A Three-Level Approach to the Study of Multi-cultural Social Networking

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Abstract. This paper firstly introduces three levels of research on online social networking and the corresponding three levels of research on multi-cultural social networking in our project: individual level, interaction level and consequence level. Our studies on multi-cultural online social networking through these three levels are then presented in more detail, ranging from the discussion of previous cross-cultural research at each level, to the research designs and main findings of our studies. Lastly the combined results from the three studies are discussed to achieve an overall picture of this phenomenon.

Keywords: Social Networking, Cross-cultural, Social Capital.

1 Introduction

According to Boyd and Ellison [3], social networking sites are "*web-based services that allow individuals to 1) conduct a public or semi-public profile within a bounded system, 2) articulate a list of other users with whom they share a connection, and 3) view and traverse their list of connections and those made by others within the system*". Social networking sites therefore allow users to build up and manage their online social networks, to present themselves, to view other users' presentations and to interact with other users through networked connections. Not surprisingly, social networking research to date has focused on three levels corresponding to these features of social networking sites: 1) individual level (e.g. self-presentation [19], privacy concern [1]); 2) interaction level (e.g. network analysis [5], motives and use of social networking sites [8], [16], [18]); and 3) consequence level (e.g. social capital [9], [10]).

Social networking sites have been popular with university students (e.g. Facebook), but have also been introduced in large global organizations (e.g. IBM Beehive). Such communities typically contain people from many different nationalities and cultures, and the many multi-cultural connections existing in these offline communities may be mirrored in those connections on social networking sites. In order to determine the nature of multi-cultural social networking, attention should be directed towards the three different aspects, or levels of social networking research, mentioned above. Firstly, for the individual level, how do cultural differences influence the way individuals present themselves and perceive others? Secondly, for the interaction

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level, how do cultural differences influence the nature of social interactions? Thirdly, for the consequence level, how do the previous two combine to determine the benefits of multi-cultural social networking?

In our project, different research methods were applied to examine three levels of research. Study one focused on the individual level of multi-cultural social networking, by investigating through experiments, the effects of cultural differences on the perception of online presentations [14]. Participants were asked to make judgments about personality and interaction desirability of the presenters. Study two, which focused on the consequence level, used the concept of social capital to measure cross-cultural social networking effectiveness. A combination of survey research and interview research was applied in order to quantitatively establish the existence of the relationships between cross-cultural social networking and social capital, and then qualitatively examine the nature of those relationships [15]. Finally, study three examined the interaction level of multi-cultural social networking. It explored factors that influence users' decisions on whether and/or how much effort was place upon each type of social networking, through interview analysis. The factors identified were tested in an experiment.

In this paper we explain why such a multi-level approach is needed and provide examples of studies into multi-cultural social networking that we conducted at each of these different levels. By combining the studies' findings, as opposed to focusing on just a single aspect, we gain a more comprehensive insight into the phenomenon.

2 Three Levels

This section outlines our studies at three levels, by following and contributing to the existing literature.

2.1 Individual Level

Cross-cultural research on online social networking has addressed the area of self-presentation at the individual level. De Angeli [7] compared the differences of online presentation between British and Chinese students on one of the early social networking sites – Windows Live Space - through three aspects: effort, communication style and self-disclosure. She found that Chinese people put more effort into the presentations of their personal spaces because they are more concerned about the results of their presentations perceived by the audience. Secondly, Chinese users tended to be more polite and formal in their virtual space presentations, whereas British users tended to be more open and direct. Lastly, British users were more likely to disclose their individuating information, whereas Chinese users disclosed more social-related information.

These cultural differences found in online social networking can be linked to the cultural differences suggested by previous cultural theories. For example, the differences in communication styles and self-presentation styles reported in De Angeli's [7] research, is similar to Hall's [12] low context and high context culture theory, which

suggests that in the former culture, people need to speak explicitly and follow a direct communication style; whereas in the latter, people do not need to communicate explicitly as they rely more on the context (the culture) to explain. One reason for this is that people from a high-context culture tend to live interdependently with others and as such, through the development of a common understanding, are able to understand others better. This is in contrast to people from a low-context culture, who want to make everything clear and straightforward, in order to let others understand their real needs. Secondly, people from a high-context culture may be more considerate of other people's feelings and reactions towards what they say, making some speech implicit.

