A Study of the Effect of User’s thinking Style on the Usage Type of Internet Social Networks-(Evidence from Iran)

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Abstract

This article has theoretically and experimentally described an analytical model. Thinking style and its variants are the external variable and using internet social networks the internal variable. Survey was used as the research methodology and in order to gather information, thinking style questionnaire InQ (Harrison & Bramson, 2002) and a researcher-made questionnaire of using social networks was used; which its validity and reliability were tested. The population was the students of University of Isfahan (over 9000) and the sample size was 250. The sampling method was random. Findings of the study showed that most of the sample was a regular user of internet social networks. Also it can be argued that different thinking styles of individuals have a high effect on the style and frequency of using these networks. Hypothesis testing showed that thinking style has a 0.067 effect on using social networks and this effect is significant at a confidence level of 0.05. Out of the different styles of thinking, idealism thinking style with an impact factor of 0.065 had the largest effect and synthetic thinking style, analyst thinkers, pragmatist thinkers and realistic thinking in respect had the most effect on using social networks.

Keywords: Internet Social Networks, Thinking Style, Awareness, Trust, Partnership

INTRODUCTION

The manner in which people interact with each other, type of relationship networks amongst them and values dominating these relationships form their social behavior. Social behavior and the methods of participation to solve mutual problems and reach collective goals have always drawn the attention of scholars. Questions like how people in a society cooperate and assist each other to solve joint problems and public issues - despite conflicting interests - has been the focus of this attention. The scientific literature of social networks tries to answer these questions. In fact, the concept of social networks provides a framework for more precise thinking about the quality and quantity of the social interaction of individuals in cyberspace. It also describes the characteristics of different groups, which increase the level of communication and interaction in the society (Ghasemi & Esfarjani, 2010).

With regard to the fact that today, the phenomenon of social networks has become more influential in cyberspace; we have investigated the effect of thinking style on the use of internet social networks amongst students. As for the necessity of this research, recognizing the levels of effect of thinking style of individuals on using social networks can assist in formulating proper strategies to manage the use of such media. Therefore reducing their adverse effects and also utilizing them for more social interactions in the society.

Social media are the evolutionary level of mass media which emerged in the 1990s (Splichal, 2009). Creating a network identity, going beyond time, feedbacks, location, developing horizontal communications, network interactions, context creation by the user and becoming almost free and ... are the specifications of social media. The social media domain of study consists of many categories; social media in the internet being one of the most important (Hartmann, 2009). Social media create a suitable environment for regional communications and creating large groups. Curtis and Kristen (2010) have each approved the role of social media in the increase of communication between friends and
acquaintances and specially strangers, through separate studies.

**LITERATURE REVIEW**

Today media is mixed with micro and macro issues of the society and has become a component of the social, political and cultural structure of every country; while being a notifying channel to exchange news and information and viewpoints. Medias have the capability to manage, control, direct and monitor behaviors (Eivazi, 2008).

Sternberg (1998) believes that thinking style is one of the influencing factors of communication among individuals in a society. Ford (1999) believes that multiple factors effect open communications but thinking style has the most important role in this process. Sternberg (1998) expresses that the highest level of success is achieved when the thinking style of a person is compatible with his/her conditions and situations. Since in this study, thinking style of individuals is the independent variable affecting the use of social media, researchers have studied the literature of this field in order to create the theoretical model of the research.

Sternberg (2001) deducted from his study that in order to predict the behavior of individuals in response to collective activities, identifying their thinking style is necessary. Similar studies have been conducted as follows. Chao and Haung (2002) investigated the teachers and students in the field of mathematics with the aim of understanding their thinking styles. They found that female teachers and students were more idealistic thinkers as opposed to their male counterparts. Bernardo and Zhang (2002) surveyed 429 Philippine university students with the purpose of identifying the relationship between their thinking style and culture of society. While viewing a significant difference between the preferred thinking styles of Philippine students with what is viewed in western countries, they concluded that there is a significant relationship between thinking style and culture. Zhang’s (2004) study was aimed at exploring the relationship between thinking and creativity - by surveying 371, young boys using the Sternberg’s thinking style questionnaire and Torrens’s Creativity questionnaire. Results show that creativity is related to thinking style, as having a positive relationship with holistic thinking and a negative relationship with atomistic thinking.

