Financial institutions using social media – do consumers perceive value?

1.0 Introduction

In an increasingly competitive marketplace, highlighted by escalating consumer expectations (Berry et al., 2010; Sorescu et al., 2011), it is critical for organizations to continually innovate in ways that promote and reinforce long-term mutually beneficial customer relationships. Financial institutions are one such service industry faced with intense competition. The financial services sector is continually evolving (Rajaobelina, Brun and Toufaily, 2013) with technological change having one of the greatest impacts on the industry (Murray, Durkin, Worthington, and Clark, 2014). To address these environmental challenges, financial institutions could benefit from investing in interactive service innovations. Interactive service innovations are novel ways of offering new benefits to existing customers (Berry et al., 2010), such as employing social media to facilitate two-way communication with consumers.

Social media can add value to consumers beyond existing e-commerce activities (Culnan, McHugh, Zubillaga, 2010; Murray et al., 2014). Using social media can complement or substitute other channels of communication with an organization and can enable organizations to drive channel efficiencies and help manage service quality for consumers (Berry et al., 2010; Laroche, Habibi, Richard and Sankaranarayanan, 2012). In 2011, 40% of American banks and 53% of UK banks were using social media for marketing purposes (Mazur, 2011; MHP Communications, 2011), yet Australian financial institutions were late to follow this trend. Industry research is clearly articulating that financial institutions need to adopt social media to improve customer experiences and enhance customer relationships, enmeshing it with the financial institution’s organizational culture (KPMG, 2013a). However, previous examples show that creating a social media presence will not always result in perceptions of customer value (Culnan et al., 2010), and financial institutions should only be using social media platforms if it meets consumer demands (Mitic and Kapoulas, 2012). Financial institutions need to understand the type of value consumers perceive when interacting via social media (Culnan et al., 2010).

Extending on existing research that investigates consumer use of social media in the financial services context (Murray et al., 2014), we examine (1) consumer perceptions of value of financial institutions using social media to interact with consumers, (2) if overall perceived
value predicts a consumer's intention to adopt, and if intention predicts self-reported adoption of social media to interact with a financial institution, and (3) if perceptions of value in using social media to interact with a financial institution changes over time. To achieve these three objectives we focus on two perspectives of customer value; utilitarian value grounded in expected utility theory (Boksberger and Melsen, 2011), and behavioral value grounded in Dodds and Monroe’s (1985) value-intention framework. Addressing these objectives will add support to existing research on the role of value in technology adoption, and will offer novel insights into changes in perceptions of value over time by testing perceptions pre and post Australian financial institutions adoption of social media to interact with consumers.

In this paper we first consider the concept of social media and its role in the organization – customer relationship. We then review the concept of value. Hypotheses are developed throughout the literature review. Following this, we report the method and results for the studies conducted at two time points. A discussion, including the implications, limitations, and opportunities for future research concludes the paper.

2.0 Literature Review

Social Media

Social media is a channel for organizations to have two-way communication with consumers using a platform that is already integrated into the consumer’s everyday life (Sorescu et al., 2011). Today, consumers expect to have similar levels of interactions with organizations via social media (e.g., Facebook, LinkedIn, and Twitter) as they do with peers (Trainor, Andzulis, Rapp and Agnihotri, 2014). As the organizational use of social media to interact with customers becomes more important, there is a need to continually investigate how customers derive value, to help organizations identify opportunities to improve service delivery in a way that is engaging and meaningful for customers (Lariviere et al., 2013).

From a broad perspective, social media through its two way interactivity offers a platform for organizations to have ongoing, real-time, dialogue with existing and potential customers, thus encouraging long-term relationships (Farshid, Plangger and Nel, 2011; Laroche et al., 2012) and consumer engagement (Farshid et al., 2011; Greenberg, 2010; Karaduman, 2013). This two-way
interactivity is one of the key defining elements of social media (de Vries, Gensler and Leeflang, 2012; Farshid et al., 2011; Labrecque, 2014; Laroche et al., 2012). In comparison to alternative channels of communication, social media offers financial institutions a more efficient means to listen to their customers, and develop deeper understanding of their customers (Berry et al., 2010; Laroche et al., 2012; Stone, 2009). Moreover, using social media allows organizations to shape conversations about their brand, influencing consumer perceptions about the brand’s “credibility and reputation” (Farshid et al., 2011, p. 221), and building brand communities (Scarpi, 2010). As an interactive service innovation, social media differs from self-service technology as it is not replacing a personal service delivery option, but rather it offers novel ways of offering new benefits to existing customers (Berry et al., 2010). Benefits can include a cost efficient and convenient way for consumers to communicate with organizations (Berry, Shankar, Parish, Cadwallader and Dotzel, 2006; Ostrom et al., 2010).

Different social media platforms offer diverse ways in which organizations and consumers can communicate (Smith, Fischer and Yongjian, 2012). Twitter and Facebook are the most commonly used social media platforms (Durkin, McGowan and Murray, 2014) and are of specific interest in this paper given they are the platforms consistently adopted by the big four Australian financial institutions – the foci institutions of this research. Twitter is a micro-blogging site established in 2006, which allows users to post content up to 140 characters. Posts can include links to video, pictures, and other websites. Consumers usually use Twitter to seek information and express opinions about a brand (Murray et al., 2014; Smith et al., 2012), while marketers use it as a news stream (Madche, 2015). In comparison, Facebook is a multi-functionality social networking site, established in 2004. Users can build their own profile, share content, and read content from friends, organizations, and celebrities. Content can include text, video, images, audio, and gaming (Hollebeek, Glynn and Brodie, 2014). Consumers use Facebook to keep up with peoples’ lives, ‘like’ brands, and build social capital in their social group (Smith et al., 2012). For marketers, Facebook offers opportunities to collaborate with consumers, provide a space for business -to -consumer (B2C) and consumer -to -consumer (C2C) brand conversations to occur, and an opportunity to enhance visibility and positive sentiment around the brand (Smith et al., 2012).
The big four Australian financial institutions; NAB, CBA, ANZ, and Westpac, each have a presence on Twitter and Facebook. On Twitter, in the first quarter of 2015, ANZ had the most Twitter followers of the four banks (55,000 Twitter followers; up by 10,000 from previous quarter), despite having a smaller customer base (TheFinancialBrand, 2015). CBA came in second with 51,000 Twitter followers (up by 4000), followed by NAB with 34,000 (up by almost 3000), and Westpac with 31,000 (up by almost 3000) (TheFinancialBrand, 2015). In contrast, CBA had the most Facebook page followers than the other banks, at 600,000 ‘likes’ (TheFinancialBrand, 2015). However, CBA experienced an almost 10,000 ‘likes’ drop in the first quarter of 2015 (TheFinancialBrand, 2015). NAB also saw a drop in ‘likes’ by 3000, leaving approximately 120,000 followers on Facebook in the first quarter of 2015 (TheFinancialBrand, 2015). In comparison, ANZ and Westpac followers grew on Facebook by an approximate 26,000 and 12,000 ‘likes’, respectively, leaving ANZ with 180,000 and Westpac with 160,000 followers on Facebook. However, these numbers are dwarfed by the 1-3.5 million ‘likes’ of Citi, Bank of America, and Capital One Facebook pages (TheFinancialBrand, 2015).

