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Helping Businesses Leverage Web 2.0 to Generate Social Capital

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Abstract

Businesses large and small are keen to leverage Web 2.0 applications to interact with customers, suppliers and other stakeholders. Whilst some have achieved success, others are still struggling to understand the opportunities and threats associated with using Web 2.0 in business. This paper discusses the development of a conceptual framework to help businesses understand how they could leverage Web 2.0 applications to generate social capital. The proposed framework helps businesses (i) identify opportunities to leverage the strengths and features of various Web 2.0 applications, and (ii) develop business strategies for Web 2.0. As a positional paper, it contributes to theory by proposing a systematic and structured approach for understanding how social capital is created, captured, distributed, and consumed online.

Keywords

Web 2.0, Social Capital Theory, Bonding, Bridging

INTRODUCTION

Web 2.0 is a term coined to describe online applications and services that enable users to take an active role in generating and modifying web content rather than being a passive consumer of web content. It is more of a social phenomena than a specific technology like Asynchronous JavaScript and XML (AJAX) (Hoegg et al. 2006; Wigand et al. 2008). Web 2.0 applications enable users to maximise collective intelligence collaboratively (Hoegg, et al. 2006; O'Reilly 2005). Users achieve this by creating and sharing information in a dynamic manner (Hoegg et al. 2006; Schroth and Janner 2007; Singh et al. 2008).

We have observed that past studies on Web 2.0 applications were completed in three waves. The first wave of studies attempted to define and classify Web 2.0 technologies. For example Hoegg et al. (2006) suggested three categories of Web 2.0 technologies. Hoegg et al. (2006) argued that Web 2.0 represents a platform or a tool that enables users to join a community and express themselves by creating, storing, managing and sharing content. They described the second category as a ubiquitous collaboration tool that allows users to run applications online. Hoegg et al.'s (2006) third category defines Web 2.0 as a community service tool. As a community service tool, Web 2.0 applications enhance and encourage social interactions online and offline. Constantinides and Fountain (2008) suggested a more comprehensive categorisation of Web 2.0 applications. Their five distinct categories include (i) Blogs, (ii) Social Networks, (iii) Content Communities, (iv) Forums/Bulletin Boards, and (v) Content Aggregators.

Once there was a clear idea about the definition of Web 2.0, researchers started to investigate the impact of Web 2.0 on users, organisations and society in the second wave. Most of these studies focused on a single type of Web 2.0 application and attempted to elicit the impact of Web 2.0 on different levels of the society. For example, Ellison et al. (2007) looked at Facebook and its impact on users' social relationships; Lichtenstein and Parker (2009) investigated the information quality of Wikipedia entries.

The third wave of studies investigated the business use of Web 2.0 applications. The business press and practitioners have argued that it is imperative for businesses to adopt Web 2.0 to support various business activities (e.g. Hof 2006; Knights 2007; Tapscott and Williams 2006; Hinchcliffe 2007). According to McKinsey's (2007) study, the majority of business executives and consultants have found the deployment of Web 2.0 in their business generated "satisfactory" and "very satisfactory" results, and they intend to increase investment in Web 2.0 in coming years to strengthen their companies' internal capabilities and to make the most of market opportunities. There is little doubt that the business community is keen to explore how businesses could use Web 2.0 to generate new sources of business value (Shih 2009).

We believe that a better understanding of Web 2.0's characteristics and its successful use by businesses will necessitate the development of new conceptual frameworks to guide practitioners in their implementation of Web

2.0, and researchers in their studies of Web 2.0. To date there has been little theoretical discussion concerning business use of Web 2.0. There are some notable exceptions however. Theories such as Psychological Need Theory (Wigand et al. 2008) and TAM (Wang et al. 2009) have been mooted as candidates for exploring the Web 2.0 phenomena, but these do not provide adequate explanations for describing how businesses could harness the collective intelligence generated through Web 2.0. At the same time, there is a large number of studies utilising Social Capital theory (Ellison et al. 2007; Hu and Kettinger 2008; Richter et al. 2010; Steinfield et al. 2008) to explain relationship dynamics in social networking sites. However, these studies only describe the positive and negative aspects of social networking sites in creating social capital and offer little discussion on the use of different Web 2.0 applications such as blogs and content aggregators.

