A RELIABLE METHOD TO ANALYSE SOCIAL NETWORK SITES WITH INTERVIEWS

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Abstract
　　The paper determine the dimensions of social capital which has been described from Sander / Teh (Sander & Teh, 2014a). The dimensions can be used to measure and identify social capital in social network sites. The dimensions are formulated on a theoretical basis. The aim of the paper is to explore the use of social network sites by students and to identify parts of the social capital theory in social network sites under consideration of the framework. This paper use the results of 59 structured interviews with students analysed with a software to explore the behaviour of students in social network sites under consideration of the social capital theory. The second purpose for this paper is to use a method to analyse expert interviews as a qualitative method with a software. The software provides an objective perspective on the data as good as objective a method can be. This method can give critical feedback about an individual interpretation from a human researcher and new insights in the collected data. Further provides the method a reliable result for interviews as any replication provide the same result.

Keywords: Social capital, social networks, structured interviews

Introduction
　　Social network sites are a new part of our society with many changes for individuals. There are many reasons to be member in social network sites and to use social networks. That is the reason to explore the behaviour of social network sites member to improve the processes of organisations and to increase the knowledge about social network sites. Social network sites is a new fast developing part of the society and influence humans' daily life (Sabatini & Sarracino, 2014, Boyd & Ellison, 2007, Weber, Loumakis, & Bergman, 2003). The mechanism in social network sites has differences compared with real networks. This paper has collected data with a qualitative method but the analysis has been done objective with a software. The software analysis tool reduces the human interpretation of the results. That reduce the biases and increase the reliability. This method provides a valid result and provides another perspective on the method qualitative interviews. The analysis with the software support the results of the interpretation of individuals of the interviews or gives important guidance to rethink about the interpretation. The third issue can be that the analysis with software generate new ideas and perspectives (Qu & Dumay, 2011). The structured and guided interviews are more reliable and comparable as they avoid biases by the interviewer. The limitation of this method is the automatism of the interpretation of the data. Associations and information can disappear because the software cannot recognize the full data. The meaning of words and impression depends on the context and the software is not able to

recognize the differences or to evaluate the importance of the word. That has to be under consideration by the interpretation of the results.