In 2009, the future for financial institutions was suggested to be “continued interaction with the end-user, putting the consumer in charge of the process”, something that social media helps facilitate (Cocheo, 2009, p. 102). By 2017 it is expected that 2.55 billion people around the world will use social media, and it will continue to have a significant influence on business communications and operations (Davis, Piven and Breazeale, 2014; eMarketer, 2014). While financial institutions increasingly use social media to interact with consumers (Murray et al., 2014), and social media becomes a more permanent part of their marketing strategies (Greenberg, 2010; Karaduman, 2013), it becomes more important to understand the value consumers receive. Financial institutions often implement social media applications without a deep understanding of how it should be adapted to be consumer focused (Weinberg, de Ruyter, Dellarocas, Buck and Keeling, 2013). A consumer focus is important for organizations to successfully leverage technological innovations, because consumers need to adopt and continue using the innovation introduced for it to be of value to both parties (Arts, Frambach and Bijmolt, 2011).

To date, research focuses largely on how social media can collectively be used by financial institutions for enhancing corporate reputation (see for example, Bonson and Flores, 2011;
Rokka, Karlsson and Tienari, 2012), how it can be used as a tool for relationship marketing (Mitic and Kapoulas, 2012; Murray et al., 2014), consumer service (Vemuri, 2010), brand management (Farshid et al., 2011), providing current market overviews (Chikandiwa, Contogiannis and Jembe, 2013; Kuchciak, 2013) and add value to small banks (Durkin et al., 2014). While this research is relevant for expanding our knowledge of social media and the financial services sector broadly, it is limited in that it is only from the organization’s perspective. For instance, past research has found that rewarding customers for using a financial institution’s ‘preferred e-channel’ is effective in promoting customer adoption of that ‘preferred e-channel’ (Trampe, Konus and Verhoef, 2014). However, in instances where multiple channels of communication are being used by an organization, and the decision to use one over another is voluntary, we argue that consumers will need to perceive value in using the channel before they consider adopting it. Perceiving value in a technology prior to adoption in a voluntary usage context has been the focus of some previous research (e.g. Kim et al., 2007; Kim and Han, 2009; Turel, Serenko and Bontis, 2007, 2010; Ko, Kim and Lee, 2009). In this paper, we extend on that research by drawing on two perspectives of customer value; utilitarian value grounded in expected utility theory (Boksberger and Melsen, 2011), and behavioral value grounded in Dodds and Monroe’s (1985) value-intention framework. We use this existing work to explore the role of value in adoption of social media as a voluntary interactive service innovation, and explore how perceptions of value can change overtime.

**Overall Perceived Value**

Overall perceived value is an interdisciplinary construct with a number of conceptualizations (Boksberger and Melsen, 2011). In this paper, overall perceived value is defined as the trade-off between costs and benefits of performing a behavior. Consumers make decisions based on value maximization, choosing the behavior that reaps the highest payoff (Cronin, Brady, and Hult, 2000; Kahneman and Tversky, 1979). In services marketing literature, perceived value has become increasingly important given its role in organizations’ gaining a sustained competitive advantage (Parasuraman, 1997; Vargo and Lusch, 2004). Perceived value is one of the most important determinants of behavioral intentions to use technology (Ko, Kim and Lee, 2009) and is highlighted as one of the key areas for financial institutions to focus their
efforts on (Roig, Garcia, Tena and Monzonis, 2006). In other words, for financial institutions to
gain a sustained competitive advantage through the use of social media, consumers must
perceive a positive trade-off between the costs and benefits of adopting social media to interact
with a financial institution. We have drawn on two dominant perspectives to explain consumers’
overall perceived value, which we believe to be relevant in the context of financial services: the
utilitarian perspective and the behavioral perspective (Boksberger and Melsen, 2011).

The utilitarian perspective of value is grounded in expected utility theory, which posits that
the value of a service comes from benefits outweighing costs (Boksberger and Melsen, 2011).
Based on the utilitarian perspective of value, we have included two constructs in this paper;
perceived usefulness and perceived monetary value (discussed below). In contrast, the behavioral
perspective of perceived value, grounded in social exchange theory, states that exchange
transactions create value (Boksberger and Melsen, 2011; Emerson, 1976). These rewards and
costs gained through social interaction create overall perceived value (Boksberger and Melsen,
2011). Based on the behavioral perspective of value, we have included perceived social value in
this paper (discussed below). We draw on Dodds and Monroe’s (1985) value-intention
framework to explore how benefits received, and sacrifices made from performing a behavior
inform an overall perception of value, which in turn informs an intention to perform the
behavior. The ‘benefits’ measured in this paper are perceived usefulness and perceived social
value, while the ‘sacrifice’ is perceived monetary value. Beyond the value-intention framework,
other research has found support for the positive relationship between value and behavioral
intention (e.g. Brady and Cronin, 2001; Jen, Tu and Lu, 2011). An opportunity exists, however,
in understanding the relationships between value and intention to adopt an innovation. To
explore this opportunity, the technology adoption literature must be examined.

While existing adoption models have captured the usefulness and ease of use of a system,
other value trade-offs receive insufficient consideration (Turel et al, 2007). In the few studies
examining value in technology adoption, perceptions of value have been found to positively
predict intention to adopt (Kim et al., 2007; Kim and Han, 2009; Turel et al., 2010). Studies by
Kleijnen, de Ruyter and Wetzels (2007) and Ko et al. (2009) found that overall perceived value
with mobile Internet services predict intention to adopt. Moreover, across two studies, Turel et
al. (2007; 2010) find support for their framework that suggests sub-components of value (e.g.
emotional value, performance value, value for money) inform an individual’s overall perception of value, which in turn informs the individual’s intention to adopt a technology. Whilst these studies may conceptualize a higher order measure of perceived value, other studies note that first order multidimensional measures are appropriate when the objective is to assess the overall perceived value, as in the current study (Lin, Sher and Shih, 2005). Given this, and our understanding of Dodds and Monroe’s (1985) value-intention framework, we anticipate that consumers’ overall perceived value of using Twitter or Facebook to interact with a financial institution will positively predict their intention to adopt Twitter or Facebook as a channel to interact with their financial institution. Therefore;

H1: Overall perceived value will positively predict customer intention to adopt Twitter or Facebook to interact with a financial institution.

**Utilitarian Perspective of Value- Perceived usefulness**

Perceived usefulness, defined as the degree to which an individual expects that using the innovation will be useful in achieving a goal, is the most frequently used predictor in technology adoption studies and is an important ‘benefit’ in the technology adoption model (Davis, 1989; Holbrook and Batra, 1987; Park and Chen, 2007; Venkatesh and Davis, 1996). Perceived usefulness is a key construct as an innovation may objectively enhance performance; yet if users fail to see utility, the innovation is unlikely to be adopted (Alavi and Henderson, 1981). Prior studies have found a relationship between usefulness and overall perceived value of performing a behavior (Chu and Lu, 2007; Kim *et al.*, 2007). In keeping with this, we anticipate that the usefulness consumers perceive in using Twitter or Facebook to interact with a financial institution will positively predict their overall perception of value. Therefore;

H2: Perceived usefulness of using Twitter or Facebook to interact with a financial institution will positively predict a customer’s overall perceived value.
Utilitarian Perspective of Value – Perceived monetary value

Perceived monetary value relates to the financial cost incurred when using a new technology or innovation (Briggs and Grisaffe, 2010; Kim et al., 2007). This construct refers to the fee incurred when accessing Twitter or Facebook via a mobile device or computer. In management information systems literature, overall perceived value is measured purely by the monetary value construct (Turel et al., 2007). However, in consumer research, monetary value is considered the primary ‘sacrifice’ or ‘cost’ component of the overall perceived value construct (Turel et al., 2007), as the consumer is the one largely responsible for wearing the cost (Turel et al., 2007, 2010; Wang and Wang, 2010). Consumers do not perceive overall value in adopting the technology if the sacrifices made in terms of the perceived fee for usage, cancels out the benefits of the adoption (Kim et al., 2007; Ulaga and Eggert, 2005). Even if consumers do not know the actual financial cost to themselves, they use internal reference prices in order to make comparisons (Kim et al., 2007). In this paper, we conceptualize Twitter and Facebook as offering good value for money relative to other methods available for interacting with financial institutions such as in-person, telephone, or email. We expect the consumers’ perceived monetary value of using Twitter or Facebook to interact with a financial institution would positively predict their evaluation of overall perceived value. Therefore;

H3: Perceived monetary value of using Twitter or Facebook to interact with a financial institution will positively predict a customer’s overall perceived value.

