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The Increasing Importance of Social Capital on Virtual Social Networking Platforms

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ABSTRACT

Social Capital is a human psychological need that is being reshaped by the digital evolution due to intensive use of social networks. New tools, such as 'Social buttons' to "Like" and "Share" web content, have evolved, filtering, ranking and editing data to organise the exchange of Social Capital. It is based on an exchange, where the user gives away Social Capital first, in order to receive it. The contribution of knowledge or information is not for the quality improvement itself, but for the contributors' individual gain to generate Social Capital through the attention of others. A socially constructed architectural framework allows this Social Capital to trade like a currency between users' interaction and content sharing. New algorithms in social networks make users always contribute and interact, believing that they are in a consensus in earning and spending Social Capital. This suggests a biased view on qualitative digital content and a potential threat to organically constructed Social Capital. The dangerous result is the users' social irrelevance and illusional self-awareness caused by the ambivalent ontology of digital artifacts and vacuous, viral and fast-expiring information being exchanged for Social Capital, not for the purpose of meaningful knowledge.

Introduction

The past decade has witnessed a tremendous growth in social computing and user-generated content (Peck et al., 2008), shifting the role of technology from information processing to actionable social intelligence embedded in computing platforms (Wang et al., 2007). This confirmed the IS theories' eligibility of Social Shaping and Social Construction of Technology, suggesting that technologies are socially shaped, and so their resulting form reflects structural and political circumstances of their development and that the resulting technological artifacts are constructed by social groups whose process of interaction among each other interprets success and failure of these constructions (Howcroft et al., 2004). This paper does not discuss the most or least successful Social Networking sites, but the general cultural development in the process of using those networks and what this means for the user today. At this point, it may nevertheless be noteworthy to mention that those Social Networks able to maximise each users' Social Capital the most also became the most successful and survived.

This decade furthermore exemplified the increasing importance of Social Capital in a concept based on what Franck (Franck, 1998) defined as "The Economics of Attention". The journalist Joe Turnbull recently described this phenomenon as "a society where the cult of celebrity is arguably more pervasive than any formal religion, [in which] Facebook has given everyone the chance to be a mini-celebrity. Projected into every nook and cranny of daily life via mobile phones, tablets and laptops, a Facebook profile acts as a personal PR campaign." (Turnbull, 2013)

This essay will outline the general consensus about Social Capital, Social Cognitive Theory as well as Social Contagion in context to the nature and development of Social Media and Social Networking platforms in general. Why do we contribute, share, spend time and effort to actively engage on these platforms? We do so in order to exchange a new and ever more dominant form of Social Capital, which is attached to a lot of positive multiplier effects, but also to increasing threats in combination with a coded, manipulatable and commercially backed Social Networking environment.

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Social Capital in Web 2.0: A Unilateral or Bilateral Concept?

Social Capital has been defined as "resources embedded in a social structure that are accessed and/or mobilised in purposive action." (Coleman, 1990; Putnam, 1993 and 1995). Bourdieu and Wacquant (1992) define Social Capital as ''the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalised relationships of mutual acquaintance and recognition.'' This is the widely accepted definition of Social Capital in the literature at the time of writing. Social Capital has been linked to a variety of positive social outcomes, such as better public health, lower crime rates, and more efficient financial markets (Adler & Kwon, 2002).

Some authors even attach a currency to this form of capital, as with Franck's 'Economics of Attention/Awareness' (German: Ökonomie der Aufmerksamkeit), describing the exchange of attention between humans in trading Social Capital (Franck, 1998). Wasko & Faraj's (2005) view of Social Capital is more unilateral and systemised in different categories (cognitive, structural and relational capital) that should all lead to knowledge contribution. Franck's view (Franck, 1998) is bilateral or, in other words, dialectic. He tries to explain its concept through a currency that is based on an exchange of attention. In order to gain attention, one has to give it away first. (Franck, 1998) Those who spend more attention than gain it have a shortage in Social Capital and those who gain more attention than spend it have a surplus (Franck, 1998). Wasko & Faraj's (2005) view is unilateral, because it assumes that the aim to produce knowledge for others is for knowledge's sake only and hence the willingness to distribute it to others is for the individuals' gain of Social Capital. Franck's (1998) concept however shows that those who only give away their knowledge would not be satisfied, as they would spend more attention than they would earn in Social Capital. Thus the production of knowledge itself is only done in order to compete in the exchange ratio of attention. The ultimate hypothetical goal is to input less than the output of others in your input would generate. As Chiu et al. explain: "The significant relationship between norm of reciprocity and individuals' quantity of knowledge sharing implies that participants of a virtual community may seek a fair balance between what they contribute to the community and what they receive from it" (Chiu et al., 2006: 1885).