In this paper we develop a conceptual framework, based on the social capital theory, which we believe will provide a useful tool for evaluating how businesses could use Web 2.0 more effectively. This paper is structured as follows. In section two, we provide a brief discussion of existing definitions and classification methods of Web 2.0 applications. In section three we provide a short overview of social capital theory and its relevance to Web 2.0. In section four, we present the framework to evaluate how businesses can use Web 2.0 to generate social capital. In the final section, we summarise the paper's contribution to theory and practice, and suggest future research directions.

WEB 2.0

Traditional Web and Web 2.0

Ever since the Internet was commercialised in the 1990s businesses have used the Internet to facilitate a wide range of business activities. Prior to the emergence of Web 2.0 in the 2000s, content and products on the Internet were largely produced by a well-defined content producer/contributor, and consumed by the intended consumer. The advent of Web 2.0 enables consumers to participate actively by contributing to the creation of the end-product through online interaction and collaboration (Burns 2007) with other users. Consumers no longer interact with content producers only, consumers could now interact with peers by sharing tips, writing reviews, and circulating positive and negative experiences (Warr 2008). The relationships between buyers and sellers, and producers and consumers have undergone substantial changes due to the emergence of Web 2.0.

Based on a synthesis of past studies (Anderson 2007; Bruns 2007; Constantinides and Fountain 2008; O'Reilly 2005; O' Reilly 2007) and an analysis of Web 2.0 applications, we have summarised the important differences between Web 2.0 and the Traditional Web into six criteria, as depicted in Table 1.

Table 1: Traditional Web and Web 2.0

Criteria	Traditional Web	Web 2.0
(i) History of relationship and interaction	Many transactions take place between users involved in a pre-existing buyer-seller relationship.	Many interactions take place among users with similar interests. These users may not have had prior relationships.
(ii) Sourcing and consumption of content	Users have well-defined roles, e.g. contributors and consumers. They do not change or swap roles regularly. Producers and consumers seldom play both roles simultaneously.	Users contribute and consume content. Roles of users are dynamic. Crowd-sourcing is often used. Collaborative consumption of content is also observed.
(iii) Formality and regularity of interaction	More formalised interactions than in Web 2.0. Often, an interaction takes place for the duration a "transaction"	Less formal. Interactions may take place even when a transaction has not taken place.
(iv) Richness of interaction	Text-based interaction to support a transaction.	Multi-media interaction.
(v) Transparency of interaction	Low level transparency. Private conversation.	High level transparency. Interactions are more public.
(vi) Timeliness of interaction	Tendency towards asynchronous interactions.	Tendency towards synchronous interactions, e.g. real-time updates.

BUSINESS USE OF WEB 2.0 APPLICATIONS

In recent years businesses have used Web 2.0 applications like blogs and online social networking services like Facebook and Foursquare to interact with customers, suppliers and other stakeholders (McKinsey 2007). Well-known examples of businesses using Web 2.0 applications include:

- Ernst & Young used Facebook to provide job updates and career opportunities for students. Students are encouraged to interact with young recruiters and fellow potential employees (Swabey 2008).

- Starwood Hotels used Second Life to encourage potential customers to provide input for the layout and décor of public spaces for their then new Aloft Hotel product (Semuels 2007).

- Virgin America airways used Twitter to interact with customers. Virgin America informs customers of flight delays and disruptions, discounts and product launches on Twitter.

- Starbucks used Foursquare to support their customer loyalty program between April and June 2010. Regular customers were encouraged to complete an electronic check-in through Foursquare whenever they make a coffee purchase (Van Grove 2010). When a customer achieves the "mayor" status, a $1 off discount is applied to all future coffee purchases.

An emerging theme in Web 2.0 research, however, is that not all business use of Web 2.0 had produced the expected return on investment (Swabey 2008). We believe there are various reasons why this might be occurring. First, businesses are still experimenting through trial and error when they engage Web 2.0 (McKinsey 2009). There is no clear understanding as to why some businesses are more successful than others when adopting similar Web 2.0 applications and strategies (Warr 2008). This has resulted in some businesses shunning Web 2.0 entirely as they do not have a good grasp of how Web 2.0 could help them (Swabey 2008). Secondly, information and communication technologies (ICT) have been traditionally viewed by businesses as a medium of communication. The challenge for business, we believe, is to see Web 2.0 applications as more than a communication platform, but as environments for engaging the community, collective intelligence, collaborative work and innovation. Web 2.0 blurs the boundaries between producers and consumers, and buyers and sellers of information and knowledge (Bruns 2007).