Behavioral Perspective of Value – Perceived social value

Perceived social value is the degree to which an individual expects that using the interactive service innovation will enhance their social status, enable them to serve as role models for those who come later, and allow them membership into a particular social class (Kim and Han, 2009). Grabner-Kräuter (2009) notes that social value is likely to be a key determinant in online social network usage. If a consumer perceives they will gain social approval from their peers by meeting social norms related to visible, distinctive, and socially desirable consumption behaviors, they are more likely to perceive value and then adopt the consumption behavior (Fisher and Price, 1992; Gallarza and Saura, 2006). Social value is an antecedent to overall perceived value in tourism research, (Gallarza and Saura, 2006), in retailing research (Rintämaki,
Kanto, Kuusela and Spence, 2006), and in the use of online geo-portals for travel preparations (Sigala, 2010). It is likely that when consumers see social value in interacting with a financial institution using Twitter or Facebook it is likely to impact their overall perception of value. Therefore;

H4: Perceived social value of using Twitter or Facebook to interact with a financial institution will positively predict a customer’s overall perceived value.

**Mediating Role of Overall Perceived Value**

As discussed above, we have taken a first order multidimensional view of value. In other words, individuals form an assessment of overall perceived value from a number of sub-components that are traded-off against one another. In line with this conceptualization, we suggest the sub-components of value (usefulness, social, monetary) inform overall perceptions of value before informing the intention to adopt. The purpose of including these sub-dimensions is to more comprehensively explain the effect of value on intention to adopt a behavior. We thus propose overall perceived value as a mediator between the sub-dimensions of value and intention to adopt. Previous research has found evidence for overall perceived value to mediate the relationship between perceived usefulness (Ko et al., 2009; Lin, Shih and Sher, 2007), monetary value (Kim et al., 2007; Turel et al., 2007, 2010), and intention to adopt a technology. In keeping with these previous studies, we expect that consumers’ overall perceived value will add greater explanation to the relationships between perceived usefulness, perceived monetary value, and intention to adopt social media to interact with a financial institution. Therefore;

H5: Overall perceived value will mediate the relationship between perceived usefulness and intention to adopt Twitter or Facebook to interact with a financial institution.

H6: Overall perceived value will mediate the relationship between perceived monetary value and intention to adopt Twitter or Facebook to interact with a financial institution.

Finally, social value also impacts intention to adopt through overall perceived value. As most technological studies investigating direct relationships between social value and intentions are not supported (Lu, Yao and Yu, 2005; Nysveen, Pedersen and Thorbjornsen, 2005; Turel et
al., 2007, 2010; Venkatesh, Morris, Davis and Davis, 2003), Lu et al. (2005) alludes to an overall evaluation rather than a social impact effecting adoption. This suggests that overall perceived value may mediate this relationship between social value and adoption. In this study we anticipate that overall perceived value would add greater explanation to the relationship between social value and intention to adopt Twitter or Facebook to interact with a financial institution. Therefore;

H7: Overall perceived value will mediate the relationship between perceived social value and intention to adopt Twitter or Facebook to interact with a financial institution..

Intention and Self-Reported Adoption

While the technology adoption literature commonly represents adoption as the actual use of technology (Kim and Han, 2009; Kim et al., 2007; Saker and Wells, 2003; Turel et al., 2007, 2010; Venkatesh, Thong and Xu, 2012), this study focuses on intentions to adopt, which reflects an individual’s intention to use social media, specifically Twitter or Facebook, to interact with a financial institution. Intention to adopt was measured in Time 1 of our study, as Australian financial institutions were in the very early stages of using Twitter and Facebook. In Time 2 of our study, after Australian financial institutions had been using Twitter and Facebook more extensively, self-reported adoption was also measured to capture actual use of Twitter or Facebook to interact with a financial institution.

The intention-behavior linkage is one of the most critically contended assumptions in social science research in general, and in technology research in particular (Bagozzi, 2007). Even if intention is strong, the individual may not be able to engage in the behavior due to extenuating or unforeseen circumstances (Sheppard, Hartwick and Warshaw, 1988). Despite this contention there is evidence to support the linkage, therefore we capture intentions and behavior. Online social media behavior incorporates consumption behaviors (reading comments and material posted by others) and participating behaviors (sharing/producing content) (Shao, 2009). We hypothesize that intention to adopt social media will predict self-reported adoption;
H8: Consumer intention to adopt Twitter or Facebook to interact with a financial institution will positively predict self-reported reading of messages disseminated by financial institutions on social media.

H9: Consumer intention to adopt Twitter or Facebook to interact with a financial institution will positively predict self-reported sharing of messages disseminated by financial institutions on social media.

*Perceptions of Value Over Time*

To extend on previous cross-sectional research that has examined the role of value in technology adoption, we conducted our research at two time points to examine changes in value and intentions to adopt an interactive service innovation over time. The first survey was conducted in 2010 prior to financial institutions really using social media in Australia, despite other service organizations using it to interact with consumers and other financial institutions around the world using it. The follow up survey was conducted in 2014 as the four major Australian financial institutions had adopted social media as a tool to interact with consumers, and there had been sufficient time for consumers to adopt the tool as a means to communicate with a financial institution. The Global Financial Crisis (GFC) of 2008 would have had little impact on the results of the study over the two selected time points as Australia avoided recession and its economy continued to grow during this period (Edwards 2010; Reserve Bank of Australia, 2014). The general view among experts and managers was that social media was helping banks to reconnect with their customers and regain trust lost during the recession period in other countries (Chikandiwa *et al.*, 2013). Moreover, increasing the use of new technologies during turbulent times was favorable to address customer service needs (Fram and McCarthy, 2011).

Channel expansion theory states that as a consumer becomes more knowledgeable with a communication channel (in this instance social media) they are able to use the channel more efficiently and will perceive greater value from the channel (Fernandez, Simo, Sallan and Enache, 2013). With experience the consumer continues to improve the tasks conducted and their performance with social media, which increases their perceived value from using the
communication channel (Scherer, Wunderlich, and von Wangenheim, 2015). Therefore, we hypothesize that with increased experience and exposure (between Time 1 and Time 2) consumers will perceive an increase in value in using Twitter or Facebook to interact with their financial institution;

H10: Consumer perceptions of value (social, monetary, usefulness, and overall value) in Time 1 will increase in Time 2.