This concept is exemplified in the idea of open source. The one character or characters that are most likely to receive the highest income in Social Capital are the initiators, maintainers, or generally those who govern an open source project. One example would perhaps be Richard Stallman, as the single "benevolent dictator" for the GNU/Linux development. In this project, his initial input of Social Capital spent might have been high, but throughout the development he largely received more input from other developers and users than he could possibly apply into the project himself. So why would one be willing to participate in an open source development? From this sociological perspective, and in relation to Franck's (1998) definition of a currency system, the Social Capital gained by a developer through Richard Stallman's attention is significantly high, when he accepts and includes a code that the developer has written for GNU/Linux. This form of Social Capital is what Von Hippel & Von Krogh (2000) describe as benefits of peer recognition, the learning and enjoyment (of knowledge), as with Wasko's & Faraj's (2005), 'selective incentives', tailored individual uses and problem-solving solutions, as well as more collective benefits, such as a community feeling, sense of belonging and cooperative qualities, such as solidarity, altruism, fairness, and the like. Those whom Von Hippel & Von Krogh (2000) describe as 'free riders', or in other words, users of the system in development, are not following merely unilateral pathways either. They contribute in comments on improvements that similarly lead to gains in Social Capital, in the simple form of the suggested change of the system by the developer.

As already briefly discussed, Wasko's & Faraj's (2005) paper focuses on knowledge contribution itself and the different kinds of Social Capital, namely structural, cognitive and relational that drive towards it. This view coincides with Chiu et al.'s (2006) study, interlinking Social Cognitive Theory with Social Capital Theory. As for that matter, they describe Social Cognitive Theory as:

> […] widely applied in the Information Systems (IS) literature with demonstrated validity. The theory defines human behavior as a triadic, dynamic, and reciprocal interaction of personal factors, behavior, and the Social Network (system) (Chiu et al., 2006: 1873)

The theory, mainly formulated by psychologist Albert Bandura (2001), describes how, partly due to the observation of social interaction by others, an individual learns new behaviour through knowledge acquisition.

Most interesting is that both studies find that "social interaction ties, reciprocity, and identification increased individuals' *quantity* of knowledge sharing but not knowledge quality […] Reciprocity is not a significant predictor of helpfulness of knowledge contribution in electronic networks of practice" (Chiu et al. 2006; Wasko & Faraj, 2005). This furthermore confirms that knowledge contribution in itself is not

the basis of the Social Capital, but rather the personal and psychological side-effects, such as well-being, confirmation and attention by others. The willingness to share something in order to gain Social Capital is higher than the actual willingness to contribute knowledge that is helpful to others.

Bandura's (2001) Social Cognitive theory is influential for what Susarla et al. (2012) classify as Social Contagion. As they explain, "Social Contagion broadly describes a class of phenomenon where preferences and actions of individuals are influenced by interpersonal contact, impacting the aggregate diffusion and spread of behaviours, new products, ideas, or epidemics." (Susarla et al., 2012, 24) Social contagion is almost the same theory as Arefi's (2003) 'Consensus' as a direct positive indicator for increased Social Capital, implying the 'shared interest' and collective action within a community.

Susarla et al.'s (2012) study looks at the impact of Youtube on the diffusion of user-generated-content and individual attention-seeking. Building on the potent idea of Social Contagion, such as the "desire for social conformity, homophily, and awareness diffusion" (Susarla et al.,, 2012: 24) they find, among other things, that friends' networks have a significant impact on diffusion and that "multiplier effects arising from Social Contagion within a Social Network can be instrumental in shaping perceptions of the usefulness of innovations, explaining the trajectory of diffusion of technological innovations" (Susarla et al., 2012: 38). Based on Social Contagion in the diffusion of user-generated content which influences others' decisions, perceptions and behaviour, they also outline that "Social Capital fostered through networked interactions might also mitigate the potential for information asymmetry, suggesting that research on reputation systems on the Internet (e.g. Resnick et al., 2000) could incorporate Social Networks based explanations".