Effective use of Web 2.0 requires businesses to leverage the unique attributes of Web 2.0 applications to address specific business problems. For example, rather than using traditional media to support direct communication between the business and its customers, we are seeing more examples of businesses taking advantage of Web 2.0 applications for promoting social endorsement of brands and products, and for viral marketing. For instance, Virgin America used Twitter to publicise new flights from Los Angeles and San Francisco to Toronto instead of using traditional media (Schaffer 2010). By selecting important "influencers" on Tweeter to tweet their new routes, the airline hopes that existing and potential customers will receive the messages and re-tweet, i.e. forward the message on to their contacts. In addition to using Twitter for marketing, Virgin America also monitors customers' tweet streams closely for feedback and complaints. When a customer faced difficulties in completing an online booking and posted a tweet regarding these difficulties, Virgin America quickly responded via Twitter and had the problem ironed out immediately (Schaffer 2010). The negative experience was spun into a positive marketing message. This example illustrates that rather than using Web 2.0 exclusively for marketing and sales, businesses could use the same channel to support customer relationship management and after-sales activities.

SOCIAL CAPITAL AND WEB 2.0

The term social capital stems from the idea that social relationships are seen as a resource or an asset that contributes to 'production' just as other physical or human capitals contribute to production (Bourdieu 1986; Coleman 1994; Putnam 2000). As the concept of social capital spans several academic disciplines, there is a rather broad definition for social capital (Alder and Kwon 2002). Social capital describes the value of social networks and how people interact with others (Dekker and Uslaner 2001; Uslaner 2001). Social network is the outcome of individual and the collective investment in the social relations (Bourdieu 1986). Individuals rely on various resources accessible from within their social networks in their daily lives. For example, career opportunities are a social capital that an individual could derive from their social networks (Belliveau et al. 1996; Burt 1997).

Social capital has been depicted as a public good which belongs to the collective rather than the individual, highlighting the fact that benefits from social capital flow beyond the creator of the social capital (Bourdieu 1986; Coleman 1994). The individual's social actions or behaviour create value for themselves and their social networks. We argue that the nature of the Web 2.0 applications provides the necessary condition to facilitate the production of social capital that flow beyond the original creators of social capital. One such characteristic is Web 2.0's 'architecture of participation' that encourages users to add value to the application they are using (Anderson 2007). With the proliferation of Web 2.0 applications users have evolved from a passive consumer of

content into a producer, an editor, and a remixer of content - 'produser' (Bruns 2007). Web 2.0 applications such as Youtube, Wikipedia, and Flickr are examples whereby users create, edit, remix, and share content with ease. Web 2.0 also provides an environment that enables users to start or join a social network. Users' social interactions generate social capital for themselves and their networks.

Social capital has been linked to both positive and negative outcomes. The characteristics that produce positive outcomes also have the potential to produce negative outcomes. For example, the dynamics of social networks have been attributed to both reducing crime rates, but they were also linked to introducing new modes of criminal activities (Aldridge et al. 2002). In order to highlight the positive and negative sides of social capital, Putnam (2000) distinguished between two forms of social capital creation – Bonding and Bridging. However, we believe the two concepts should be seen as a continuum rather than a dichotomy (Norris 2002).

Table 2: How Social Capital is created through bridging and bonding

Relationship Attributes	Bridging	Bonding
Relationship formation in existing networks	New relations are formed or reformed.	New relations are formed.
Relationship formation in new networks	New relationships are formed across new networks.	Not applicable
Relationship maintenance	The effort to maintain relations is high.	Relations are strengthened. The effort to maintain relations is low.
Diversity in terms of Demography Identity Interests	Heterogeneous demography. No common identity. Diverse interests.	Homogeneous demography. A common sense of identity. Similar interests.
Relationship strength	Weak-Ties	Strong-Ties
Opportunity to evolve / Boundary spanning ability	High [Facilitated because of the weak-ties.]	Low [Restricted because of the strong ties.]
Value creation for individuals in the network	The value created for individual stakeholders is high	The value created for the individual stakeholder is high.
Value creation for the network as a whole	The value of the network is also high.	The value created for the overall network is low.