As De Angeli's [7] study suggested that cultural differences did exist in the self-presentation in online social networking between presenters from different cultures, and that these differences are well connected with previous cultural theories, the following research questions were constructed for our study. Firstly, do cultural differences in online self-presentation affect audiences' perception of the presenters? Secondly, do people from different cultural backgrounds have different ways of perceiving other people's online self-presentation? We focused upon cultural differences in perception of others in online social networking at this level, because this may affect users' further interactions in cross-cultural social networking context. Our study [14] hypothesized that cultural differences in presentation styles would affect the viewers' perception of the presenters. It was also hypothesized that viewers from different cultural backgrounds tend to focus on different cues (i.e. verbal cues and non-verbal cues) of self-presentation when building up their perception. To test these hypotheses in an experiment, two specially constructed online blog styles of a typical British and a typical Chinese person were created, reflecting different presentation styles in verbal content. These blogs were designed based on the cultural differences suggested by previous cross-cultural studies ([12], [13], [20]). The content of blogs reflected seven cultural characteristics that were summarized from these studies describing the cultural differences between Western and Eastern cultures (e.g. direct and indirect; long- and short-term relationship orientation; social equality and hierarchical). Cultural differences suggested by cross-cultural online communication research were also addressed in the blog design. For example, people from a Western culture like to use the word "I", whereas people from an Eastern culture like to use the word "we" when describing their activities [24]. In addition to the two blogs, two profiles were created: one with a Chinese name and an East Asian face; the other with a British name and a Caucasian face, reflecting non-verbal content. The two blogs and two profiles were combined to make four different personae of Windows Live Space homepages presenters: two congruent combinations (i.e. Chinese style blog and Chinese, British style blog and British profile); and two incongruent combinations (i.e. Chinese style blog and British profile, British style blog and Chinese profile). 40 Chinese and 40 British participants were invited to view these personae and rate their perceptions via the interpersonal attraction scale (social attraction, physical attraction and task attraction) [22] and the source credibility scale (trustworthiness, caring and competence) [21].

The results showed that differences in presentation styles of blogs did affect viewers' social perception. Moreover, British and Chinese viewers tended to pick up upon

different cues when judging other people's online self-presentation. Chinese viewers were more sensitive to the verbal content, as they tended to judge the personae with Chinese style blogs as being more caring and more socially attractive (i.e. the viewers would like to be friends with the presenter). These perceptions revealed Chinese users' preference of interacting with people from their own cultural group; however, Chinese viewers judged the personae with British style blogs as having higher competence. On the contrary, British participants tended to focus more upon the non-verbal content when perceiving other people's online self-presentation. Based upon their perception, British viewers gave the personae with a British profile higher scores in competence, compared to the personae with a Chinese appearance. One surprising result was that the incongruent combination of the personae with a Chinese profile and a British style blog, scored higher on task attraction (i.e. the viewers would like to work with the presenter). From the participants' answers towards the question - where do they think the persona they viewed is from - most participants regarded this persona was from Hong Kong or a British Born Chinese. This may explain why participants thought this persona was most attractive to work with, because these groups of people tend to have a higher level of cross-cultural engagement. If this is true, it could be seen that when people form their perception of others online, they may trigger a stereotype perception, based on their experience.

