The Chinese and the German Blogosphere: An Empirical and Comparative Analysis

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Abstract

Chinese and German blogs do not only differ in the language of their text but also in many other aspects. This study explores how far these differences can be identified and related to known cultural differences between the two countries. A thorough intellectual analysis of 700 blog pages revealed culturally diverse patterns. Chinese blogs are more graphically oriented. They emphasize the communication between bloggers and commentators. Especially, the distinction between high and low context communication in both cultures seems to have a large impact on the blog communication.

1   Introduction

Social Software supports the interaction between users and the exchange of information. Media for the exchange of pictures, videos or bookmarks have been very successful. Another way to communicate with others is offered by blogs which were originally online diaries. Social software like blogs appeal to members of many cultures and some might even think that the internet leads to unified world culture. However, humans are unaware of cultural habits and values which have a strong impact on the individual behavior. To what extent is the use of social software influenced by the culture of its users? Virtual chats are a good example for cultural habits and values in a new environment. In real face-to-face communication, standards and conventions have been established to signal that a partner want to end the communication. For virtual chats, these signals are not yet established. This lack leads to uncomfortable situations for many users from cultures with an emphasis on politeness.

This study analyses the traces of culture in the blogosphere. Are blogs, their visual appearance and communication and comment patterns influenced by culture?

Such an analysis can ultimately lead to better systems for blogging and communication among bloggers and their readers. Each culture might have different expectations toward

systems and functions. Good understanding of the cultural differences between blogs can support system designers in optimally adapting a blog for a particular culture.

The remainder of this paper is organized as follows. Section two gives definition of culture relevant for this study. The next section explains the experimental setup. Section four elaborates the results which are followed by a discussion.

2   Culture

There are many definitions of culture. The influential Dutch anthropologist Hofstede defined culture as learned patterns of "thinking, feeling, and potential acting" that form the mental program or the "software of the mind" (Hofstede & Hofstede 2005) of an individual. This particular "software" affects our way of thinking and acting in the world. National or social cultures define how people interact with each other, e.g. in groups and their environment.

Culture is often illustrated by using the metaphor of an onion: the most visible outer layers are easier to access than the hidden inner core, which is difficult to identify (Trompenaars & Hampden-Turner 1997). Visible aspects of a culture are easily recognizable for anyone. The invisible ways of thinking and dealing with the world are much more difficult to access. This leads to many misunderstandings in intercultural encounters. For example, while the greeting behaviour can be easily observed in a different culture, it is much more difficult to find out how a culture deals with unavoidable uncertainties of our existence.

Cultures are often classified in accordance to their relative positions on a number of polar scales which cultural anthropology commonly calls cultural dimensions. The position of a culture on those scales is determined by the dominant value orientations. Such quantified models of culture are difficult to find. Cultures are often classified in accordance with their relative positions on a number of polar scales which cultural anthropology commonly calls cultural dimensions. The position of a culture on those scales is determined by the dominant value orientations. Hofstede originally defined four dimensions of culture (Hofstede & Hofstede 2005):

- **Power distance** measures the extent to which subordinates (employees, students) respond to power and authority (managers, teachers) and how they expect and accept unequal power distribution. In high power distance cultures, individuals pay more respect to superiors.

- **Individualism vs. Collectivism**: these value orientations refer to the ties among individuals in a society. In collectivist cultures, individuals define themselves more as members of a social group. They are expected to share their belongings with the group and can rely on the backup within the group.

- **Uncertainty avoidance** describes the extent to which individuals feel threatened by uncertain or unknown situations. High uncertainty avoidance cultures try to avoid and prepare for risks.

- **Masculinity vs. Femininity**: these two extreme values of this dimension focus on the differences between the social roles attributed to men and women and the expected behavior of the two sexes. Masculine values are related to competitiveness and feminine values are related to quality of life.