Bonding takes place between individuals of a similar type (Putnam 2000). Individuals are similar in terms of the demographic cohort they belong to, or the interests and beliefs they possess. Homogeneous individuals tend to support each other and mobilise in solidarity, thus reinforcing their exclusive identity (Field 2008). Bonding occurs when there is a strong trust and a sense of loyalty among individuals. Although the strong ties or bonds are important for creating a sense of belonging to a network, if the social ties are too strong they can also act as a barrier to the outside world. The network may become so insular that essential value creation opportunities are unable to penetrate the network and the network stagnates (Norris 2002).

Bridging takes place between members of socially heterogeneous groups (Putnam 2000). The members are dissimilar demographically, and they do not have much similarity in values, interests and beliefs. The social relationship between members is best described as a loose association. Bridging occurs when members of one network connect with members of other networks to seek access to, gain support, and acquire information (Putnam 2000). Weak ties to the member's network facilitate opportunities for establishing contact across multiple networks, and provide access to external resources and brokerage opportunities. This boundary spanning ability of members is a critical determinant of their effectiveness in accessing social capital resources (Oh et al. 2006).

Bonding and bridging form important components in our proposed framework. The main features relevant to the current study are summarised in Table 2. We argue that businesses need to understand social dynamics among users in Web 2.0 environments so that businesses could use Web 2.0 to their advantage. It enables businesses to leverage social dynamics purposefully rather than by accident.

DEVELOPING THE CONCEPTUAL FRAMEWORK

The proposed conceptual framework presents a two-dimensional matrix of Web 2.0 applications against how they generate social capital through bridging and bonding.

The first dimension of the conceptual framework depicts the categories of Web 2.0 applications according to the functionalities they support. Whilst several methods of categorisation and classification are available (McKinsey 2007; O'Murchu et al. 2004; O'Reilly 2007), we have elected to use Constantinides and Fountain's (2008) method of categorisation as this approach provides a more holistic view of the Web 2.0 platforms, and provides a comprehensive coverage of each category of Web 2.0. The Constantinides and Fountain (2008) approach is also more closely aligned with the social capital creation theme.

The Constantinides and Fountain (2008) categorisation is summarised below:
  (i)   Blogs – online journals, online diaries, including podcasts, microblogs, and multimedia content posted in a chronological order for one-to-many, and many-to-many networks. Examples include Wordpress and Blogger.
  (ii) Social Networks – third party websites and applications that allow users to build a personal webpage and link up with family members, friends, colleagues and contacts. Examples include Facebook and MySpace.
  (iii) Content Communities – websites that facilitates the sharing and organisation of particular types of content like text, photos and videos. Examples include YouTube and Flickr.
  (iv) Forums/Bulletin Boards – websites for exchanging ideas and information in special interest areas. Examples include Whirlpool.net.au and ToyotaNation.com
  (v)   Content Aggregators – third party applications that enable users to customise and subscribe to different content streams. Examples include iGoogle and FlipBoard.

The second dimension of the matrix describes the two methods of Social Capital generation, namely through bridging and bonding, as shown in Table 2 earlier. The method of Social Capital generation is used to frame the five categories of Web 2.0 applications so that practitioners and researchers could use the proposed framework to quickly determine how a particular category of Web 2.0 application is useful to a business. Table 3 below illustrates the proposed conceptual framework.

Table 3: Conceptual framework for understanding how Web 2.0 applications are used to generate social capital

Categories of Web 2.0 technology	Bridging	Bonding
Blogs	High	Low
Social Networks	Moderate	Moderate
Content Communities	Moderate	Low
Forums, Discussion boards	Low	High
Content Aggregators	High	Low

We have elected to use a non-quantitative comparative indicator consisting of "High", "Moderate" and "Low" to describe level of social capital generation. For example, a blog is particularly useful in enabling businesses to establish new relationships with new contacts and customers outside their immediate network. Although a blog is also useful for maintaining relationships with existing customers and trading partners, this capability is relatively less pronounced than when the blog is used to generate new social capital through establishing relationships with users outside the immediate network. In contrast, forums and discussion boards which cater to special interest groups are typically used to strengthen the bond among members of the immediate network. Whilst a forum or discussion board could also be used to bridge into new networks, their capability to generate social capital remains greater if they are used to support communication and relationship maintenance among existing

members. The same procedure could be applied to Social Networks, Content Communities and Content Aggregators.