Furthermore, to explore the differences between Time 1 and Time 2 in more depth we also explore the potentially conflicting notion of technology insecurity across these two time periods. Technology insecurity is the extent to which individuals "distrust technology and are skeptical of its ability to work properly" (Gerrard, Cunningham and Devlin, 2006, p. 161). While consumers may see increased value in using social media to interact with their financial institutions one potential element likely to reduce adoption rates is technology insecurity. Technology insecurity for social media has been highlighted as a security concern for financial institutions with regard to safety regulations and standards (Mitic and Kapoulas, 2012). Security concerns can include the threat of cyber-crime (Lee, Lee and Eastwood, 2003), identify theft, or hacking, which can limit the adoption rate (Hille, Walsh and Cleveland, 2015; Lee et al., 2003). Moreover, while social media platforms advocate privacy policies, consumer privacy is still highlighted as one of the major concerns with regards to social media (Such and Rovatsos, 2014). One of the most discussed aspects of social media privacy policies is the confusing nature of such policies (Custers, van der Hof, and Schermer, 2014). Consumers often do not truly understand the privacy policies of the social media platform they are interacting with and this is emerging as a concern for consumers (Custers et al. 2014.). As such, given the sensitive nature of the services provided by financial institutions, there is an opportunity for consumers to be insecure about communicating with their financial institution via social media - a relatively non-secure channel. Therefore we hypothesize;

H11: Consumer perceptions of technology insecurity in Time 1 will increase in Time 2.
3.0 Method

In order to achieve the objectives of this research, a survey was developed and tested in 2010 (Time 1), and replicated in 2014 (Time 2) in Australia, as explained above. Both studies used panel data, in which N=1102 and N=353 panelists were surveyed at Time 1 and 2, respectively. The sample characteristics for both studies are outlined in Table 1. As a larger sample was collected in 2010, a random subsample was selected from the 2010 dataset using a select random cases function (Hair, Black, Babin and Anderson, 2010). A total of 339 were selected from Time 1 cleaned data to match the cleaned sample size of Time 2 data. Having equal group sizes removes statistical issues when comparing the data (Hair et al., 2010).

To test the hypotheses, the data were analyzed using multiple and mediated regression analyses. To test the statistically significant differences between Time 1 and Time 2 data, a series of independent sample t-tests were run. The conceptual model for the study is shown in Figure 1.

Table 1. Frequency of age by gender for Time 1 and 2

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Gender</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 22</td>
<td>Male</td>
<td>0</td>
<td>1</td>
<td>Female</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>22 – 31</td>
<td>Male</td>
<td>55</td>
<td>52</td>
<td>Female</td>
<td>68</td>
<td>42</td>
</tr>
<tr>
<td>32 – 47</td>
<td>Male</td>
<td>38</td>
<td>64</td>
<td>Female</td>
<td>58</td>
<td>41</td>
</tr>
<tr>
<td>48 – 64</td>
<td>Male</td>
<td>56</td>
<td>77</td>
<td>Female</td>
<td>62</td>
<td>60</td>
</tr>
<tr>
<td>Over 64</td>
<td>Male</td>
<td>0</td>
<td>0</td>
<td>Female</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>149</td>
<td>194</td>
<td></td>
<td>190</td>
<td>145</td>
</tr>
</tbody>
</table>

To test the hypotheses, the data were analyzed using multiple and mediated regression analyses. To test the statistically significant differences between Time 1 and Time 2 data, a series of independent sample t-tests were run. The conceptual model for the study is shown in Figure 1.
The survey included adaptations of pre-existing validated scales for the constructs being measured (perceived usefulness (Davis, 1989); perceived monetary value (Kim et al., 2007); perceived social value (Kim and Han, 2009); overall perceived value (Kim et al., 2007); intention to adopt (Kim and Han, 2009); self-reported behavior (Perugini and Bagozzi, 2001) and technology insecurity (Parasuraman, 2000)). Full lists of the scale items are provided in Appendix A. Each of the scale items was measured on a 7-point Likert scales (e.g. 1 = strongly disagree and 7 = strongly agree). Table 2 outlines the reliability, means, and standard deviations of the constructs examined at both time points, using the computed variables created from the average item scores for each construct (Hair et al., 2010). The perceived monetary value measure included three items, of which one was reverse coded. The Cronbach Alpha (1951) of the three items was (Time 1) $\alpha = 0.597$ and (Time 2) $\alpha = 0.661$. The reverse coded item (‘The fee that I have to pay to access social media is too high’) had a low factor loading (time 1 = 0.171, time 2 = 0.189), which is common for reverse coded items (Swain, Weathers and Niedrich, 2008). After removing the low factor loading item in line with recommendations (Hair et al. 2010), the Cronbach Alpha (1951) on the two items was (Time 1) $\alpha = 0.857$, and (Time 2) $\alpha = 0.839$. The two-item measure of perceived monetary value was used for the hypothesis testing. Technology insecurity was measured in both surveys using insecurity scale items (see Appendix A for a full list of the items) from the technology readiness scale (Parasuraman, 2000). There are nine
insecurity scale items on the technology readiness scale; of which five were used to capture how comfortable an individual is with sharing information online (these were deemed the most suitable questions for the current study). The five items used in the analysis had a Cronbach Alpha (1951) of $\alpha = 0.852$ (Time 1) and $\alpha = 0.795$ (Time 2).

Table 2. Reliability, means, standard deviations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Reliability</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Mean</th>
<th>Time 1</th>
<th>Time 2</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived usefulness</td>
<td>0.920</td>
<td>0.933</td>
<td>3.673</td>
<td>3.136</td>
<td>1.393</td>
<td>1.468</td>
<td></td>
</tr>
<tr>
<td>Perceived monetary value</td>
<td>0.833</td>
<td>0.839</td>
<td>4.428</td>
<td>3.829</td>
<td>1.449</td>
<td>1.765</td>
<td></td>
</tr>
<tr>
<td>Perceived social value</td>
<td>0.977</td>
<td>0.974</td>
<td>2.769</td>
<td>2.362</td>
<td>1.459</td>
<td>1.377</td>
<td></td>
</tr>
<tr>
<td>Overall perceived value</td>
<td>0.972</td>
<td>0.962</td>
<td>3.338</td>
<td>2.867</td>
<td>1.478</td>
<td>1.574</td>
<td></td>
</tr>
<tr>
<td>Intention to adopt</td>
<td>0.924</td>
<td>0.925</td>
<td>2.813</td>
<td>2.379</td>
<td>1.508</td>
<td>1.432</td>
<td></td>
</tr>
<tr>
<td>Behavior - reading</td>
<td>-</td>
<td>0.939</td>
<td>-</td>
<td>1.930</td>
<td>-</td>
<td>1.527</td>
<td></td>
</tr>
<tr>
<td>Behavior - sharing</td>
<td>-</td>
<td>0.945</td>
<td>-</td>
<td>1.550</td>
<td>-</td>
<td>1.283</td>
<td></td>
</tr>
</tbody>
</table>

A principle component factor analysis was conducted on the constructs under investigation using a direct oblimin rotation as the variables were moderately correlated, which is expected given they represent multiple perspectives of value (Allen and Bennett, 2012). However, the Tolerance and Variance Inflation Factor (VIF) statistics did not identify any multicollinearity issues. For Time 1 and 2 the Tolerance statistics were > 0.1 and the VIF statistics were all < 10 (Allen and Bennett, 2012), hence this assumption for multiple regression analysis was supported.