Online Social Networks: A Social Construction of Technology

With the development in Social Networking applications came the architectural upgrade of the Social Capital currency system to a form that would be equivalent to leveraging, hedging or credit systems in the financial services industry. Filtering and editing tools such as Social Buttons of 'Liking' and 'Sharing' allow us not only to manipulate the digestion of adaptive information and mass content, but also to gain Social Capital in a way that is impossible in the physical world. Additionally, the convergence of information, whether of private matter, or of personal, professional or commercial interest, is essentially all streamed through the same infrastructure and processed and evaluated using the exact same technological artifacts, particularly in regard to approval by using the 'Like' or 'Re-tweet' buttons. The 'Like' button essentially becomes the virtual credit card to pay with Social Capital.

The academic literature has not discussed the phenomenon of the relation between Social Capital and 'Liking' as a currency in detail yet. Gerlitz's & Helmond's (2013) 'Like Economy' discusses how positive effects can be analysed and capitalised for strategically marketing products and services. According to them, Social Buttons contribute to a simultaneous de- and recentralisation of the web in structuring the mass data flow of media. 'Free labour' is given by the user as consumer and traces data into a value creation for multiple actors including Facebook and external webmasters (Terranova, 2004; Gerlitz & Helmond, 2013). This 'Like Economy' is therefore the evolution of the 'Hit-and-Link economy' in Web 1.0 (Gerlitz & Helmond, 2013: 3). Where in the 'Hit-and-Link economy' the webmaster had the control to artificially inflate 'hits' by spreading links across the web, now the 'power of content' is with the user in the same way being able to artificially inflate Likes of digital content to be spread across the web, hence the expression of 'user-generated-content'.

This 'webmaster-to-user-generated-content' in the development from Web 1.0 to Web 2.0 follows largely the theoretical approaches of Social Shaping and the Social Construction of Technology, as summarised by Howcroft et al. (2004). It exemplifies the fact that the design of individual artifacts and systems is based on the construction and use of those services by the actors, rather than vice versa. In other words, the 'Hit-and-Link economy' developed to the 'Like economy' insofar as when webmasters spread links to artificially improve their Google PageRank, users increasingly demanded and shaped the social validation of that ranking with socially constructed artifacts in the domain of Web 2.0 through blogs, Wikis and Social Networks (Howcroft et al., 2004). The 'Like' button was then the result of a socially constructed simplification methodology to express a variety of feelings within those new domains. As Gerlitz & Helmond (2013: 11) explain: "The button provides a one-click shortcut to express a variety of affective responses such as excitement, agreement, compassion, understanding, but also ironic and parodist liking". It nevertheless characterises the same threat to artificially inflated web content, just in a more democratic nature.

Therefore, artifacts such as the 'Like button' will only remain until the majority of users are still satisfied with their initial social purpose, which was the reason for their social construction in the first place. As soon as users realise that the outcome with the artifacts' use misleads its original purpose, they will socially construct and develop a new artifact which better

fits their social needs. However, this is only true while there is still a difference in organically shaped social needs and those needs created through digital artifacts. If this becomes so opaque or intertwined that the users do not realise a difference anymore, (eg. the infant that tries to 'swipe' a page of a printed magazine, instead of turning it over), or if they prefer the technologically constructed social purpose to that created in the physical world, then we would see artifacts developed according to Latour's Actor-Network Theory (ANT), which treats the social and technological aspects as inseparable and describes all users, whether humans or non-humans as actants, whose collective contribution creates new systems or artifacts within systems. (Howcroft et al., 2004: 348-349)

The limitations that come with the 'Like' button and in the context of social construction of technology are the equally apparent commercial interests of external corporate entities within the same set of user interaction. As Gerlitz & Helmond (2013: 15) describe: "While Social plugins allow materialising and measure positive affect, critique and discontent with external web content remain largely intensive and non-measurable."