2.2 Consequence Level

Although cross-cultural research on social networking sites through the individual level is in its infancy, none of previous research has addressed cross-cultural research regarding the consequence (or benefit) of social networking through the concept of social capital. According to Bourdieu [2], Coleman [6] and Putnam [23], social capital is generated from networked relationships (or social networks) and can bring benefits to the actors who keep the relationships (or that lies in the networks). From a network point of view, there are two types of social capital: bridging social capital and bonding social capital. A bonding network tends to be denser (i.e. most actors are connected with each other) and closer. It usually contains homogeneous groups of people [23], and it is easier to share understanding, build social norms and store trust. With higher levels of trust and understanding, actors should be more likely to share limited resources and provide substantive support to other actors within the network. This is because they should have a greater level of confidence that other actors who benefit from them can pay back their effort in the future [6]. Furthermore, it would be easier for actors to use these connections to enable mobilization [26]. These benefits mentioned above are associated with bonding social capital. A bridging network tends to be sparser (i.e. only few actors are connected) and more open. It usually contains more heterogeneous groups of people [23]. It is easier to develop new connections through bridge connections for previous unknown connectors [4]. Moreover, this is a greater opportunity to diffuse reciprocity, disseminate and receive new information [26]. These benefits are associated with bridging social capital. Granovetter [11] argued that relationship strength could be distinguished as strong ties and weak ties according to interaction frequency, and the levels of trust and intimacy. Strong ties are

more likely to offer the benefit of bonding social capital, whereas weak ties are more likely to provide the benefits of bridging social capital.

Williams [26] developed scales to test online social capital based on the concept of bridging and bonding social capital, in order to test the effectiveness of online interactions. This online social capital scale contains ten items for bonding social capital and ten items for bridging social capital. Ellison and colleagues [9] examined the relationship between Facebook use and the amount of social capital perceived by student users. They adapted Williams' [26] scales, and included a dimension called maintained social capital, in order to assess one's ability to maintain relationships with previous inhabited friends (e.g. classmates after graduation). Their results showed all three forms of perceived social capital were positively associated with intensive Facebook use. Steinfield and colleagues conducted a similar study [25]. They also applied the concept of bridging and bonding social capital to measure various dimensions of organizational social capital, and they examined the use of an internal social network site for employees in an enterprise. They found all forms of social capital were positively associated with the intensity of social networking use. These results provided evidence that using social networking sites could help people not only to maintain a larger network with heterogeneous contacts (bridging social capital), but also to well maintain and deepen their friendships with existing strong connections (bonding social capital). These studies illustrated that social networking is associated with social capital, however it is still unknown whether this is the case for cross-cultural social networking because of differences in building social relations that exist across cultures [17]. It appears therefore a study looking at this area by linking cross-cultural social networking and social capital is necessary to contribute to cross-cultural social networking research at the consequence level.

Our research of this level followed previous research ([25], [9]) on social capital and social networking. Being interested in cross-cultural Facebook interactions among student users in an international university campus, the first concern was whether cross-cultural Facebook interactions exist, and secondly whether these interactions were associated with users' perceived increase of online social capital. By adapting Williams' [26] and Ellison and colleagues' [9] scales, a cross-cultural social capital scale was devised for measuring users' perceived amount of bridging, bonding and maintained social capital from their cross-cultural online networks. In a survey study of 100 British and 100 Chinese university students, participants were asked to rate these scales, in addition to answering questions about their general Facebook use and intensity of cross-cultural Facebook interactions. Regression analysis results suggested that intensive cross-cultural Facebook interactions were positively associated with all three forms of cross-cultural online social capital, especially bridging and bonding cross-cultural online social capital. One cultural difference was that British users reported a lower amount of perceived cross-cultural bonding social capital than Chinese users. These results were further explored through a follow-up interview study in order to understand why users could perceive the increase of cross-cultural bridging and bonding online social capital, as well as why British users tended to perceive less cross-cultural bonding social capital.

