Crowdsourcing and Digital Communities in Chinese Context: Antecedents of Contribution

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Abstract

Crowdsourcing have gained a great deal of attention from practitioners and marketing scholars. However, antecedents of contribution in digital communities are not researched yet and empirical results are still scarce in Chinese context. This paper analyses the role of motivational factors in digital communities to contribute in crowdsourcing activities. In order to test the proposed hypotheses, data from university students (n = 3200) is gathered though survey. The research results show that social integration and technology easiness and capacities are linked to higher level of digital communities' attention to contribute. The findings of the study have various implications for online creativities to engage digital communities in crowdsourcing in China. On the basis of a large sample empirical analysis these research results give evidence for the importance of different antecedents of contribution in digital community for participation in crowdsourcing activities.

Keywords: crowdsourcing, digital communities, online activities, motivational factors

1. Introduction

Recent years have witnessed an explosive growth in the numbers of online communities and an exponential growth in the volume of social networks. Online engagement of communities is in other way turning creative ideas into crowdsourcing and large network of people generate activities to value for institutions or companies. The term crowdsourcing was introduced by Howe (2006) who provided the first definition of crowdsourcing that can be taken as the form of peer production when the job is performed collaboratively. Crowd can be defined as large set of anonymous individuals (Surowiecki, 2005) and wisdoms of such crowd will lead to the better solution (Robson &Rew, 2010). Online social applications and social networks are increasingly attracted by users for contributions (Yufeng & Jianhua, 2014). Various search engines and apps are the primary drivers for mobile devices use for crowdsourcing and online community participation. The emerging superpower with huge population China has the potential to reach impressive shares in crowdsourcing. The potential reach of crowdsourcing and the practice in China show how important it will be in future business. With inclusion of 500 million smart phones users, mobile internet in China is stimulating the citizens to turn their mobile devices for information. According to China Internet Network Information Center, the rapid growth in smart phone increased consumption of video, music and instant messaging apps over the past two years. The participatory culture through online social networks devices is increasing day by day and this has changed the marketing strategies in China. Digital communities and social networks also play an increasingly important role in relationship marketing (McKenna, Green &Gleason, 2002).In Chinese culture, companies are aware of close relationships with publics and allow consumers to participate in the making of brands (Yang et al. 2011).

This study objective is to examine what factors motivate digital communities to participate in Chinese online social networks for crowdsourcing and to classify different antecedents to contribute in online activities. The effects of participation through online networks on mobile devices are very effective in China and it contributes for creative ideas and enhances the value of service and product. Academic research on motivational factors of participation in crowdsourcing in Chinese context is scarce. The key questions in this article are thus which important tools, social objects and benefits that are antecedents to contribute for online activities.

This paper is structured in the following way. First, researchers review the literature on antecedents on online communities' motivations. Second, the motivational factors are explored based on the literature of motivational theories and third, analytical framework is developed on the basis of motivational factors determined for Chinese way of online participation in crowdsourcing. Fourth, the data and methods for the study are described. Then statistical analysis is done and the discussion part is presented. Finally, the practical implications are discussed and future research directions are described.

2. Theoretical Propositions and Analytical Framework

Crowdsourcing includes routine tasks, complex tasks and creative (Schenk &Guitard, 2009). Routine tasks are simple such as tags, complex tasks are the ones those needs more involvement than routine tasks such as online reviews and creative tasks need more skill and expertise to solve problems (Hsueh et al.2009; Brabham, 2008; McCreadie et al. 2010).The digital community and social networks flourished in the internet while bringing people together of similar interests and hobbies (Bouras et al. 2005).The digital community is closer and can participate from any physical location through internet (Rosenbaum, 2005). Crowdsourcing and digital communities are both global real-time operation and it can also strengthen traditional communities (Himanen, 2004; Hampton, 2004). For innovation purposes, several firms are opening their boundaries to engage external expertise (Boudreau & Lakhani, 2013).Through open call, firm invites experts to solve problems among digital communities providing network the network and software for sharingideas (Awazu et al., 2009; Doan et al., 2011; Lindic et al.,2011, Williams, 2012). Social psychology develops the impact of cultural characteristics in collaboration on online activities. The basic assumptions that characterize culture significantly how people perceive and how they interact with others. Researchers ground our assumption of social motivational factors, technological motivational factors and personal motivational factors impact to participate in online activities of crowdsourcing. First, General Interest Theory suggests that personal relevance to interesting activities is factor linked to individual need of satisfaction (Cameron et al. 2001). Second, theory of Regulatory focus maintains that individual orientation are formed within personality and shaped by culture (Higgins, 2000). It is common knowledge that nations and regions differ in belonging, value systems and generic differences associated with each culture (Lloyd, 1996). Asian cultures emphasize on ability to support social processes (Setlock & Fassell, 2010), especially, East Asians are more holistic while westerns tend to be more analytic (Varnum et al. 2010). Collectivism dimension is one that makes Chinese different from westerns (Nicholas Breeley, 1993). *Guanxi* (social exchange) is a major leitmotif in Chinese society for social interaction (Pye, 1985).

Social networks has become an important symbol to a channel of social interaction and networking in urban Chinese daily lives. Digital communities with interests to participate in online networks are increased to promote and contribute in online activities. There are several studies on antecedents of motivational factors on different forums but the motives for Chinese users' to participate in crowdsourcing in Chinese characteristics way is scarce. Monetary rewards may not be attractive for Chinese users (Mason & Watts, 2009) so to formulate the factors that motivate Chinese crowds to participate through Chinese platforms will be an exclusive study. This research derives motivational factors from theoretical perspectives that are inculcating in Chinese culture and persuade users to contribute for crowdsourcing in Chinese networks. Three main variables as motivational factors were identified with several measurements under each variable in Chinese context indicated in Table 1. The first potential area is social motivational factors which is related to reputation (Bowman and Willis, 2003), social responsibility (Benbya &Belbaly, 2010), status (Nambisan & Baron, 2009) and social presence (Short et al., 1976) motivations. Based on the discussion regarding social motivational factors as Chinese way of rich social orientation in online communities (Yang et al., 2011), the following hypothesis is derived.