Ellison's et al (2007) paper, written before the 'Like' feature was introduced on Facebook and spread across all other kinds of social media platforms, focuses on gaining Social Capital by having the possibility to maintain, bridge or bond friendships. Using empirical methods, they found that Facebook usage interacts with measures of psychological well-being, contributing positively on those with low self-esteem or low life satisfaction.

But Facebook does not constitute the entire Social Media environment in Social Networking applications. Similar platforms such as Twitter, Youtube, Myspace, LinkedIn and more recently Foursquare, Instagram, Snapchat or dating apps, such as Tinder, take the idea of Social Capital in a currency based system of attention into even greater extremes, leading to a more obvious and narrow focus. They provide solutions to capitalise on social currency in every thinkable life aspect of the daily contemporary Social Media user, from desktop to mobile apps, online and offline. This goes from private microblogging, as described by Java et al. (2007), over to video broadcasting and editing on Youtube and Vine (Susarla et al., 2012), up to the most recent social trends of 'Selfies' (taking self-portraits with a mobile camera) and '#foodporn' (taking a snapshot of the dishes you eat or cook) on Foursquare, Snapchat, Instagram, etc., thereby trying to capture every possible aspect of generating positive attention by others to gain income in Social Capital. As Susarla et al. summarise: "the new models of Social Computing are characterised by a spontaneous emergence of communities, with a wealth of opportunity for *participatory interaction*, *self-expression*, and *collective action*." (Susarla et al., 2012: 38)

Yet again, those movements in Social Media culture are a confirmation of the Social Construction of Technology, as it is the users who make developers aware that they now have to provide suitable technological frameworks for their cultural interests. It has to be added, however, that those most recent cultural phenomena derive from a technological environment already, but the motivations (i.e. Social Capital) are deeply rooted in human psychology.

This explanation also sets the idea of Social Capital as a psychological concept in Social Networking applications away from Latour's Actor-Network-Theory (Howcroft et al, 2004: 348-349), since if there were a future substitute to technology to allow Social Capital to perform better, those users now using technology would quickly change to this next, better and non-technological alternative. Whether there is any better alternative to technology has yet to be seen, but may sound unlikely at present. Hence, the more the social and technological aspects merge together, the more relevant ANT becomes for the future design of artifacts.

Discussion and Conclusion

This paper has introduced the debate about the increasing importance of Social Capital in the context of Social Networking platforms and applications. Scholars have empirically tested the sociological theories of Social Capital, Social Cognitive theory and Social Contagion, all intertwined with another, primarily in relation to Facebook, Youtube, and Twitter (Chiu et al., 2006; Ellison et al., 2007; Java et al., 2007; Susarla et al., 2012; Gerlitz & Helmond, 2013). All scholars were interested in similar research questions, such as: "Why are those platforms used so excessively?" and "What makes people contribute to their activity willingly spending time and effort to share knowledge and information with others?"

The Social Capital generated through Social Networks is based on bilateral collective actions that lead to an equal distribution of 'income' in attention-seeking and attention-giving. This Economics of Attention, as Franck (1998) defines it, is crucial for the positive psychological effects it has on every user, such as rising self-esteem, satisfaction, confirmation, pride, well-being and happiness. Not merely the quality of information or knowledge exchanged is of importance, but the reciprocity of giving away Social Capital in order to receive it again is what makes people contribute, interact and feel comfortable within the community. The elements of information or knowledge are therefore, metaphorically, just turning into a form of exchange material or currency, just as

the more advanced mechanism of Social Buttons of 'Liking' and 'Sharing' are giving them credit (or not), as a credit card would do in a monetary system. What in Macroeconomic theory is termed as 'Balance of Payments' is what describes the consensus on Social Networking platforms.

The Social Capital that drives Social Networking activity and development is also an exemplary example for Information Systems' theory of the Social Shaping and Social Construction of Technology. It shows that people's interest in psychological well-being, given by Social Capital, is still superior to technology that can help and improve this desire. Therefore, technology is made and developed by social influences and not vice versa. The best and most recent example is the online dating app Tinder, which 'eliminates' the idea of rejection in asking someone for a date, as the application only allows interaction with two users if both users have anonymously agreed to one another before the interaction takes place.