Later, Hofstede added a fifth dimension which is related to time: Long-term vs. short term orientation. Long-term oriented societies are willing to invest and wait longer for the return. In short-term oriented cultures, individuals want to get the return for their investment very fast culture (Hofstede & Hofstede 2005). Trompenaars introduced another dimension which is important: universalism vs. particularism. Universalism means that rules are to be followed under all circumstances. Under particularism, the members of a culture follow relax rules according to the circumstances (Trompenaars & Hampden-Turner 1997).

A dimension strongly related to individualism vs. collectivism dimension is high vs. low context. In a culture of low context, information must be explicitly stated. In a high context culture, information is transferred to a large extent by context and requires knowledge of the culture in order to read the context information (Beneke 2001). The main differences between Germany and China can be seen in table 1.

	Long-term Orientation	Individualism	Power Distance	Uncertainty Avoidance	Masculinity
Germany	31	67	35	65	66
China	118	20	80	30	66

Table 1: Values of Cultural Dimension (http://www.geert-hofstede.com)

The culture affects many aspects of daily life as well as the so called high culture. Information technology is also affected by culture. Software systems express the culture of their creators and users expect to find their cultural orientation in these systems (Cyr et al. 2004). It was shown, for example, that users from long-term oriented cultures are more likely to use browsing than keyword search (Kralisch & Berendt 2004). For the retrieval of music, users from different cultures differ even more in the functions which they want and use most (Lee et al. 2005). Social software and the interaction between users with such systems can be expected to exhibit cultural orientation as well.

3   Experimental Setup

For this study, blog services as well as blog content were analyzed. The Chinese services Sohu, Sina and Blogcn were considered. They were compared to the Western services mySpace, yahoo360, Windows live space and Blogger. The blogs found within the Chinese services were classified as written by Chinese individuals and the respective assumption was made for German blog services and their writers. These assumptions were backed by the languages used in the blogs. Almost all blogs were exclusively written in the national language of their respective service. Nevertheless, 8% of the German and 14% of the Chinese blogs contain more than one language.

The blogs have been collected by blog search engines. Synonymous search terms which were suited for searches in both languages were identified (e.g. prejudice) and used to query these blog search engines. The resulting pages were collected into a set of blogs from both cultures on similar topics. It contains 409 Chinese and 98 German blogs. Reactions and comments were collected to analyze the communication. Altogether, the data collection comprises 808

reactions to Chinese and 177 reactions to German blog articles. It is noteworthy that the percentage of reactions in our sample is much higher than the statistics reported in a large scale study where 28% of all blogs and 15% of all posts receive a reaction (Mishne & Glance 2006). The data has been analyzed by one person who has excellent command of both Chinese and German. For each blog, 24 features were analyzed intellectually and coded in a database. Ten features were extracted for the reactions. Many features required that the blog content was carefully read.

4   Results and Interpretation

Chinese and German blog services work quite similar overall. They are related to each other because blog services are a recent innovation. The basic functionalities have been copied by many services from initial blog web sites which led to a standard. Nevertheless, some differences between the blog services in the two countries were identified. Chinese blog programs offer their writers far more ways to modify the design of their blogs. More text layout options and even systems to optimize pictures are provided. On the other hand, Chinese services often define the order in which steps need to be taken in a wizard style of interaction. The Chinese blog service Sohu is the only blog which offers the possibility to view the last visitor. This shows a trend to provide further social functions which enable people to interact. The track back function is another example for a social function. Based on a link from one blog to the other, it creates a link back in the opposite direction. The user can navigate to a blog which links to the currently viewed blog. The track back function realizes the vision of bi-directional links for the blogosphere which has been advocated by the open hypertext community. The following sections show the results of the analysis of German and Chinese blogs.

4.1   Bloggers

The Chinese set of blog writers comprises more females (40%) than the German set (22%). The relation of male writers is 35% compared to 55%. For the other blogs, the sex of writer could not be determined. The age of the bloggers could not be found out even more often and Germans are especially reluctant to publish their age. Only 40% show their age compared to 71% of the Chinese bloggers. The age distributions of the bloggers who show their age is similar in both countries. Chinese bloggers tend be younger.

