of community. Australia now has 13.6 million users on Facebook, 3.2 million on LinkedIn and 2.8 million on Twitter (Cowling 2014). Despite being referred to as 'electronic graffiti' by Prime Minister Tony Abbott (Chan 2015), social media provides as valuable insight into public sentiment as focus groups and opinion polls (Snowden 2015).

### Benefits of using eExtension approaches

Of course the reduced travel does save money, but that's not our primary aim. It is about getting greater engagement which in turn increases the likelihood of greater adoption of the desired practice changes. However, for those who are interested, here is how the savings are calculated. An average one-hour web conference (with 10 participants from regional centres around Queensland) can save:

- 60 hours of travel time (which equates to approximately \$6000 in associated salaries)
- over \$2500 of airfares and
- over 3 metric tonnes of CO<sub>2</sub>.

Using these assumptions, it was estimated that the use of these technologies saved our department over a million dollars and 350 tonnes of CO<sub>2</sub> in one year. However, more importantly these eTools have helped our extension officers to more effectively undertake their work. A survey conducted in 2011 with responses from 56 Queensland government staff who used webinars indicated that on average over 80% found they could better engage with their clients as a result of webinars (James 2011). A similar amount (78%) indicated that webinars enabled them to be more innovative with their work and almost 75% indicated that they were better able to be more responsive to their clients' needs. These average ratings were not significantly different from each other.

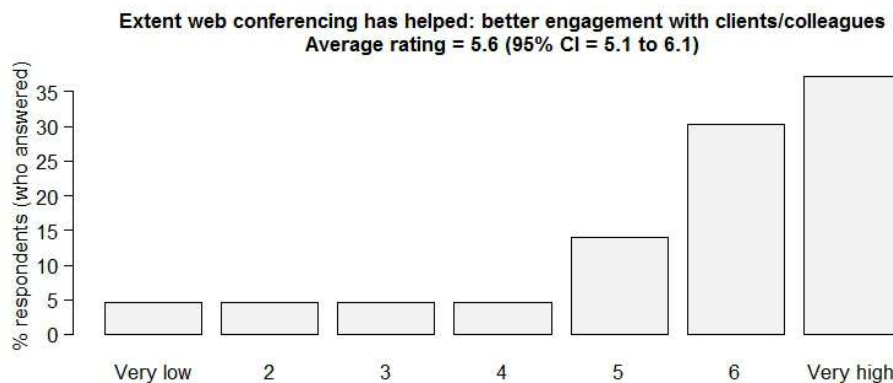


Figure 1: Extent web conferencing has helped engagement

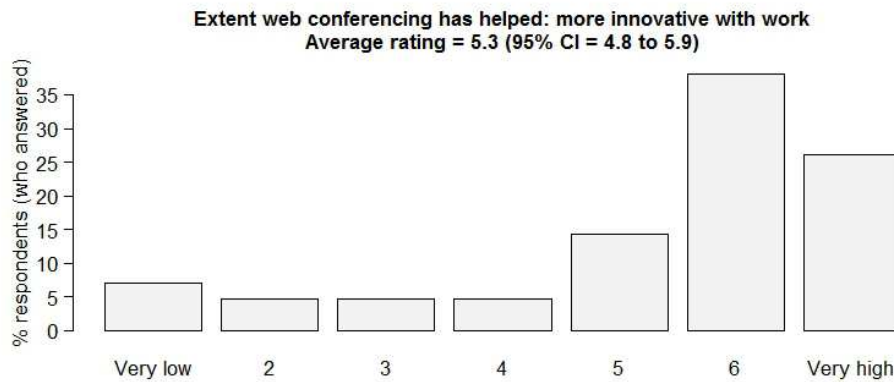


Figure 2: Extent web conferencing has helped innovation

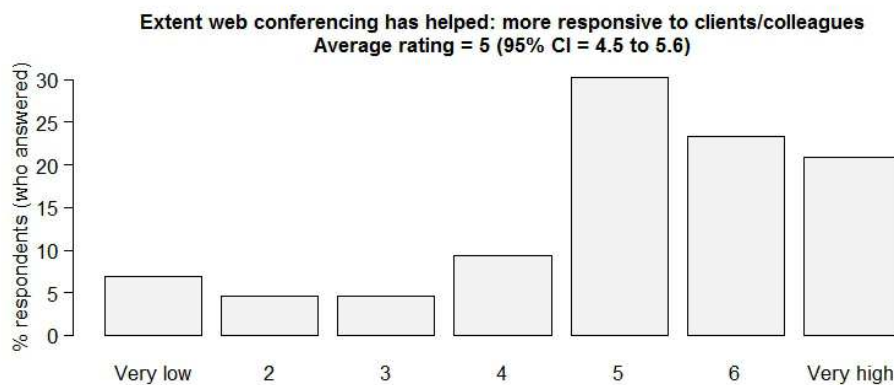


Figure 3: Extent web conferencing has helped client responsiveness

### YouTube videos and behaviour change

With over six billion hours of video being watched on YouTube each month (YouTube 2015), it is certainly a popular medium. However, YouTube videos are not only entertaining as they can also influence behaviour change. Sullivan (2014) undertook research for her PhD investigating whether watching videos could influence the behaviour of the owners of pet fish. Nearly 200 fish owners took part in the online experiment and after answering a few short questions about keeping fish and how often they cleaned their tank, they were randomly assigned to one of three groups. Two of the groups were shown different videos designed to improve their tank cleaning habits, either a sad video about pets dying or a funny video of fish defecating their tanks. Those in the remaining control group were shown no video at all.

One month later, they were asked again how often they cleaned their tanks and what they remembered about the video. The group of owners who said they needed to improve, but did not see either YouTube video, actually became worse over the following month. Half cleaned their tank the same number of times and the other half cleaned their tank less often. None of the participants in this group improved their habits. By comparison, 60% of fish owners who intended to improve and watched a YouTube video started cleaning their tanks more often. Only 6% cleaned their tank less after watching the video. When it came to remembering the message, comedy appeared to beat tragedy, with 88% of people who viewed the humorous video recalling it after one month, compared with only 60% who recalled the gloomy video.

### Conclusion

To maximise the effectiveness of our communication and change programs, we need to broaden our approach to include the use of electronic communication tools such as webinars, social media and

YouTube videos. This will also allow us to use modern methods such as the flipped classroom and the learning journey for interacting with rangeland managers, so as to further improve engagement and rates of adoption.

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