The explanation of process in social network sites can be done with the social capital theory. This theory has different dimensions which have been evaluated by Sander / Teh. The further step is to determine the dimension from Sander / Teh. The identified dimensions are described in figure 1 below. The paper supports the explanations of social network sites and gives an impulse for further investigations. The dimensions are needed to measure social capital and to identify the existence of the theory. The results can support the creation of a questionnaire for example and explain the behaviour of network members (Sander & Teh, 2014a, Züll & Mohler, 2001). The paper will be used to confirm and to fine tuning the dimensions to get a more useful tool.
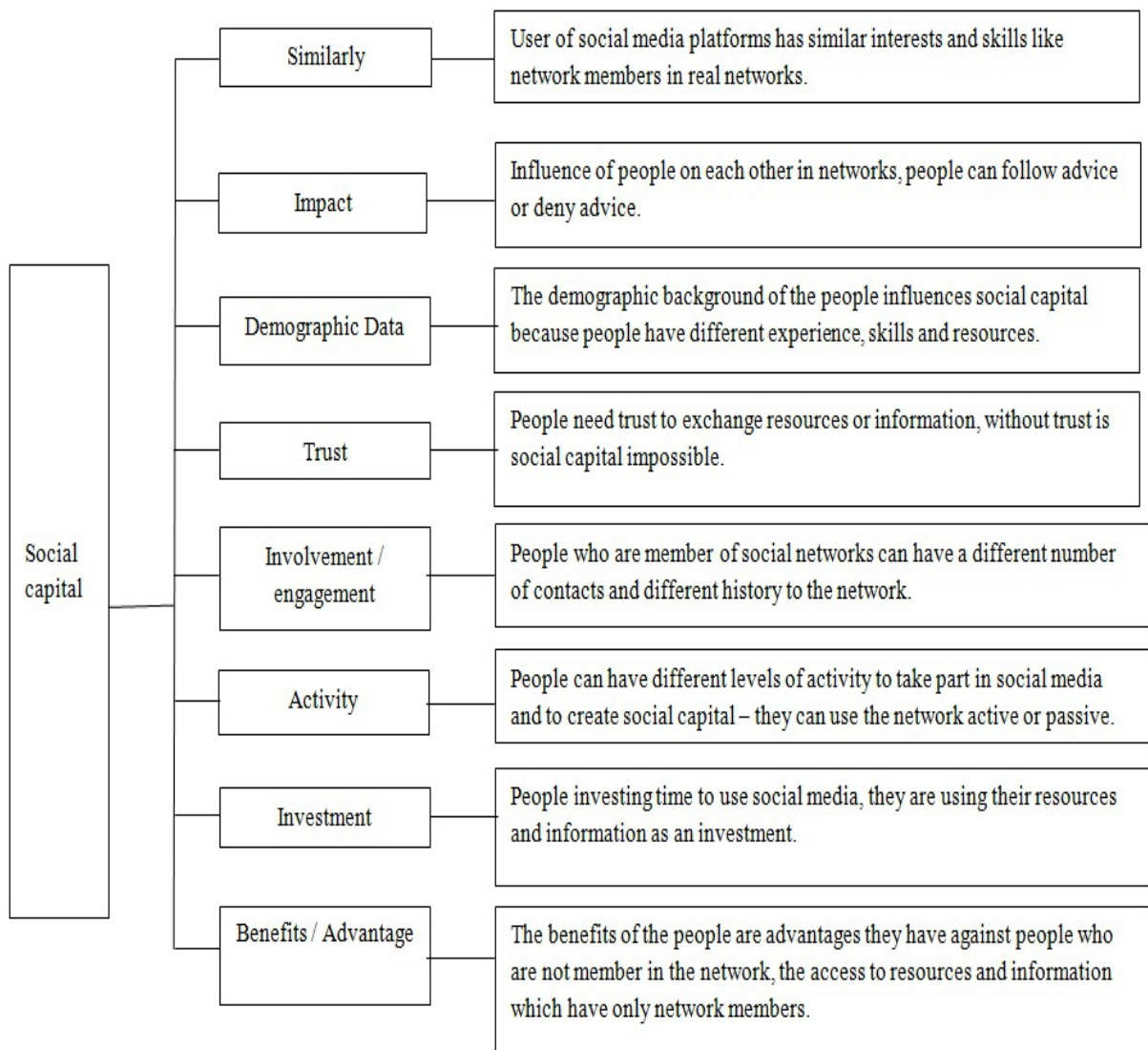

Figure 1 Dimensions to measure social capital cf (Sander & Teh, 2014a)

The dimensions demography data, similarly and involvement / engagement are not deeply compiled as the sample are students with similar demographic background and interest. That means a concentration on this dimensions is less fruitful.

Social capital and social network sites

Social capital theory explains the mechanism in social networks. The theory describes and explains behaviour of social network site member including the positive and negative

effect of membership in social network sites. The theory demonstrates the advantages and disadvantages of social networks. The ties between network members and the structure of networks is an explanation for the social capital theory. The main part of the theory describes the exchange of information and resources in social networks. Another reason to be member in a network is the prestige which provides the membership in a network. Important that social networks operate is trust and obligations. This theory has to be tested for social network sites that the social capital theory can be expanded and the research gap can be filled (Sander & Teh, 2014b, Sabatini & Sarracino, 2014, Adler & Kwon, 2002, Coleman, 1988, Granovetter, 1995, Burt, 2000). Especially the employment seeking process needs further research as organizations use social network sites to identify potential candidates and try to encourage them to apply taking into account also possible negative aspects..

Social network sites are a new kind of social networks. Social networks are a construct of ties between network members. The ties provide access to needed resources and information. The ties can have different structures which influence the value of the connection (Granovetter, 1973, Burt, 2001). The technical changes provides with social network sites a new kind of social networks with new conditions for network members. The internet changed the communication and gives the opportunity to maintain relationships independent from time and destination. This is a large advantage for individuals and provides many advantages. Social network sites are internet platforms, which require a registration and provide the opportunity to create a profile. Part of the profile is visible for other user and gives the opportunity to provide information about the network member from one side but from other side it shows information often very sensitive and personal as in most cases people would like to show their success, achievements and not so much problems, which could be related to employment seeking. Further it could be possible to create relationships and to communicate with other network members to exchange resources and information. The new kind of technology and social capital theory provides a new situation and new kind of social capital. The internet substitute part of the real world and provides new forms of relationships. The results are new networks, which have millions of members worldwide. Those new kinds of networks provide the opportunity to create global networks and support the communication and exchange of information with a relatively small investment. (Williams, 2007, Boyd & Ellison, 2007, Sander, 2012, Burt, 2000, Quan-Haase & Wellman, 2002). Those circumstances change the society and have a large impact on the daily life. That gives the substance to the research question to explore social network sites under consideration of the social capital theory.