4.0 Results

A bivariate regression found overall perceived value to have a significant positive relationship with intention to adopt supporting hypothesis 1 at Time 1 ($R^2 = 0.445$, $F$ (1, 337) = 270.732, $\beta = 0.667$, $p = 0.000$) and Time 2 ($R^2 = 0.468$, $F$ (1, 337) = 296.190, $\beta = 0.684$, $p =$
A multiple regression analysis found perceived usefulness, perceived monetary value, and perceived social value accounted for a significant 46.6% of the variability in overall perceived value at Time 1 ($R^2 = 0.471$, adjusted $R^2 = 0.466$, $F (3, 335) = 99.424, p = 0.000$), and 58.9% of the variability in overall perceived value at Time 2 ($R^2 = 0.592$, adjusted $R^2 = 0.589$, $F (3, 335) = 162.300, p = 0.000$). Perceived usefulness was positively related to overall perceived value at Time 1 ($β = 0.251, p = 0.000$), and Time 2 ($β = 0.323, p = 0.000$), supporting hypothesis 2. Perceived monetary value was positively related to overall perceived value at Time 1 ($β = 0.184, p = 0.000$) and Time 2 ($β = 0.172, p = 0.000$), supporting hypothesis 3. Perceived social value was positively related to overall perceived value at Time 1 ($β = 0.484, p = 0.000$) and Time 2 ($β = 0.455, p = 0.000$), supporting hypothesis 4. The results of the multiple regression analyses are outlined in Table 3 for Time 1 and Time 2.

Table 3. Time 1 and Time 2 Hypothesis Testing

<table>
<thead>
<tr>
<th>DV</th>
<th>IV</th>
<th>β</th>
<th>$R^2$</th>
<th>β</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>Perceived Value</td>
<td>0.667***</td>
<td>0.445</td>
<td>0.684***</td>
<td>0.468</td>
</tr>
<tr>
<td>Perceived Value</td>
<td>Perceived Usefulness</td>
<td>0.251***</td>
<td>0.471</td>
<td>0.323***</td>
<td>0.592</td>
</tr>
<tr>
<td></td>
<td>Monetary Value</td>
<td>0.184***</td>
<td>0.455</td>
<td>0.172***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Value</td>
<td>0.484***</td>
<td></td>
<td>0.455***</td>
<td></td>
</tr>
</tbody>
</table>

*** $p = 0.000$

To test the mediating role of overall perceived value between the sub-dimensions of value and intention to adopt (hypotheses 5, 6, and 7), a mediated regression was conducted following the Baron and Kenny (1986) four-step process (see Table 4). For Time 1 and Time 2, overall perceived value partially mediated the relationship between perceived usefulness and intention to adopt (partially supporting hypothesis 5), and between perceived social value and intention to adopt (partially supporting hypothesis 7). Overall perceived value fully mediated the relationship between perceived monetary value and intention to adopt (supporting hypothesis 6).
**Table 4. Mediated regression – Time 1 and Time 2**

<table>
<thead>
<tr>
<th>Step</th>
<th>DV</th>
<th>IV</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>β</td>
<td>F</td>
<td>R²</td>
</tr>
<tr>
<td>H5 1.1</td>
<td>Intention</td>
<td>Perceived Usefulness</td>
<td>0.652***</td>
<td>289.958***</td>
</tr>
<tr>
<td>1.2</td>
<td>Perceived Value</td>
<td>Perceived Usefulness</td>
<td>0.524***</td>
<td>148.879***</td>
</tr>
<tr>
<td>1.3</td>
<td>Intention</td>
<td>Perceived Value</td>
<td>0.667***</td>
<td>270.732***</td>
</tr>
<tr>
<td>1.4</td>
<td>Intention</td>
<td>Perceived Usefulness</td>
<td>0.401***</td>
<td>281.851***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived Value</td>
<td>0.477***</td>
<td></td>
</tr>
<tr>
<td>H6 2.1</td>
<td>Intention</td>
<td>Monetary Value</td>
<td>0.137**</td>
<td>7.531***</td>
</tr>
<tr>
<td>2.2</td>
<td>Perceived Value</td>
<td>Monetary Value</td>
<td>0.277***</td>
<td>32.748***</td>
</tr>
<tr>
<td>2.3</td>
<td>Intention</td>
<td>Perceived Value</td>
<td>0.667***</td>
<td>270.732***</td>
</tr>
<tr>
<td>2.4</td>
<td>Intention</td>
<td>Monetary Value</td>
<td>-0.058</td>
<td>178.123***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived Value</td>
<td>0.704***</td>
<td></td>
</tr>
<tr>
<td>H7 3.1</td>
<td>Intention</td>
<td>Social Value</td>
<td>0.693***</td>
<td>735.977***</td>
</tr>
<tr>
<td>3.2</td>
<td>Perceived Value</td>
<td>Social Value</td>
<td>0.607***</td>
<td>464.282***</td>
</tr>
<tr>
<td>3.3</td>
<td>Intention</td>
<td>Perceived Value</td>
<td>0.667***</td>
<td>270.732***</td>
</tr>
<tr>
<td>3.4</td>
<td>Intention</td>
<td>Social Value</td>
<td>0.445***</td>
<td>563.414***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived Value</td>
<td>0.410***</td>
<td></td>
</tr>
</tbody>
</table>

*** p = 0.000, ** p < 0.01
In Time 2, self-reported behavior was captured as financial institutions had adopted social media to interact with consumers. To test the intention – behavior relationship (hypotheses 8 and 9), bivariate regression analyzes were conducted. Intention to adopt had a significant positive relationship with self-reported reading of messages disseminated by financial institutions via Twitter or Facebook ($R^2 = 0.424$, $F (1, 337) = 248.467, \beta = 0.651, p = .000$), and explains 42.3% variation in self-reported adoption behavior, supporting hypothesis 8. Moreover, intention to adopt Twitter or Facebook had a significant positive relationship with self-reported sharing of messages disseminated by financial institutions ($R^2 = 0.403$, $F (1, 337) = 227.161, \beta = 0.635, p = .000$), and explains 40.1% variation in self-reported adoption behavior, supporting hypothesis 9.

To examine differences in perceptions of value and intentions to adopt in Time 1 and Time 2, a series of independent sample t-tests were conducted (H10). The t-tests revealed there is a significant difference between (1) perceived usefulness ($F = 0.392, p = 0.532$), (2) overall perceived value ($F = 0.546, p = 0.460$), (3) perceived monetary value ($F = 31.320, p = 0.000$), (4) perceived social value ($F = 7.740, p = 0.006$), and (5) intention to adopt ($F = 8.851, p = 0.003$), such that (1) individuals in Time 1 ($M = 3.673, SD = 1.3938$) were 0.537 times, 95% CI [.321, 0.753], more likely to perceive usefulness in using Twitter or Facebook to interact with a financial institution than individuals in Time 2 ($M = 3.136, SD = 1.467, t(676) = 4.885, p = 0.000$, two-tailed) and (2) individuals in Time 1 ($M = 3.338, SD = 1.478$) were 0.472 times, 95% CI [0.241, 0.701], more likely to perceive overall value in using Twitter or Facebook to interact with a financial institution than individuals in Time 2 ($M = 2.867, SD = 1.5747, t(676) = 4.018, p = 0.000$, two-tailed), (3) individuals in Time 1 ($M = 4.428, SD = 1.450$) were 0.599 times, 95% CI [0.124, 0.355] more likely to perceive monetary value in using Twitter or Facebook to interact with a financial institution, than individuals in Time 2 ($M = 3.829, SD = 1.765, t(651.416) = 4.827, p = 0.000$, two-tailed), (4) individuals in Time 1 ($M = 2.769, SD = 1.459$) were 0.407 times, 95% CI [0.193, 0.621], more likely to perceive social value in using Twitter or Facebook to interact with a financial institution than individuals in Time 2 ($M = 2.3362, SD = 1.377$, $t(673.706) = 3.734, p = 0.000$, two-tailed), and (5) individuals in Time 1 ($M = 2.813, SD = 1.508$) were 0.435 times, 95% CI [0.213, 0.656], more likely to intend to adopt Twitter or Facebook to interact with a financial institution than individuals in Time 2 ($M = 2.378, SD = 1.432, t(674.199) = 3.849, p = 0.000$, two-tailed), not supporting hypothesis 10.
Another difference between Time 1 and Time 2 is change in technology insecurity (H11). An independent samples t-test found a significant difference between perceptions of technology insecurity between Time 1 and Time 2 such that individuals in Time 1 (M = 3.626, SD = 1.216) were 0.199 times, 95% CI [0.021, 0.377], more likely to have lower perceptions of technology insecurity than individuals in Time 2 (M = 3.428, SD = 1.140, t(676) = 2.196, p = 0.028, two-tailed). In other words, individuals reported to be more insecure at sharing information online at Time 2 than Time 1, supporting hypothesis 11. This could be attributed to the increased consumer awareness of privacy issues online, confusion of privacy policies, and highly publicized breaches of privacy across the globe (Custers, et al, 2014; Hille et al., 2015; Lariviere et al., 2013).