The interview study asked 15 British and 15 Chinese interviewees who participated in the survey study to report their interactions with different kinds of cross-cultural relationships on Facebook and what benefits they received through these activities. Three Facebook interaction types emerged from the interview analysis: observing (i.e. view other people's information or activities without giving a response or further interactions); communicating (i.e. one-to-one communication via the public Facebook walls or private chat); and grouping (i.e. interact with more than one friend through Facebook groups or Facebook walls). These emerging interaction types mainly correspond to Facebook functionality. Moreover, four types of bridging social capital benefits were found (i.e. broaden views, enlarge friend circle, get new resources, and diffuse reciprocity); in addition to three types of bonding social capital benefits (i.e. receive access to limited resources, obtain substantive support, and mobilizing solidarity). The ones who provided these benefits to interviewees were distinguished according to relationship strength: strong ties and weak ties. The results suggested that all Facebook interactions with all relationship types in cross-cultural Facebook interactions can provide bridging social capital benefits. However, cultural differences did exist in British and Chinese interviewee reports of their cross-cultural bonding social capital. British interviewees only reported one way of receiving one benefit of cross-cultural bonding social capital (e.g. mobilizing solidarity through grouping with cross-cultural strong ties); whereas Chinese interviewees reported a few ways of receiving two benefits of cross-cultural bonding social capital (e.g. getting substantive support through communicating with cross-cultural strong ties; and acquiring access to limited resources through both communicating and grouping with cross-cultural strong ties).

2.3 Interaction Level

At the interaction level, cross-cultural research on online social networking has addressed the general motivations behind and the usage patterns of social networking. Kim and colleagues [17] compared the motives for and usage patterns on social networking sites between American undergraduate students in the US, and Korean undergraduate students in Korea. They found five common motives for using social networking sites in general: seeking friends, social support, entertainment, information and convenience; these were similar between the two sample groups. Nevertheless, they found differences in usage patterns. American users tended to put more effort into establishing casual relationships (e.g. through common experience), making the size of their online social networks larger than their Korean counterparts. Korean users however were more likely to use social networking sites to maintain existing close relationships for obtaining social support.

The differences in motives and usage patterns of social networking reported in their [17] study, correspond to the cultural differences mentioned by previous cultural theory. For example, Markus and Kitayama's [20] self-construal theory suggests that the interdependent selves (i.e. usually people from Eastern culture) tend to define themselves through their role and relationship with others, whereas the independent selves' self-concept (i.e. usually people from Western culture) is grounded in

autonomy and uniqueness; other people are still important to them, but mainly for social comparison. The difference in self-construal affects people's interactions with others, with the former being more likely to consider other people's feeling and needs when making their decisions as well as rely more on other people's social support; and the latter tending to be more independent with less concern or constraint from other people.

As Kim and colleagues [17] compared American and Korean social networking users' general motives and usage patterns, our study at this level focused more upon the factors affecting users' decision-making when they perform activities on social networking sites. The analysis started from reviewing interview answers of British and Chinese interviewees towards the following questions: What did users do with friends on Facebook; why users did these actions on Facebook? The categories emerged from this interview analysis were similar to those reported in our consequence level study: three types of Facebook interactions (i.e. observing, communicating, grouping), four types of bridging social capital benefits (i.e. broaden views, enlarge friend circle, get new resources and diffuse reciprocity), three types of bonding social capital benefits (i.e. get substantive support, access to limited resources and mobilize solidarity), two types of relationship strength (i.e. strong ties and weak ties), and three types of Facebook communication content (i.e. self-disclosure, information exchange and support).

Relationship strength was the first factor that affected users' decision on how much and what type of Facebook interactions they perform with online friends. British interviewees tended to observe and communicate with strong ties; however the relationship strength did not affect their grouping behaviors. Chinese interviewees reported that they tended to communicate and group with strong ties; however the relationship strength did not influence their observing behaviors.

This study also found that social capital benefits were not only the consequences of social networking use (as suggested by our study at the consequence level), but also the drivers of social networking use (as the second factor that affect users' decision on social networking activities). For example, when British interviewees explained why they group with weak ties in addition to their strong ties, they answered the aim was to enlarge their friend circle - a typical bridging social capital benefit. Similarly, when Chinese interviewees explained why they observe their weak ties through social networking in addition to their strong ties, they answered the aim was to broaden views and get new resources - typical bridging social capital benefits. Furthermore, Chinese interviewees seemed to be affected more by bonding social capital benefits. For example, in order to get substantive support from their strong ties, they tended to put effort towards supporting their strong ties through communicating and grouping.