Method

The paper use 59 structured expert interviews collected with students at the University of Ludwigshafen. The interviews are structured and guided interviews. All participants are university students, they are participating regularly in social network sites, they are registered member of social network sites and they use for several years social network sites. This interviews has been interpreted by the authors and the results has been presented in "Determining the Indicators of Social Capital Theory to Social Network Sites" (Sander & Teh, 2014c). This paper uses the software *Context*[21] to get further information from the data and to improve the results of the research. *Context* calculates the frequency and ratio of occurrence of words in the interviews. The interviews have been prepared for the analysis. Frequently appearing words – stop words - which are not of interest has been deleted by the software (Züll & Mohler, 2001). After the software provided the results, the terms has been summarized to groups of terms with similar meanings or synonyms to get a better overview

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[21] http://context.lis.illinois.edu/

about the results (Liebold & Trinczek, 2009). That preparation supports the analysis and gives a good overview about the data.

The importance of the terms is given by the frequency and the ratio of occurrence in the interviews. The frequency counts the number of terms in all interviews. The ratio of occurrence in the interviews is calculated with the formula "Interviews which contain the term divided with all interviews" (Züll & Mohler, 2001). The analysis is independent from the researcher because the software is doing the analysis with all interviews with the same method. The results are comparable figures. Only the interview content is under consideration and described with the software. The influence on the results of the analysis of the scientist is reduced on a minimum. The typical critic at expert interviews that this kind of method contain subjective interpretations can be avoided and reduced with the use of a software (Olugin Olguin et al., 2009). The software has more functions regarding interviews and networks but for the analysis of interviews in German language are only the mentioned functions above useful.

The qualitative method interview is useful to give an explanation of social phenomena in the society. The analysis with the software provides figures to make the results more comparable and the automatic analysis with the software avoid human influence on the results. The objective of the expert interview is to investigate and analyse the behaviour and emotions of individuals (Wolf, 2009, Mayring, 2000, Qu & Dumay, 2011). The network mechanism and behaviour of the network member can be described and explored with that method.

The sample for the respective empirical part of the research consists of students in Germany. Fifty-nine students interested in employment findings and members of social networks have been involved in the structured interviews. The participants are using regularly social network sites. The gender distribution is 58% female students and 42% male students.

The participants are between 20 and 35 years old. The age distribution is described in the table below.

Age of participants	Percentage
20 – 23	42%
24 – 26	48%
27 -	9%

Table 1 Age Distribution of Participants in Structured Interviews (Source: Interviews conducted by Tom Sander, 2014)

Results

The results are presented with the German word in Bracket behind the English translation mainly in the following tables. The main reason to be member in social network sites is friends. The word friend is mentioned 37 times in all interviews and 40% of the students mentioned the word friend in their answers. The plural of the word friend "friends" are 72 times and occurred in 71% of the interviews. In addition there are 13 more interviews with the word "Bekannte" (Acquaintance) which is of the same kind for friends.

Term	Total Frequency	Ratio of occurrence in the interviews
Friends (Freunde)	37	0.40350878
Friends (Freunden)	72	0.71929824
Acquaintance (Bekannte)	13	0.19298245

Table 2 Frequency and ratio of occurrence in the interview for the term „friend"(Source: Interviews conducted by Tom Sander, 2014)

That friends are important in social network sites supports the former findings that relationships and the contact to other person has been an important issue for the students. This result is similar to research results of real networks (Wang & Wellman, 2010, Weber et al., 2003, Steinfield, Ellison, & Lampe, 2008). They use the word contact and synonyms for the word contact very often as described in the table below.