Consumer adoption of Twitter or Facebook to interact with a financial institution may be explained by level of insecurity in sharing information online. A hierarchical regression analysis was run on Time 1 and Time 2 data to also measure the extent to which technology insecurity explained intention to adopt (see Table 5). The findings suggest that while overall perceived value predicts intention to adopt social media to interact with a financial institution, an individual’s technology insecurity also explains variation in an individual’s intention to adopt social media. Changes between Time 1 and Time 2 show technology insecurity was less important in consumer intentions to adopt in Time 1, yet at Time 2, technology insecurity explains more variation in intentions to adopt than previously in Time 1.

A summary of all the results for Time 1 and Time 2 are provided in Table 6.
Table 5. Predicting intention to adopt social media

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>Time 1</th>
<th></th>
<th>Time 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>β = 0.667***</td>
<td>R² = 0.445</td>
<td>β = 0.684***</td>
<td>R² = 0.468</td>
</tr>
<tr>
<td>1</td>
<td>Perceived Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Perceived Value</td>
<td>β = 0.636***</td>
<td></td>
<td>β = 0.647***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology Insecurity</td>
<td>β = 0.096*</td>
<td>R² = 0.454</td>
<td>β = 0.138**</td>
<td>R² = 0.485</td>
</tr>
</tbody>
</table>

ΔR² = 0.008
ΔR² = 0.018

*** p < .001, ** p < .01, * p < .05
Table 6. Summary of results

Findings

(H1 – supported)
- Overall perceived value positively predicted customer intention to adopt Twitter or Facebook to interact with a financial institution

(H2 – supported)
- Perceived usefulness of using Twitter or Facebook to interact with a financial institution positively predicted a customer’s overall perceived value.

(H3 – supported)
- Perceived monetary value of using Twitter or Facebook to interact with a financial institution positively predicted a customer’s overall perceived value.

(H4 – supported)
- Perceived social value of using Twitter or Facebook to interact with a financial institution positively predicted a customer’s overall perceived value.
- Consumer perceptions of social value were the strongest predictor of overall perceived value across the two time points

(H5 – partially supported)
- Overall perceived value mediated the relationship between perceived usefulness and intention to adopt Twitter or Facebook to interact with a financial institution.

(H6 – supported)
- Overall perceived value mediated the relationship between perceived monetary value and intention to adopt Twitter or Facebook to interact with a financial institution.

(H7 – partially supported)
- Overall perceived value mediated the relationship between perceived social value and intention to adopt Twitter or Facebook to interact with a financial institution.

(H8 – supported)
- Consumer intention to adopt Twitter or Facebook to interact with a financial institution positively predicted self-reported reading of messages disseminated by financial institutions on Twitter or Facebook.

(H9 – supported)
- Consumer intention to adopt Twitter or Facebook to interact with a financial institution positively predicted self-reported sharing of messages disseminated by financial institutions on Twitter or Facebook.

(H10 – not supported)
- Consumer perceptions of value (social, monetary, usefulness, and overall value) in Time 1 dropped in Time 2.

(H11 – supported)
- There was an increase in technology insecurity from Time 1 to Time 2
5.0 Discussion, Implications, Future Research

The objectives of this paper were to examine (1) consumer perceptions of value of financial institutions using social media to communicate with their customers, (2) if overall perceived value predicts a consumer's intention to adopt, and actual adoption of social media to interact with a financial institution, and (3) if perceptions of value in using social media to interact with a financial institution changes over time. We measured consumer perceptions of value in 2010 when Australia financial institutions’ adoption of social media (Twitter and Facebook) was new, and then measured perceptions of value again in 2014 after the big four Australian financial institutions had adopted social media (Twitter and Facebook) and customers had been using the platforms to interact with institutions. The results offer some counter-intuitive findings in that perceptions of value (across all dimensions tested) dropped from 2010 to 2014. This contradicts traditional marketing research, which finds perceptions of value increase with experience (Scherer et al. 2015). A potential explanation for this could be seen in adaptation theory where consumers continually adapt with experience or exposure to stimuli so that the exceptional becomes the norm (Converse and DeShon, 2009). In the current instance this theory could explain that as consumers increase their exposure and experience with social media to interact with their financial institution they no longer see the same level of value because as they now expect this level of interaction, it is no longer novel or innovative.

Another possible explanation could be perceptions of technology insecurity, which increased from 2010 to 2014 suggesting a greater concern over sharing information online, despite security of information improving over time (Ashford, 2012. With social media becoming a permanent part of organizations’ marketing strategies as a two-way communication channel with the consumer (Greenberg, 2010; Karaduman, 2013), we suggest perhaps there are more innovative ways in which the channel could be used to communicate with consumers that creates value, re-engaging consumers to achieve the long-term mutually beneficial relationships that other industries are experiencing from their use of social media channels such as the retailing industry (Jafari, Nyberg, Osnes and Schmitz, 2015).

Industry research recommends that financial institutions should adopt social media as an innovation to improve consumer experiences, engage with consumers, and enhance consumer relationships through ongoing interactions (KPMG, 2013a; Stone, 2009). Academic research also
promotes the value organizations can get from using social media, specifically, consumer engagement (Hollebeek et al., 2014). However, the benefits of using an interactive service innovation like social media will only be realized by the organization if the consumer also perceives value in using it too. This was the focus of our research. Collectively, our findings suggest that organizations need to create and articulate the value consumers will receive from using social media to interact with a financial institution to achieve improved customer experiences, engagement, and enhance relationships.

The first objective of this research was to examine consumer perceptions of value of financial institutions using social media to interact with consumers. Consistent with past research, the two perspectives of customer value; utilitarian value grounded in expected utility theory (Boksberger and Melsen, 2011), and behavioral value grounded in Dodds and Monroe’s (1985) value-intention framework; were effective for examining consumer perceptions of value (Boksberger and Melsen, 2011). Both perceived usefulness (H2) and perceived monetary value (H3), capturing the utilitarian value perspective, predicted overall perceptions of value about using Twitter or Facebook to interact with a financial institution. Of the three value antecedents investigated, perceived monetary value was the weakest predictor of overall perceived value. This result could be attributed to consumers not perceiving a fee associated with using Twitter or Facebook, making it difficult to evaluate the monetary value in doing so (Bolton et al., 2013; Di Valentin, Emrich, Werth and Loos, 2013). Nair (2011) even describes social media as a tool for consumers to engage with businesses in free dialogue, sharing, delivering, and receiving of information.