In order to check the reliability of these results, an experimental study to test the interaction patterns that had emerged through the interview analysis was conducted. In this experiment, types of social capital benefits, types of relationship strength and the nationality of participants were designed as independent variables. Types of Facebook interactions and content of Facebook interactions were measured as dependent variables. Types of social capital benefits and types of relationship strength were manipulated based on the subcategories that had emerged from the interview analysis,

through descriptions in scenarios. The scenarios basically described a group of British friends or Chinese friends with either strong or weak tie relationships with the audience, and the potential bridging or bonding social capital benefits that can be generated from interacting with the group of friends on Facebook. 80 British and 80 Chinese participants were asked to read the scenarios and rate how likely they were to choose different interactions with these friends in the scenarios, compared to their normal activities on Facebook. The experiment examined both cross-cultural relationships (e.g. when Chinese participants read the scenarios about their British friends) and in-cultural relationships (e.g. when Chinese participants read the scenarios about their Chinese friends) in this setting. The experimental study confirmed most of the results from the interview analysis. In addition, the experiment results suggested that Chinese participants were more likely to observe and communicate with their cross-cultural weak ties, which seemed to bring bridging social capital benefits to them (according to our study at the consequence level).

3 Discussion

Combining the three levels, our studies in which British and Chinese social networking users were systematically compared, suggest that cultural differences exist in different levels. At the individual level, cultural differences in self-presentation styles affected the audiences' perception of the presenters. British and Chinese users had tended to focus on different cues when perceiving other users' online self-presentations (the former focus on non-verbal content; the latter pay more attention to the verbal content details). At the consequence level, the case study on Facebook showed cross-cultural social capital (especially cross-cultural bonding and bridging social capital) was positively associated with cross-cultural social networking. However, British participants perceived a lesser amount of bonding social capital from cross-cultural social networking. Further interview analysis revealed that all kinds of social networking interactions (i.e. observing, communicating, grouping) could help users obtain the benefits of bridging social capital (e.g. acquiring new information and diffusing reciprocity); however only communicating and grouping with strong relationships brought different aspects of bonding social capital benefits to British and Chinese users. For instance, communicating and grouping helped Chinese users receive substantive support and access to limited resources; whereas grouping with strong relationships helped British users mobilize solidarity. The cultural difference at the consequence level is that British users perceived less amount of bonding social capital from cross-cultural online social networking in terms of both quantity and quality. Lastly, at the interaction level, three main factors may influence users' decisions regarding multi-cultural social networking interactions: (a) relationship strength - although both British and Chinese users tend to communicate mostly with strong relationships, they have differences in observing and grouping with different relationships. British users tend to observe mostly strong relationships and group with all relationships, whereas Chinese users tend to group mostly with strong relationships and observe all relationships; (b) perceived benefit of social capital - only bridging

social capital benefit affected British users' decision, whereas both bridging and bonding social capital benefits motivated Chinese users; and (c) users' cultural background.

The advantage of researching cross-cultural social networking in different levels is that a fuller picture of the observation is created. Our study of the consequence level suggested there was a strong link between how much people invest in cross-cultural Facebook interaction and how much cross-cultural social capital they perceive as having in their cross-cultural friend networks on Facebook. It provided clearer evidence of causal links between different Facebook interactions with cross-cultural friends and obtaining the benefits of social capital. Our study of the interaction level suggested that social capital benefits may not only be the consequence, but also the drivers of Facebook interactions. Combining the results from the two levels, it is likely that as people experience the actual benefits of social capital from online social networking with friends, they will become more confident about a link between the intensity of Facebook interactions and their perceived online social capital. This confidence will motivate them to invest more in certain Facebook interactions, both in terms of time and emotion, thereby completing a reinforcement loop (Fig 1).

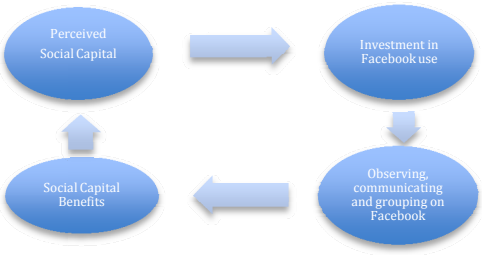

Fig. 1. Reinforcement Loop of Facebook Interactions and Online Social Capital

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