Term	Total Frequency	Ratio of occurrence in the interviews
Contact (Kontakt)	110	0.75438595
Contacts (Kontakte)	13	0.15789473

Table 1 Frequency and ratio of occurrence in the interview for the term „contact"(Source: Interviews conducted by Tom Sander, 2014)

These results explain the importance of relationships in social networks and is an indicator that individuals use their network to maintain relationships. Further is the social group in social network sites important. Students organize themselves in social network sites. Twenty-two percent mentioned in their answers the word „group". This gives the indication that students use the social network sites to create their own group at social network sites. The social network is a private place. Twelve percent of the interviews contain the word "private".

Support is an import issue for social network sites. The students have used words in relationship with help frequently as described in the table below.

Term	Total Frequency	Ratio of occurrence in the interviews
aided (geholfen)	30	0.5263158

Table 2 Frequency and ratio of occurrence in the interview for the term support / help (Source: Interviews conducted by Tom Sander, 2014)

Information is one of the main reasons to be member in a network; the students use the social network to exchange information, to identify information and to be posted about events. Frothy-three percent of the interviews contain the word "information"(Frequency 45). In addition, 14% mentioned in their answers that they are informed and 8% that they have been informed via social network sites. That describes social network sites as an important source for information and is a reason to be member in social network sites. Ten percent of the students post information on their social network sites profile and exchange information there.

One of the main thing they are publish in social networks are picture. Twenty-sixth mention picture and 9% mention the synonym photo in their answer. That is the main identified information that is exchanged in social networks.

They use the Network to communicate with other network members. Fourteen percent of the students mention that they use the social network site to communicate with each other. Communication with other network member is an important part. They can have access to international friends and use the integrated chat function of social network sites.

The trust in networks especially data protection is a large issue. Twenty-one percent mention in their answer about negative aspects of social network sites data protection or the misuse of private information. Especially the misuse of private data is an issue and the students think critical about advertisement in social network sites.

Term	Total Frequency	Ratio of occurrence in the interviews
Advertisment (Werbung)	11	0.1754386
Advertisments (Werbungen)	3	0.05263158

Table 3 Frequency and ratio of occurrence in the interview for the term advertisement (Source: Interviews conducted by Tom Sander, 2014)

The main social network for students is *Facebook*. The word "*Facebook*" is 112 times content of the answers of the students and occurs in 66% of the interviews. In addition the word "*facebook*" appears 12 times. The second largest network that is mentioned from the students is *Xing* with 15% and *Linkedin* with 5% ratio of occurrence in texts. *Xing* and *Linkedin* are business related networks; *Xing* is a large business network in Germany. That gives the impression that the private related social network sites are more important than

business related social network sites for students. This is an indication that individuals use their social network sites for their current interests and investigating for network sites, which gives them the largest benefit.

Conclusion

The results support the determination of the dimensions. That provides the opportunity to measure social capital with this framework and to identify social capital in social network sites. Those findings are an important result for further investigations of social network sites under consideration of the social capital theory.

The theoretical dimension for social capital has been particular confirmed. The results demonstrate clearly that one of the main reasons is the exchange of information or to get access to information. Social network sites are similar as social networks are a place to maintain relationships and to communicate with friends. The main exchange of resources, which can be identified in addition to information, are picture / photos. That is the most often mentioned resources that is provided in social network sites. This result gives the indication that only intangible resources are exchanged at social network sites.

Network members mention in their answers that the networks have helped them and that they use social networks to communicate with other network members to organize their daily life, to have an advantage.

The largest negative issue is data protection. Students are aware that data protection is an import point and they have to protect their data. This is an indicator for trust in social network sites. Another negative aspect is commercial advertisement, which can be in relation with misuse of private data.

The social networks are a private place for students and there does not exist many indicators that they use their social network sites for professional reasons. For example the employment seeking process or related issues is only a few times mentioned in the answers of the students.

The results support and confirm the results of the paper "Determining the Indicators of Social Capital Theory to Social Network Sites" (Sander & Teh, 2014c) and give a deeper insight in social network sites. The use of social network sites and the behaviour of social network sites member is described by the results.

The analysis with the software provides an excellent opportunity to analyse expert interviews with a reduced subjective interpretation of the researcher to provide a more objective insight in the research field. The analysis can be done several times with the interviews and anytime the same results. That demonstrates the reliability of the method and results. The limitation of the method is the misguiding of the scientist. This method has to be used carefully as it is easily possible to oversee or misinterpret results. This result is only a part of the exploration of social network sites and need further scientific activities to get a full picture.

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