Perceived social value captures the behavioral perspective to assessing value, representing value creation through social interactions. Perceived social value predicts overall perceptions of value of using Twitter or Facebook to interact with a financial institution (H4). Perceived social value was the strongest predictor of overall perceived value, which in the context of social media research is a logical outcome. Social media is built on the premise of interactions between users with an expectation of receiving benefits from that social interaction (Karaduman, 2013). Given the interactivity of social media platforms like Twitter and Facebook, and the strong weighting of social value in perceptions of overall value, there is an opportunity for financial institutions to co-create value, either customer-to-customer or customer-to-
organization, in the development of brand communities (Bowden, Gabbott and Naumann, 2015; Laroche et al., 2012).

The findings also demonstrated that overall perceived value partially mediates the relationship between perceived usefulness and intention to adopt (H5) and the relationship between perceived social value and intention to adopt (H7) Twitter or Facebook to interact with a financial institution. Perceived overall value fully mediated the relationship between perceived monetary value and intention to adopt (H6). In other words, a consumer’s perception of overall value in using social media to interact with a financial institution, partially explains why perceived usefulness and perceived social value are related to intention to adopt, and fully explains how perceived monetary value is related to intention to adopt. These mediation results are consistent with existing research into the important role of value informing consumer behaviors (Fisher and Price, 1992; Gallarza and Saura, 2006), and further supports the argument for the inclusion of value in technology adoption models (Kim et al., 2007).

The second objective of this research was to examine if overall perceived value predicts a consumer’s intention to adopt, and if intention predicts self-reported adoption of social media to interact with a financial institution. In Time 1 and Time 2, consumer perceptions of overall value were found to predict intentions to adopt Twitter or Facebook to interact with a financial institution (H1). These findings support past research on the role of value in technology adoption (e.g. Kim et al., 2007; Turel et al., 2007, 2010) in which perceived value predicts intention to adopt, and again supports existing research into the important role of value informing consumer behaviors (Fisher and Price, 1992; Gallarza and Saura, 2006). In Time 2, we ascertain that intention to adopt predicts self-reported adoption to read and share content on Twitter and Facebook from a financial institution (H8, H9). This finding provides support for research investigating the intention-behavior relationship. However, intention only explains approximately 40% variation in self-reported adoption behavior, suggesting future research would benefit from exploring alternative predictors of adoption, alongside intentions. However, it is important to note there were low levels of self-reported adoption of social media in Time 2, in terms of reading and sharing content on Facebook and Twitter. In a 2013 survey by Canstar Blue consumers reported being happy to communicate with their bank online, however, they were not comfortable communicating via Twitter (Canstar Blue, 2013). Our research results from
Time 2 seem to reflect this sentiment. This finding is also consistent with past research, which found consumers are much more likely to interact with family and friends on social media, than with brands (Lariviere et al., 2013). However, this contradicts research stating that consumers expect to interact with organizations as much as they do with peers via social media (Trainor et al., 2014). Moreover, just because customers are using social media platforms like Twitter and Facebook for other purposes, does not mean they will be less resistant to using it to interact with financial institutions as suggested by Mzoughi and M’Sallem (2013). Our results demonstrate that unless consumers perceive value in using it, they are unlikely to use Twitter and Facebook to interact with their financial institution. Inconsistencies in research findings surrounding the use of social media are inevitable, as it remains a growing and distinct area of research (Aral et al., 2013; Laroche et al., 2012). Future research in the context of financial services would benefit from testing strategies financial institutions can implement via social media that ultimately adds value to the service, from the consumer’s perspective.

The third objective of this research was to examine if perceptions of value in using social media to interact with a financial institution changes over time. The findings highlight differences in perceptions between Time 1 and Time 2 suggesting that at Time 1, individuals perceived greater value in using Twitter or Facebook to interact with a financial institution, yet in Time 2, individuals perceived less value and were less likely to intend to use Twitter or Facebook to interact with a financial institution. Australian financial institutions adopted the use of social media as an interactive service innovation to offer new benefits in existing markets (Berry et al., 2010) however, the reduction in perceived value could indicate they need to continue to adapt the ways in which the channel is being used to communicate with customers. For instance, in 2011, NAB ran a successful campaign – ‘Break Up With Your Bank’, launched on social media then ran on multiple channels. In 2015, NAB has seen a reduction in ‘likes’/followers on Facebook suggesting the level of customer interest has potentially dropped and perhaps it is time for NAB to reengage customer with a new campaign. Sorescu et al. (2011, p. S14) argue “the best way to ensure that the business model stays current is to start thinking about the next business model innovation as soon as the current one is implemented.”

We also suggest the change in value perceptions over time could be attributed to an increase in perceived technology insecurity between the two time periods. Financial institutions
may need to address perceptions of technology insecurity to increase usage of social media. To do this, institutions should assure consumers of their privacy policies, security, data management, and emphasize the need for consumers to protect their own information and data (Bertot, Jaeger and Hansen, 2012). Our results on increases in technology insecurity, and other growing concerns about online identity theft, which leads to a reduction in online transactions (Hille et al., 2015), suggest innovations leveraging off, or integrating with social media platforms will need to be done so with caution. Future research would benefit from further exploration into the inhibitors of adoption of social media to interact with financial institutions beyond technology insecurity. For example, examination of why financial institutions are unique compared to other service organizations using social media, will help the sector successfully add value to consumers and advance customer service capabilities (Chikandiwa et al., 2013).

In the future, financial institution use of social media needs to go beyond providing service support and looking for ways to innovate within a social media platform. For instance, in 2011 CBA introduced a CommBank Kaching Facebook app on the Apple App Store (2011 App store release, 2012 Android release) that allowed CBA customers to transfer cash to Facebook friends and check their account balances, similar to Internet banking (Canstar Blue, 2013). It was downloaded 750,000 times and processed approximately $4 billion in payments, yet it was axed in 2013 in favor of redeveloping an app that no longer integrates with Facebook (Gluyas, 2014; Polites, 2013). While there is an opportunity to conduct more transactional activities as opposed to information-sharing activities via social media, in 2013 a study found few banks had future plans to capitalize on this opportunity, instead directing customers to their bank’s website to process payments (Durkin et al., 2015). This decision continues to have support as the 2015 World Retail Banking Report found 51% of consumers still prefer to interact face-to-face with employees for more complex products and services (e.g. mortgages) (Bannister, 2015). However, the same report found customers are also demanding greater levels of digitized customization, personalization, and innovation in service delivery and support from financial institutions (Bannister, 2015). Access to social media via mobile technologies is enabling “customers to contact commercial systems of manufacturers, retailers and service providers anytime, anywhere.” (Lariviere et al., 2013, p. 275).
Previous research has found Twitter and Facebook offer collaborative opportunities between businesses and customers to generate positive sentiment and visibility of the brands (Smith et al., 2012). Therefore, it is recommended that marketers create a space in which brand communities can form and be maintained by rewarding customers (Smith et al., 2012) and validating consumer participation by responding to discussions (Smith et al., 2012). It is through this information dissemination process that trust is built with the brand, which in turn is a mechanism for creating perceptions of value for the customer (Laroche et al., 2012).

