



Use of facebook to engage water customers: A comprehensive study of current U.K. and Australian practices and trends

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ABSTRACT

Given regulatory developments, it is imperative that water businesses implement effective customer engagement strategies. Among other options, Facebook offers enormous potential given the ability to connect with customers, involve customers in the co-creation of content, obtain real-time feedback on customer preferences and promote water conversation behaviours. This paper examines how effectively 20 large Australian and U.K. water businesses are using Facebook to engage customers. It also identifies how these firms can improve Facebook engagement by optimising posts type, timing, content, frequency and other factors. The total sample included more than 300,000 responses to nearly 17,000 posts between 2010 and 2017. Rapid growth in the utilisation of Facebook by water businesses was observed given the number of posts and customers engaging with this content. The results of the analysis of popular posts identified innovative ways some water businesses are using Facebook posts to promote the health benefits of tap water consumption, water conservation behaviours and responsible wastewater practices. Despite the trends, most firms still make less than one post per day and of those customers who have engaged, most have done with a single response. Further analysis revealed that few posts, and only a relatively small number of customer comments, pertained to water pricing matters. To promote engagement, water businesses must improve post regularity, the degree to which they moderate Facebook discussion, the utilisation of videos and photos, and further consider the underlying content of posts.

1. Introduction

Globally, urban water services are delivered by private and government owned utilities with natural monopoly features. Customers are unable to choose their water business (Guerrini et al., 2018). In these contexts, water price regulation is used to balance the needs of both: customers for affordable water; and water businesses for sufficient revenue. How prices should be regulated has been subject to much debate. This discussion has centred on the choice of either rate-of-return or price-cap-regulation (e.g., Liston, 1993; Reynaud and Thomas, 2013).¹ Optimal tariff structure has also been an area of attention (e.g., Crase et al., 2007; Hoque and Wichelns, 2013; Sibly and Tooth, 2014). Recent regulatory developments within Australia and the U.K., however, have emphasised the role of customer engagement (see ESC, 2015; 2016; IPART, 2012a; Littlechild, 2014; Littlechild and Mountain, 2015;

Stern, 2014; Heims and Lodge, 2016; Hahn et al., 2017). This represents a fundamental shift in water regulation away from a commodity approach focused on economic tools (see Langford, 2005). It also reflects broader natural and water resource management stakeholder engagement trends (e.g., Carr et al., 2012; Butler and Adamowski, 2015; Verbrugge et al., 2017).

Improved engagement can have multiple benefits for water businesses and their customers. It can help businesses to stave off further regulatory interventions, enable them to better understand customer preferences, uncover opportunities for innovation, ensure that customers better understand prices, and potentially enhance the legitimacy of price determinations (Hendry, 2016; Hahn et al., 2017). Water businesses can further utilise engagement to promote water conservation and other environmentally responsible behaviours (e.g., Grafton et al., 2011; Martínez-Espiñeira et al., 2014; Dieu-Hang et al., 2017).

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¹ Rate-of-return regulation, prominently used within the Australian context, involves water prices being approved at levels that enable water businesses to recover their fixed costs and generate a guaranteed return on their assets (Pawsey and Crase, 2013). Price-cap-regulation, by comparison, as used by U.K. water businesses and others, is designed to provide incentives for water businesses to enhance their efficiency and involves water price increases being approved based on forecast inflation and adjusted for an efficiency saving (Bayliss, 2017).

Given this, engagement has potential to deliver customers improved service quality and bill control.

When it comes to methods of engagement, water businesses have many choices. Regulators have preferred not to constrain the choice, holding that the businesses themselves are in the best position to identify the preferred techniques (e.g., [IPART, 2012a; 2012b; ESC, 2015](#)). While there are many options, the benefits of social media networks are increasingly recognised (e.g., [Becken et al., 2017; Novoa et al., 2018](#)). The interactive nature of social media and the ability to build communities and involve customers “in content generation and value creation has excited practitioners with its potential to better service customers and satisfy their needs” ([Sashi, 2012, p. 254](#)). Facebook, in particular, offers enormous potential. Of the estimated 80% of Australian social media users, Facebook (94%) is the most popular ([Sensis, 2017](#)).

This paper examines how effectively large Australian and U.K. water businesses are using Facebook to engage customers. Our analysis is along four lines of enquiry. Firstly, we examine the extent to which businesses are actively posting Facebook content. Secondly, we examine the nature of these posts and the extent to which customers are engaging with the content of these posts. Thirdly, sentiment analysis is used to evaluate customer comments concerning water pricing matters. Finally, we review Facebook engagement trends and identify the characteristics of the most effective posts. The sample consisted of the 10 largest Australian and 10 largest U.K. water businesses with an official Facebook page. The data collection period spanned from January 2010 to June 2017 and 303,316 responses (likes and comments) to 16,421 unique posts were captured.