Bernardo (2002) in a research regarding the thinking style of American CEOs, found that low level managers are analytical thinkers while high level managers are idealistic thinkers; which are differentiated based on their general image and flexibility in facing complexities and concentrating on intelligent and beneficial initiative and innovations.

In this research, the thinking styles of Harrison and Bramson (2002) is considered. These styles include synthetic thinking style: skeptic individuals who emphasis on basic images and abstract ideas. Idealistic thinkers: individuals affected by great goals and standards who have a value-based attitude towards issues and other people. Pragmatist thinkers: humorous individuals which readily accept others ideas, but unlike idealistic thinkers do not avoid disagreements and similar to synthetic thinkers welcome it. Analytic thinkers: apparently composed, hardworking, and probably hard to predict. Realistic thinkers: decisive individuals who quickly address the core of every issue and tend to have an honest, strong and blunt appearance but not necessarily aggressive.

Individuals can have a one, two or three dimensional thinking style. The most uncommon thinking style is when the person has no tendency towards a specific style; this is called flat thinking.

With regard to the above discussions and based on different theories presented by different thinkers we have reached a theoretical model (structural and measurement models) which is illustrated below.
RESEARCH HYPOTHESES

Thinking style affects the type of use of internet social networks.

1. Synthetic thinking affects the dimensions of using internet social networks.
2. Idealistic thinking affects the dimensions of using internet social networks.
5. Realistic thinking affects the dimensions of using internet social networks.

RESEARCH METHODOLOGY

In this research, survey is used as methodology. Regarding the time criterion this research is sectional and regarding depth it is broad-viewed. The research society is the students of the University of Isfahan. The sample volume, based on the Cochran equation for a confidence level of 0.095 and the maximum scattering was estimated at 250 and the sampling method was random.

In this research we have explained the influence of thinking style on using internet social networks by the users via structural equation testing. In order to acquire the relationship between components of the theoretical model a developed methodology known as structural equation modeling (SEM) is used. SEM is known as the method of analyzing hidden variables or causal effect modeling (Ghasemi, 2010).

In this research two questionnaires were used. Harrison and Bramsons’ thinking style questionnaire (InQ) which was designed in 2002 and researcher-made questionnaire based on theoretical literature. The InQ questionnaire which evaluates the five thinking styles of synthetic, idealistic, pragmatic, analytic and realistic; the high level of reliability and validity of this questionnaire was confirmed by Karrie et al. (2000) and Ford...
In order to analyze the data at the inferential level, bivariate statistical methods were used. The influence of thinking style on using social media was examined using Pearson correlation. The results of testing are explained below.

For the main hypothesis, significant level is less than 0.05 and equivalent to zero. In other words, the resulting coefficient has a significant difference with zero; this difference is not due to sampling error or accidental, but due to the fact that thinking style affects the use of internet social networks in the studied society. Since this effect is significant, the findings of the sample can be generalized to the statistical society with a 0.95 level of confidence. Therefore the null hypothesis – thinking style does not affect the use of social media - is rejected and the research hypothesis is approved.

Regarding the secondary hypotheses – synthetic thinking affects the participation dimension of using social networks more than others. It has the most effect on the awareness dimension; therefore it can be said that those individuals who are synthetic thinkers due to this style have a lower level of trust to these networks. Since these differences are significant, the sample results can be generalized with a 0.95 level of confidence to the statistical society. Therefore the research hypothesis is approved. The rest of the hypotheses are also approved in such a manner.

The space range of the research is University of Isfahan and the time span is winter and spring of 2011 and 2012.