Chinese blogs are almost exclusively (96%) written by individuals, whereas 12% of the German blogs are organized by groups and 10% by companies. This exemplifies the trend that social computing technologies are more and more adopted by businesses. This trend is obviously taken on in Germany more readily. This finding does not contradict the Chinese collectivism but seems to be due to the larger power distance in China. Social computing enables even individuals with low power to create content and comment on other content. In a culture with stronger power distance like China, an organization is strongly hierarchically organized and only people on the top have the power and the right to create and comment on content. The Chinese model of organizations does not relate well to the idea of blogging. The

idea is mainly taken on by individuals whereas in Germany, a culture with a smaller power distance, superiors are less reserved to let people with less power express themselves.

The German bloggers are more likely to assign their contributions to categories. In blogs for which writers do assign categories, the Germans assign more categories than the Chinese.

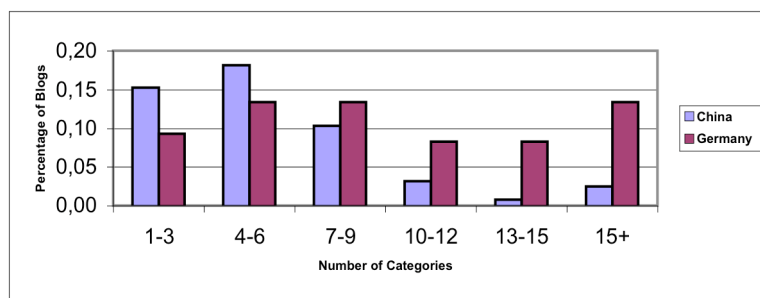| Links	None	1-3	4-6	7-9	10-12	13-15	15+
China	0.50	0.15	0.18	0.10	0.03	0.01	0.02
Germany	0.34	0.09	0.13	0.13	0.08	0.08	0.13

Table: 2: Number of Links in Blogs

Figure 1: Number of Categories Assigned to Articles

The fact that Germans more often assign categories and assign more categories seems to be related to the uncertainty avoidance of a culture. Germans need to structure their online articles more whereas Chinese can better cope with the uncertainty of uncategorized articles. The assignment might also be interpreted as an act of the individual expression of opinion. Chinese are less individualistic and tend not to express themselves in the tag assignment.

4.2   Visual Design of Blogs

The Chinese blogs are more strongly visually designed than German blogs. As mentioned before, the Chinese services offer more ways to modify the visual appearance of a blog and these functions are used by the Chinese bloggers. The Chinese blogs contain more visual and design elements than their German counterparts. The blogs were overall rated on whether they are heavily graphically designed or not. The rater had the impression that only 7% of the German and 49% of the Chinese were more strongly graphically designed.

The graphic design of Chinese blogs goes along with the heavy use of graphic design elements. Chinese blogs more often contain animations (39% compared to 4%), photo albums (29% compared to 18%), audio files (39% compared to 2%), clocks (11% compared to 5%) and calendars (46% compared to 33%) whereas German blogs more often contain videos (10% compared to 7%) and smileys (8% compared to 3%). The aesthetic perception in East Asia prefers highly graphic designs which might appear overburdened for members of Western cultures (Heimgärtner 2007).

4.3   Communication Patterns

The German bloggers offer more ways to be contacted than the Chinese bloggers. Many more Chinese (72%) than Germans (54%) do not show a contact method. Within the remaining blogs, the Germans do offer more contact possibilities. Some 70% of the Chinese blogs provide one way to contact the writer, whereas 45% of the German blog provide more than one alternative.