To better demonstrate the purpose and value of the proposed framework, we have performed a simple validation exercise using the case of ToyotaNation. As a global manufacturer of automotive vehicles, Toyota uses the ToyotaNation forum (www.toyotanation.com) to communicate with owners of its products. Problems identified by owners could be shared with the community of owners, and the solutions provided by the automotive manufacturer could be communicated with the community of owners much more effectively than through formal communication channels. The automotive manufacturer could also use the forum to build community intelligence, for instance, to help owners troubleshoot simple problems, and identify patterns of defects.

In comparison, Toyota could use a blog to communicate with automotive reviewers, distributors and the media to provide updates on upcoming models, changes to product pricing and features. The blog generates social capital mainly by enabling the automotive manufacturer to create a "bridge" across to members of different networks, especially to those who are not currently a member of the immediate network. The blog could also be used to support communication among members of the same network, i.e. through bonding. This builds a sense of community among members of the network. This capability is comparatively less pronounced than when the blog is used to reach out to members of different networks, thus highlighting the fact that blogs generate social capital more through bridging than bonding. Telecommunication carriers in Australia are known to monitor the Whirlpool forum (whirlpool.net.au) regularly, and many hotels have dedicated staff for addressing reviews posted on TripAdvisor (tripadvisor.com).

DISCUSSION

On close examination of highly publicised examples of business use of Web 2.0 applications, the following themes have emerged.

Theme 1: Adoption of Web 2.0 applications must be integrated with other e-business strategies.

Unless businesses develop strategies to integrate Web 2.0 applications with other e-business strategies, and to align their Web 2.0 applications with overall e-business operations, there is a fair chance that Web 2.0 applications will generate social capital but these will not be distributed or shared effectively across the organisation. There is a chance that the social capital generated will remain underutilised. For example, if Starbucks had used Foursquare for a marketing campaign to encourage customers to make more purchases but fail to incorporate the data generated from Foursquare to inform future Starbucks marketing activities then there is a high chance that the goodwill and social capital generated earlier will be lost in the longer term.

Integration of Web 2.0 applications with other online operations is a key component to successful generation, capture, distribution and sharing of the social capital created.

Theme 2: Individual Web 2.0 Applications Have Very Specific and Targeted Outcomes

While businesses have the opportunity to adopt different Web 2.0 applications at a minimal cost, they have to understand the fact that individual Web 2.0 applications may produce very specific and targeted outcomes. For example, when Virgin America used Twitter for marketing their new routes, they will have to understand the limitations of using Twitter to substitute their customer loyalty online portal. At the same time, Ernst and Young should understand that whilst Facebook-based recruitment may be useful for attracting fresh graduates, headhunting experienced consultants may have to be done through LinkedIn rather than Facebook.

Strategies to implement Web 2.0 applications must have a highly specific objective, and be carried out within a clearly defined duration to achieve success. If businesses do not change adapt their ways of using Web 2.0 then there is a risk that the social capital generated will be eroded quickly if users begin to desert Web 2.0 when the hype wears off, or once competitors are also using the same Web 2.0 applications. The tightly-focussed nature of Web 2.0 outcomes also emphasises the importance of integrating Web 2.0 applications with the organisation's other e-business strategies (Theme 1).

CONCLUSION

The major challenge to monetise Web 2.0 applications like micro-blogging has been recognised as a major stumbling block for businesses and developers of Web 2.0 applications (Miller 2009). This paper addresses the above issue by proposing a framework for understanding how different Web 2.0 applications contribute to the generation of social capital through bonding and bridging. Businesses could then articulate these methods to generate monetary or non-monetary returns.

The paper contributes to practice by providing a systematic and structured approach for identifying and understanding emerging opportunities to adopt Web 2.0 applications in business. Businesses could use the proposed framework to develop effective and sustainable Web 2.0 strategies, or to develop new business models to leverage important attributes of Web 2.0 applications, e.g. crowd-sourcing, community intelligence.

The paper contributes to theory and literature by extending the social capital theory to the domain of Web 2.0 applications and social media. The development of an evaluative and analytical framework for understanding the business use of Web 2.0 applications also enables researchers to generate testable propositions for verification and confirmation in future research. For instance, researchers could apply the framework to better understand how content aggregator applications contribute to the generation of social capital to organisations through bridging, but to the individual corporate user through bonding.

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