RESEARCH RESULTS

In this research more than 61% of the respondents were male and the rest (38%) were female. Educational level of the students by number of respondents is bachelor and masters. Most of the respondents were in the age range of 18-27 years old.
<table>
<thead>
<tr>
<th>Type of Hypothesis</th>
<th>Hypothesis</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Error Level</th>
<th>Confidence Level</th>
<th>Correlation Coefficient</th>
<th>Confirmed Hypothesis</th>
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<tbody>
<tr>
<td>Main</td>
<td>-</td>
<td>Thinking Style</td>
<td>Usage Type of Social Media</td>
<td>0.05</td>
<td>0.000</td>
<td>0.67</td>
<td>H₁</td>
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<td>Awareness</td>
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<td></td>
<td>(Synthetic</td>
<td>Thinking)</td>
<td>Participation</td>
<td>0.05</td>
<td>0.03</td>
<td>0.51</td>
<td>H₁</td>
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<td></td>
<td></td>
<td></td>
<td>Trust</td>
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<td>0.006</td>
<td>0.33</td>
<td>H₁</td>
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<tr>
<td></td>
<td>(Idealistic</td>
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<td>Participation</td>
<td>0.05</td>
<td>0.004</td>
<td>0.65</td>
<td>H₁</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Trust</td>
<td>0.05</td>
<td>0.003</td>
<td>0.48</td>
<td>H₁</td>
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<td>Third</td>
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<td>Awareness</td>
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<td></td>
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<td>Thinking)</td>
<td>Participation</td>
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<td>0.007</td>
<td>0.49</td>
<td>H₁</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Trust</td>
<td>0.05</td>
<td></td>
<td>0.33</td>
<td>H₁</td>
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<tr>
<td>Fourth</td>
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<td>0.23</td>
<td>0.19</td>
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</table>

However, Ghasemi (2009) has emphasized that although bivariate statistical analysis is a fundamental basis for hypothesis testing and responding to the research questions, but can never be considered enough. In such a case, multivariate statistical analysis can lead the researchers to results based on the facts. Therefore, multivariate statistical methods specifically structural model and measurement models via AMOS software are used; the results are illustrated in figure 2.
Figure 2 depicts the structural model and measurement models designed based on the theoretical framework along with the standard values estimated for all the parameters. Each of the free parameters defined in the model bear a theoretical and empirical background. In other words in the current study the approach is confirmatory rather than alternative or explanatory.

The model in this study includes three first-order factor models in the role of measurement models and seven structural models including one-way relationships defined between the internal and external variables and factors in the model were simultaneously estimated and tested. Also, all of the load factors present in the model were significant.

**INTERPRETING RESULTS OF FITTING MODEL**

In this section, the conceptual model is depicted based on the path analysis format and using different methods its fit will be evaluated.

The fitness indices show that the model has a good fit. Such that the Chis Square index value is equal to 2.8; this value based on what Schumacher and Lomax (2009) suggest as the approved value in the range of one to five, is an acceptable value. Besides this index, other indices have been calculated for this model; one of them being root mean square error of the estimate which was less than 0.08 and shows an acceptable fit for the model.
Another is the goodness of fit index which was calculated as 0.97. AGFI is another index which its value was 0.95. Based on above discussions, model fitness indices showed an overall acceptance of the model. In other words, the empirical data gathered, support the theoretical model. Although almost 90% of the sample variance-covariance matrix created by the parameter variance-covariance matrix is explainable, one can expect that with omitting or adding some paths a better fit would be achieved; due to the lack of theoretical basis for the suggested paths (based on the modification indices) this was not done. Fitness indices of the model are shown in the following table. The value of the AIC fitness index is equal to 787 and the CMIN fitness index has a value of 675. These two indices having large values also validate the model.