Communication via blogs is mostly limited to reading blogs just as with many other interactive media. In addition, some readers do comment on articles and might invoke another reaction by the blogger. This communication has been analyzed. An important issue is whether strangers communicate or whether people with existing social relations interact. In 2% of the cases, the German bloggers do not know the commentator. For the Chinese set, this is the case for 19%. The reactions were categorized according to the attitude toward the content of the original blog article. The results are shown in table 3 and figure 2.

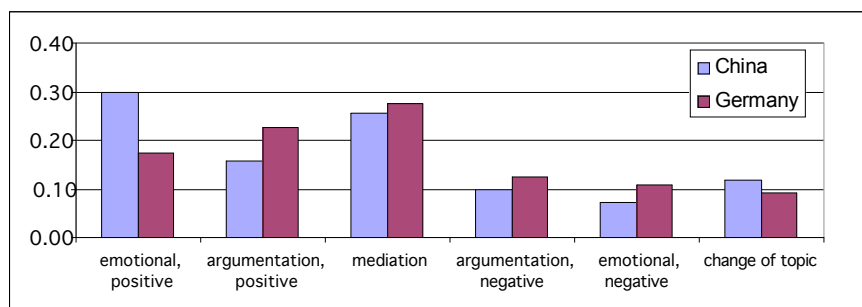| Reaction	emotional, positive	argumentation, positive	mediation	argumentation, negative	emotional, negative	change of topic
China	0.298	0.157	0.256	0.099	0.071	0.119
Germany	0.175	0.226	0.277	0.124	0.107	0.090

Table 3: Comment Types

Figure 2: Comment Types

It is remarkable that the Chinese show almost twice as many emotional and positive comments. The fraction of negative comments is higher in Germany. This can be explained considering the collectivism in China which leads to communicative behavior in which both partners can keep face. Open negative comments are less common. The difference is not very large which shows that the communicative style in blogs seems to be biased toward more negative utterances.
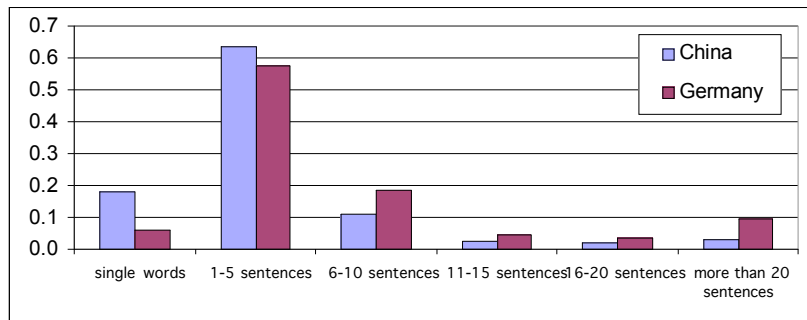
Figure 3: Length of Comments

Comments are shorter in China. The length of the comments can be interpreted by the notion of context. China is a high context culture where information is transferred to a large extent by context. Germany is a culture of low context where information must be explicitly stated.

Comment	few words	1-5 sentences	6-10 sentences	11-15 sentences	16-20 sentences	more than 20 sentences
China	0.181	0.634	0.111	0.024	0.019	0.032
Germany	0.062	0.576	0.186	0.045	0.034	0.096

Table 4: Length of comments in Blog sets

		negative	positive
China	change of topic	1	11
	argumentation, negative	13	2
	emotional, negative	9	6
	argumentation, positive	4	28
	emotional, positive	3	14
	Mediation	5	12
Germany	change of topic	0	19
	argumentation, negative	32	5
	emotional, negative	0	11
	argumentation, positive	2	17
	emotional, positive	0	8
	mediation	6	22

Table 5: Percentages of Reaction Types in Comparison to Comment Type

The reaction of the blogger to the comment is another knowledge source for analyzing the communicative behavior. For both sets, more or less one fourth of all comments lead to a reaction of the blogger. The fraction of negative reactions is similar (6% in Germany, 5% in China). The German set contains more positive reactions (18% compared to 14%) and the Chinese set more neutral and mediating reactions (12% compared to 5%). Negative comments are most likely to lead to negative reactions and vice versa. However, the correlation between negative comments and negative reactions is higher for Germany than for China. On

the contrary, the correlation between positive comments and positive reactions is higher for China as table 5 shows.