A rapid increase in the number of Facebook posts by water businesses was observed. Still, however, we identified a number of opportunities for improvement. Water businesses are far from active in posting regular content and also moderating Facebook discussion. Most businesses are still to reach a significant percentage of the population they serve through Facebook.² To increase engagement, businesses must increase post regularity, the degree to which they moderate Facebook discussion, their utilisation of videos and photos, and further consider the underlying content of posts. Finally, there is significant scope for businesses to utilise Facebook as the platform to engage customers on water pricing concerns.

To the best of our knowledge, this is the first study which comprehensively examines the utilisation of Facebook by water businesses through big data analysis techniques. The findings of this study will also be of relevance to regulators and water businesses. Specifically, we highlight a number of practical steps to improve social media use in the water sector and provide a snapshot of the impact of recent reforms on engagement.

1.1. Engagement trends in water pricing regulation

Existing reviews of the drive to make customer engagement a more prominent feature within the U.K. water sector by The Water Services Regulation Authority ([OFWAT](#)) and The Water Industry Commission for Scotland ([WICS](#)) have noted various concerns. These have included gaming issues (i.e. strategic manipulation of water plan forecasts), increased conflict between regulators and firms, and a general perception that price-cap-regulation was no longer stretching companies ([Littlechild, 2014, 2016; Heims and Lodge, 2016](#)). This reflects Australian experiences. As part of a revision to their pricing guidelines, The Independent Pricing and Regulatory Tribunal ([IPART, 2012a; 2012b](#)), the regulator of major New South Wales water businesses, noted increased household concerns regarding the price of water. The review

also highlighted the need for households to better understand pricing process and for businesses to have clearer engagement expectations. Furthermore, as part of the development of their new Water Pricing Framework and Approach, the Essential Services Commission ([ESC, 2016, p. i](#)), the regulator of Victorian water businesses, perceived that “more could be done to promote greater efficiency and to ensure the delivery of outcomes that customers value” and that engagement a key part of this.

Drawing on broader notions of stakeholder engagement, customer engagement is an inclusive and continuous process in which businesses seek to establish and maintain an open and constructive relationship with their customers and work to ensure that customers are involved in projects that affect them ([Cundy et al., 2013](#)). Customer engagement can be further recognised as being on a continuum from informing and consultation to empowerment and customer control (e.g., [Zhong and Mol, 2008; Carr et al., 2012; Cundy et al., 2013; Falconi and Palmer, 2017](#)).

The importance of engagement in water resources management has long been recognised (e.g., [Carr et al., 2012; Lund, 2015; Sivapalan and Blöschl, 2015](#)). This acceptance of engagement “should be uncontroversial” given that “water resource challenges are complex and numerous individuals/groups are involved with different and sometimes competing interests and opinions” ([Carr et al., 2012, p. 1](#)). In such contexts, drawing on Habermas' theory of communicative action, a public sphere that fosters learning between stakeholders through the exchange and validation of one-another's understandings, is required if consensus is to be reached ([Reed et al., 2009](#)).

Building on the work of Habermas, deliberative democracy theorists emphasise the efficacy and justice of citizen involvement in political decision making ([Carson, 2009](#)). Collectively, such theorists have sought to portray ideal deliberative democracy principles based on “reasoned discussion between affected parties” whereby the process is discursive and “not simply the product of a vote” ([Carson, 2009, p. 1637](#)). As part of the process, the dialogue must not be dominated by one side ([Bonsón and Ratkai, 2013](#)). There can, however, be many impediments to such ‘ideal’ processes. These include trust deficits together with power and information asymmetries among different stakeholder groups ([Healy, 2009](#)).

Beyond adherence to regulatory expectations, there are a number of motivations for water businesses to engage customers. Improved customer engagement may, for instance, uncover opportunities for innovation and help businesses to better understand customer preferences ([Hoyer et al., 2010; Hahn et al., 2017](#)). Opportunities for innovation through engagement may arise given the introduction of a broader range of individuals with different perspectives, skills and networks ([Carr et al., 2012; Reed et al., 2009](#)). Concerning the role of customer engagement in helping water businesses to understand customer preferences, such arguments draw on the economic literature and the problem of information asymmetries between regulators, firms and customers ([Hahn et al., 2017](#)). If successful, improved engagement processes may further result in a revised role for regulators as facilitators of market discovery processes “instead of taking all the decisions” ([Littlechild, 2016, p. 126](#)). Even lower forms of engagement, including information provision, can be beneficial from an accountability perspective ([Lund, 2015](#)).

The wider water and natural resources engagement literature recognises that engagement can improve the legitimacy of decisions and reduce resistance to change ([Carr et al., 2012; Reed et al., 2009](#)). As discussed below, such benefits are relevant to water businesses in the context of pricing decisions and the acceptance of water conservation and responsible wastewater practices. As supported by theories of acceptance, together with economic considerations, adequate information and participation are critical for the acceptance of conservation measures ([Schenk et al., 2007](#)).

Despite the recognised importance of water price awareness, there has been some suggestion of significant knowledge gaps among

² In 2016, Australian and U.K. water businesses were able to reach some 26,016 and 17,878 distinct users, respectively. In both jurisdictions, this represents less than 1% of total connections.

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