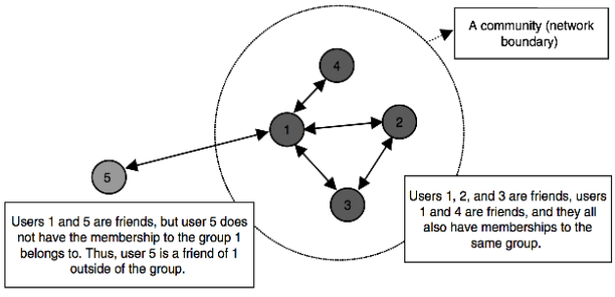

Figure 1: Friend Relationships Inside and Outside the Group Boundary (Susarla et al., 2012: 28)*

However, most recent developments in Social Networking applications and the everyday use of Social Media have drawn a lot of criticism in society. As outlined in the literature discussed, the quantity of knowledge distribution is much higher than its quality, which often leads to misconceptions or misunderstandings, false but fast information sharing through communities with large Social Contagion. Social Cognitive Theory and Social Contagion therefore increase users to believe in unbiased opinions and comments which are, for instance, only credited on large number of 'Likes' or 'Shares', Social Buttons, which symbolise vehicles that the Social Networking empire created itself and can freely be used by everyone, including external corporations, organisations and political bodies alike. The fear is the homophily of user-generated-content and the oversized 'Social Contagion community' becoming a group of isolated individuals, with no more critical or lateral thinking skills. Those users might not be able to distinguish information and content, eligibility and quality, and its origin, whether it be private, commercial or propaganda. Hence, the 'Consensus' as described in a balance of payments is an illusion that is based on intelligent, refined algorithms, which make the individual users' experience with the 'feed' of information and exchange an edited and tailored balance to his or her individual interests and motivations. It leaves out the uncomfortable information that could stress or imbalance the gain in Social Capital, just as the preferences of each user wants it to be.

Therefore, in regard to Social Contagion, and in the same mechanism as the motivation for developers in an open source project, the horizontal hierarchy is an illusion, which remains sustainable only due to the anonymous and generative nature of technology, which allows all active users to gather enough Social Capital that they would request for their input. The value of each user's Social Capital depends on the position and importance of that user in a network of social bonding. To increase your own capital value, you start by affiliating yourself to someone who has a better position in the desired network than you do (Fig.1; User 5 befriending User 1), hence you pay or invest a lot of attention to that user or network. This process manipulates the external observers' ability to differentiate between those users with competence and actual knowledge and those with mere effective strong bonds to valuable Social Capital sources. But who has decided about whether those who enjoy a valuable Social Capital really deserve it? It is not their excessive and profound effort in strong knowledge or information contribution compared to others. It is rather their profound effort in understanding the Economics of Attention and being able to perceive others and be followed by others through strategies of self-promotion and marketing.

Another fear with the increasing dominance of technology to gain positive effects in Social Capital is that users might not see any alternative to gaining positive psychological effects other than to post, share and like virtual content day and night, in order to gain Social Capital. This makes their emotional pleasure isolated on virtual social media applications, sacrificing the real, physical world in favour of imaginary digital content. This is a dangerous development, especially for those who are born with this advanced technology and Social Media, as they might not be able to appreciate any features of psychological wellbeing in real life, other than on virtual platforms. They might prefer sharing a real life experience they witness first with their virtual community, before sharing and enjoying it with their physical, actual environment. This might be

interpreted as an addiction to a certain Social Capital which they only find through Social Networks and which might differ to a real, physical Social Capital. If this trend continues, then Latour's ANT becomes more relevant, as this would mean that technology and humans are not separable anymore in order to achieve this specific, almost drug-like, quality of Social Capital, not achievable in the physical world.

The paper has attempted to identify what literature has been written about Social Capital in context of social networking applications, an area that has grown to significant importance for our culture and society at large, as well as the politics surrounding it over the last decade. It should also act as a starting point in discussing the most recent developments in the architecture of Social Networking platforms and applications. Due to the increasing convergence of digital content with multilayered information infrastructures and big data, there is certainly more change to expect in the near future, which other scholars should explore in more depth.

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