The time until the first comment is published is another interesting measure for communication in blogs which is shown in figure 4.
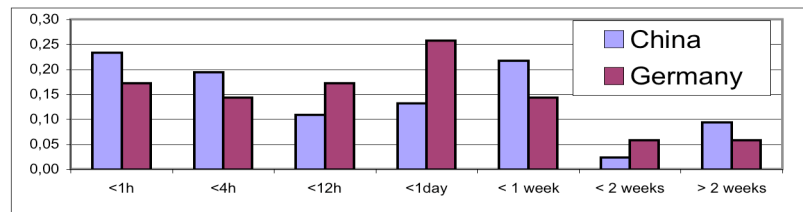

Figure 4: Time Until First Comment

The main differences can be observed for the category between 12 hours and one day in which many most Germans react. Most Chinese react either quite fast or within a week. The long-term orientation in China is expected to lead to reactions after a longer time period. Chinese are likely to value articles even after a longer time period whereas in a more short term oriented culture like Germany, recent articles are more likely to attract comments. The results do not fully support this hypothesis.

Links are an important feature in web communication and an important knowledge source for web structure mining. Links are often used to determine the relationships between concepts and social groups. The use of links in blogs shows how far people rely on other sources. Links are also used in blogs. Table 6 shows their frequency in our data sets.

Links	none	1-5	6-10	11-15	16-20	20+
China	0.21	0.31	0.18	0.07	0.06	0.17
Germany	0.24	0.17	0.09	0.11	0.09	0.29

Table 6: Percentage of Blogs within Categories of the Number of External Links

German blogs contain more links. This seems to contradict the collectivist Chinese culture at first. One could expect that Chinese bloggers would rely more on others in order to identify themselves as part of social groups. However, this finding should be interpreted in terms of the cultural dimension of high vs. low context. Germans provide more context by listing external links.

5   Discussion and Outlook

The results presented give an insight into the features of blogs and the communicative patterns between blogger and commentators. For many aspects, differences between the Chinese and the German blogs are obvious. The sample of people who use blogs is not representative

for a culture. The Chinese individuals who use blogs are likely to be influenced by Western cultures and might personally tend to individualism. The creation of a blog for an individual is itself a sign that these people want to express their opinions as individuals. Obviously, we observe a conflict between deeply enrooted collectivistic values and adopting Western style. Neither does the anonymity of internet communication lead to a completely new culture nor can purely traditional values be found in the data.
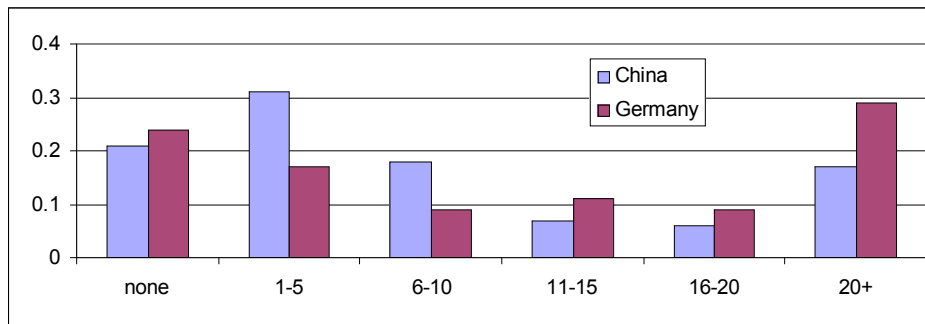