DISCUSSION AND CONCLUSION

The purpose of this article was to theoretically and empirically explain the effect of thinking style on the type of use of social networks. Findings of the research show that different thinking styles have different impacts on the use of social networks. The Idealistic thinking style has the most and the Realistic thinking style, the least effect on the use of these networks. Hypothesis testing revealed that rate of effect of thinking style on use of social networks is 0.067; this effect is significant at the confidence level of 0.05. Among the different thinking styles, Idealistic thinking style with 0.065 had the most effect on use of social networks and after that, Synthetic thinking style, Analytical thinking style, Pragmatic thinking style and Realistic thinking style had the most effect in respect.

These findings are in line with what Harrison and Bramson (1997) described as the characteristics of the idealistic thinker. Idealist thinkers are value-oriented and insist on their prior beliefs. They deliberate on what they want to do and evaluate it according to their previous beliefs. Those who are idealistic thinkers prefer to be active in value-oriented groups which are in line with their values; even if these groups are active in cyberspace. When they are supposed to do a job or task, the first thing they need to know is how and through what methods it should be done. Therefore idealistic thinkers have a plan to be active in virtual networks and do so with a purpose in mind. They will not be a member of any group; only groups which are compatible with their values. Also, realistic thinkers, based on what Harrison and Bramson state, are more inclined to gather information and will access it from any source. They prefer to achieve their goal and the method to do so is not of their interest. Realists try to discover conflicts and welcome different opinions. Therefore it is easy to accept the results of this research in that the thinking style that is the least affected by the level of use of these networks. These people are members of different groups in virtual social networks and the ambiguity of the type of activity and goal of them does not interest them. Therefore this thinking style had the least effect on the level of use of social networks on them. It is noteworthy that the use of social network questionnaire used in this research contained questions related to the awareness, partnership and trust aspects which almost measure the basic characteristics of the idealist and realist thinking styles.

The use of social networks variable consists of knowledge, partnership and trust indicators. The authors believe that those who obtain most of their knowledge through these networks have the most participation in them; and those who have the most participation in the formal and informal spaces of these networks, have the most trust in them. It can be said that participation is a bridge between knowledge and trust, and in this research, trust is the consequence of participation and knowledge. These findings are in agreement with the findings of Zhang’s research.

Results of the research show that the use of social networks has a high dependency on the trust, knowledge and participation partial indicators; the more these indicators change, the level of use of these networks by the users will significantly change. The high level of use of internet social networks is generally based on their high score in the awareness and trust indicators. Due to the relationship between these three indicators, one can say that the lack of participation is a result of the lack of trust in these networks. The definite argument about the effect of a certain thinking style on the use of social networks can be done only
when the use of subjective indicators (awareness and trust) lead to operational indicators (participation). Curtis and Kristen (2010) have also acknowledged this in a research.

While based on the gathered information, many students with different thinking styles have a high level of participation in these networks, but they often can’t trust them and enter and participate in them using false aliases. Based on the above discussions, it can be concluded that although students achieve a lot of information from these networks but there is not high level of trust towards them. One of the important causes could be the legal atmosphere in interaction with these social networks which are mostly foreign based. In the recent years these social networks have mostly acted against the domestic policies and therefore are not approved by the authorities; hence technical and legal constraints in gaining access to them. If national internet social networks with domestic management appear, the status of these indicators will significantly change. These overall findings show that since in our society the condition and background of membership in social networks does not exist and is not officially recognized, therefore those who are active in these networks are basically critical towards the government and gather information who confirm their opposition views.

Although results of hypothesis testing show that thinking style and its aspects have a positive, direct, and significant effect on participation in social networks and despite the high participation and knowledge reception from these networks by students, the level of trust to these networks among students is not high. On the other hand it became clear to the researchers that users of cyberspace prefer to communicate with people whom they are already familiar with i.e. friends and classmates. Also their level of trust to such individuals is more than strangers. Students often refer to these networks to gain political and social information; acquiring this kind of information is done merely for fun and they do not recognize these networks as a reliable source of information. Bernardo and Zhang (2002) have also referred to such findings in their research. It seems that the legal process related to the use of these internet social networks has affected the trust dimension more than others; but has not been successful in influencing the participation and knowledge earning of individuals.

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