6.0 Limitations

A limitation of this research was not measuring hedonic value, despite past research identifying it as predicting technology adoption intention (Kim and Han, 2009; Venkatesh et al., 2012). Hedonic value refers to the “enjoyment, pleasure, and anxiety related to the use of a product/service” (Kim and Han, 2009, p. 37). In 2010 when the survey was first developed, hedonic value was not included as research suggests it is difficult for an individual to evaluate hedonic value (i.e. enjoyment) without any experience with using social media to interact with a financial institution (Millar and Millar, 1996). To enable comparisons between 2010 and 2014, hedonic value was not included in the replicated survey in 2014 (Time 2). Future research would benefit from examining perceptions of hedonic value in the context of social media adoption by financial institutions as well as perceptions of use and motives of using social media to interact with financial institutions. Another limitation of this research was not considering other factors that could explain changes between perceptions of value and intentions to adopt from Time 1 to Time 2 including; demography of users, psychographic characteristics, and experience and comfort with technology. Finally, this research only focused on Twitter and Facebook as the social media platforms that consumers could self-report using. Durkin et al. (2014) found YouTube to be the third most used social media channel by financial institutions, behind Facebook and Twitter. YouTube was not examined in this research, however, industry reports suggest that in the first quarter of 2015, three of the big four Australian banks (CBA, NAB, Westpac) had 2-3 million total views on their respective YouTube videos. This means their YouTube content could be reaching a significantly wider audience than Facebook or Twitter. Perhaps opportunities for impact on consumer engagement lie in the YouTube channel as
opposed to Facebook and Twitter for Australian financial institutions. For instance, Deutsche Bank, an early adopter of social media, releases videos on YouTube explaining the financial products and providing basic financial education (Madche, 2015). South African financial institutions have had similar success using YouTube to teach youths budgeting and savings skills (Chikandiwa et al., 2013). Alongside YouTube, Deutsche Bank successfully uses Twitter for press releases and announcements, and multiple Facebook pages directed to careers, corporate news, and financial services (Madche, 2015). Wolfgang Gaertner, Head of Group Technology and Operations at Deutsche Bank believes it is vital for the organization to be in the same space as customers, explaining their extensive presence on social media channels however it should be done with caution (Madche, 2015).

7.0 Conclusion

To summarize, our research has a number of theoretical and practical implications. The findings add to the technology adoption literature by examining the role of value in voluntary adoption of an interactive service innovation. Moreover, our research adds to investigations into consumer use of social media to interact with organizations, specifically in the context of financial services. Finally, our research adds novel insight around the changing role of value in technology adoption over time and its implications for organizations. While organizations may invest significant resources into developing innovative ways to add value to their service, consumers need to perceive value before they adopt the innovation. For financial institutions desiring to use social media effectively to interact with consumers, their marketers need to articulate to consumers the value they will gain from adopting social media to interact with the organization. As perceptions of social value were the strongest predictor of value and intention to adopt, financial institutions need to develop ways to use social media that creates social value for (and with) the consumer in line with value co-creation principles (Bolton et al. 2013). Furthermore, financial institutions should strive to employ social media in a way that is useful for consumers. If consumers do not perceive using social media to interact with a financial institution as offering utility in comparison to alternative modes of communication (phone, in-person, internet banking), then consumers will not adopt this technology, thus running the risk of wasted organizational resources.
In this paper we have examined the role of value in voluntary adoption of an interactive service innovation in the financial services context. The findings illustrate that perceived usefulness, perceived monetary value, and perceived social value predict an individual’s perception of value of using social media to interact with a financial institution. Perceived value then predicts an individual’s intention to adopt social media to interact with a financial institution. In Time 2, intention to adopt predicts self-reported adoption behavior of social media. The supported relationships investigated in this paper provide additional evidence of the importance of examining value in technology adoption, and paves the way for future research into financial institutions’ effective use of social media to add value to their service delivery.
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Appendis A

OVERALL PERCEIVED VALUE

*Measured on 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7)*

Imagine that your financial institution was sending out messages on Facebook or Twitter about their products such as budget or superannuation tools. You could pay attention or ignore these messages.

- Overall the cost of telling others about my financial institutions messages using social media could:
  - Offers value for money, compared to the fee I need to pay
  - Is beneficial, compared to the effort I need to put in
  - Is worthwhile, compared to the time I need to spend to use it
  - Delivers me good value

(Adapted from Kim *et al.*, 2007)

PERCEIVED USEFULNESS

*Measured on 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7)*

Imagine that your financial institution was sending out messages on Facebook or Twitter about their products such as budget or superannuation tools. You could pay attention or ignore these messages.

- What advantages do you think getting these messages from your financial institution via social media could give you:
  - Save me time
  - Address my needs
  - Be useful
  - Be more beneficial than other channels of communication (telephone, internet)
  - I prefer sharing information with my networks via social media

(Adapted from Davis, 1989)
PERCEIVED MONETARY VALUE

Measured on 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7)

To visit your financial institution in person, you must pay for petrol to get there. To call your financial institution, you need to pay for the phone call. In order to use social media on a computer, you have to pay for the internet connection. To use social media on a mobile phone, you need to pay for the data. There is also a time cost associated with all of these interaction methods, as some will take more time to do than others.

- The fee that I have to pay to access social media is too high (removed)
- The fee that I have to pay to access social media is reasonable
- I am pleased with the fee that I have to pay to access social media

(Adapted from Kim et al., 2007)

PERCEIVED SOCIAL VALUE

Measured on 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7)

If your financial institution is sending out messages via Facebook or Twitter, you have the option of being able pass these on to other people in your network (friends, family, work colleagues etc.) using social media as well.

- If I tell other people in my network about these messages using social media, I think it would:
  - Make people hold me in high regard
  - Enhance the image that others would have of me
  - Help me to show others the type of person I am
  - Make a good impression on other people
  - Give me social stature
  - Make me feel I belong to a group
  - Be fun to communicate this way with other people in the community
  - Enable me to meet nice people

(Adapted from Kim and Han, 2009)
INTENTION

*Measured on 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7)*

- Imagine that your financial institution was sending out messages on Facebook or Twitter about their products such as budget or superannuation tools. You could pay attention or ignore these messages. I expect that
  - I would listen to my financial institutions messages via social media.
  - I expect that I would use social media to pass on messages from my financial institution in the future.
  - I plan on using social media to pass on messages from my financial institution in the future.

(Adapted from Kim and Han, 2009)

SELF-REPORTED BEHAVIOR

*Measured on 7-point Likert scale ranging from never (1) to all the time (7)*

- How often have you read a message from your financial institution (e.g. shared their Facebook message, or Twitter message) – in the past four weeks
- How often have you read a message from your financial institution (e.g. shared their Facebook message, or Twitter message) – in the past year
- How often have you shared a message from your financial institution with your friends, on social media (e.g. shared their Facebook message, or Twitter message) – in the past four weeks
- How often have you shared a message from your financial institution with your friends, on social media (e.g. shared their Facebook message, or Twitter message) – in the past year

(Adapted from Perugini and Bagozzi, 2001)
TECHNOLOGY INSECURITY

*Measured on 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7)*

- I consider it safe giving out a credit card number over a computer
- I consider it safe to do any kind of financial business online
- Information I send over the internet will not be seen by other people
- I feel confident doing business with a place that can only be reached online
- If I provide information to a machine or over the Internet, I know it will get to the right place

(Adapted from Parasuraman, 2000)