Figure 5: Number of links within blogs

China is highly collectivistic culture where the membership in social groups defines the individual. Germany represents a more individualistic culture. This cultural dimension corre- lates strongly with the communication style high vs. low context. China requires less explicit communication because much of the information is conveyed by the context. This seems to be the most relevant cultural feature for the interpretation of the communication in the blogs. Other cultural dimensions like power distance and long-term vs. sort-term orientation are also necessary for the interpretation. The reliance on context seems to lead to shorter blog articles in China and the heavier use of links in German blogs. In collectivistic cultures, criticism is less open and communication partners want to avoid situations where one part- ners looses face. In the Chinese blogs, less negative opinions are published. The number of categories used in Germany seems to be rooted in the high uncertainty avoidance.

Blogs are used as a communication platform and more and more as a knowledge source. For example, blogs can be exploited to extract mood patterns (Balog et al. 2006). However, the emotions expressed in blogs depend to some extent on the culture of the blog. In order to reliably extract knowledge, the structure and the communicative patterns need to be well understood. Our analysis shows, for example, that negative comments often lead to negative reactions. This knowledge can be used to automatically analyze the discourse within blogs. The findings presented are based on an intellectual analysis of many blogs. Some features can be easily extracted automatically. In a future study, we intend to automate some aspects of the analysis and increase the data set.

References

Balog, K.; Mishne, G.; de Rijke, M. (2006): Why Are They Excited? Identifying and Explaining Spikes in Blog Mood Levels. In: 11th Meeting of the European Chapter of the Association for Computational Linguistics (EACL 2006).

Beneke, J. (2001): The 14 Dimensions of Culture. Orientation Matrix. Hildesheim: Technical Report, University of Hildesheim. http://www.uni-hildesheim.de/~beneke/SS04/Vorlesung/CulturalDimensions.pdf

Cyr, D., Ilsever, J., Bonanni C., Bowes, J. (2004): Website Design and Culture: An Empirical Investigation. In: Designing for Global Markets 6: Proc Sixth Intl Workshop on Internationalization of Products and Systems (IWIPS 2004) pp. 33-45.

Heimgärtner, R. (2007): Measuring Cultural Differences in HCI as Preparatory Work for Cultural Adaptability in Navigation Systems. In Designing for Global Markets 8: Proc Eighth Intl Workshop on Internationalization of Products and Systems (IWIPS 2007) pp. 43-54.

Hofstede, G.; Hofstede, G.J. (2005): Cultures and Organizations. 2.ed.,. New York: McGraw-Hill.

Kralisch, A.; Berendt, B. (2004): Linguistic determinants of search behaviour on websites. In: F. Sudweeks & C. Ess (Eds.): Proc. CATAC'04 conference - Cultural Attitudes towards Technology and Communication. Karlstad, Sweden, 27.6. – 1.7. 2004. pp. 599-613

Lee, Jin Ha; Downie, S.; Cunningham, Sally Jo (2005): Challenges in Cross-Cultural/Multilingual Music Information Seeking. In: Proc 6th Intl Conference on Music Information Retrieval (ISMIR 2005) London, pp. 1-7. http://ismir2005.ismir.net/proceedings/1100.pdf

Mandl, T.; de la Cruz, T. (2007): International Differences in Web Page Evaluation Guidelines. In: International Journal of Intercultural Information Management (IJIIM) vol. 1 (2).

Mishne, G.; Glance, N. (2006): Leave a Reply: An Analysis of Weblog Comments. In: Third Annual Workshop on the Weblogging Ecosystem: Aggregation, Analysis and Dynamics. http://www.blogpulse.com/www2006-workshop/papers/wwe2006-blogcomments.pdf

He, Y. (2007): Weblog in Deutschland und China: Empirischer Vergleich auf der Grundlage von diskursanalytischen Kennzahlen. Master Thesis. International Information Management. University of Hildesheim.

Trompenaars, F.; Hampden-Turner, C. (1997): Riding the Waves of Culture: Understanding Cultural Diversity in Business. London: Nicholas Brealey.

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