H1. Social motivational factors have a positive effect on Chinese users to participate in online crowdsourcing.

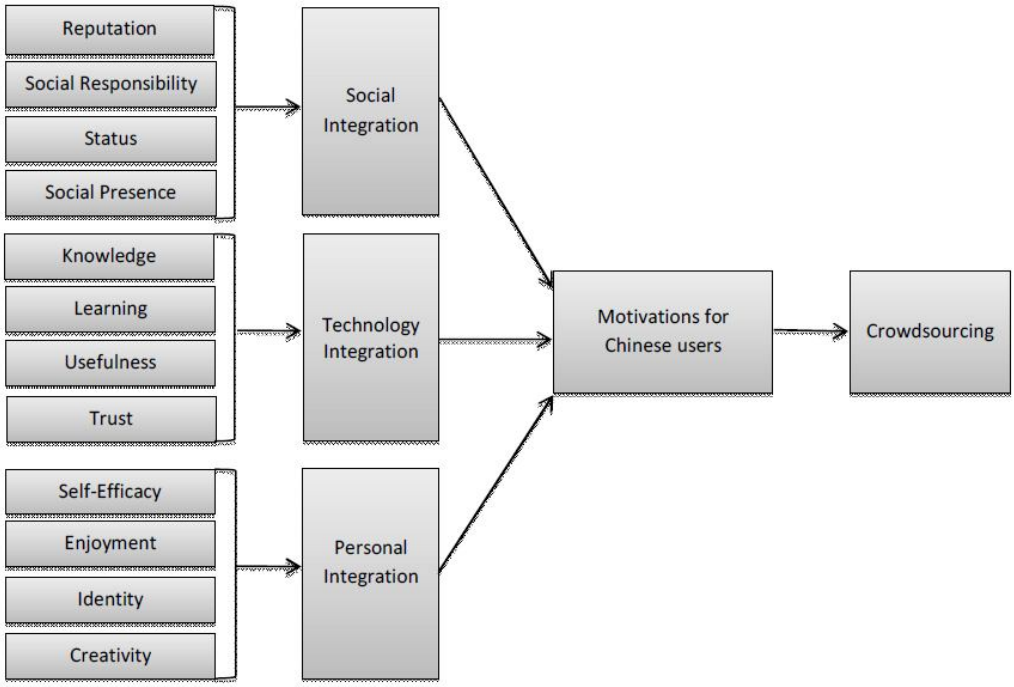
The second area which influences Chinese users is the technological motivational factors which is related to service/product knowledge, exchange of ideas (Hoyer et al., 2010), usefulness and trust as motivational factors. The following hypothesis is tested to know the technology integration as motivational factor.

H2. Technological motivational factors have a positive effect on Chinese users to participate in online crowdsourcing.

The last dimension is the personal motivational factors and this relates to self-efficacy (Katz et al., 1974), enjoyment (Zwass, 2010), identity (Ehls &Herstatt, 2013) and creativity (Ryan & Deci, 2000) as motivational factor. The following hypothesis is derived.

H3. Personal motivational factors have positive effect on Chinese users to participate in online crowdsourcing.

Figure 1: Analytical Framework



3. Data and Methods

In order to test the stated hypotheses indicated in figure 1and to assess the role and impact of motivational factors in crowdsourcing via mobile, this study selected potential online Chinese networks platforms that are popular social networks. This study is located in China and university students are used as sample population because online services have become the routine in urban Chinese youth daily lives and students from various provinces of China are the part of study. For the measurement of motivational factors an online survey questionnaire was developed and a total of 6000 questionnaires were distributed directly and with link of web based questionnaire by email to university students studying in different universities located in major cities of China. In person visits were also made to ask the participants to fill the questionnaire in hard form to collect the data from participants whose emails were not accessed. After sending several reminders, 3,500 respondents filled out questionnaire. In all, 3200participants answered all survey items completely that were included in data analysis.

3.1 Measures

The items in the research instrument were developed based on the literature review and adapted from validated scaled from prior studies. Measurement items for social motivational factors reputation (Bowman and Willis, 2003), social responsibility (Benbya Belbaly, 2010), status (Nambisan & Baron, 2009) and social presence (Short et al., 1976) are developed from respective studies. Measurement for technological motivational factors, service/product knowledge, exchange of ideas usefulness and trust are developed from study of Hoyer et al., 2010. The items for construct of personal motivational factors, are based on self-efficacy (Katz et al., 1974), enjoyment (Zwass, 2010), identity (Ehls & Herstatt, 2013) and creativity (Ryan & Deci, 2000). Researchers used standard translation in Chinese and back translation in English to ensure the scales in Chinese context. The survey is consisted out of three parts. First part, some questions with regards to the demographic aspects of each participant is given such as age, education, and gender etc. The second part includes questions about their social networks usage duration and for what purposes they use. The third part consists of questions about the motivations to participate in crowdsourcing. The questions are based on a Likert response scale with a 5-point format from 1= strongly disagree to 5 = strongly agree. The key independent variables are three motivational factors, social, technological and personal. 'Reasons to use social networks' is used as dependent variable. In addition to key independent and dependent variables, the control variables gender, education and age are used in this research. For the analysis of the data several statistical tests were used.

For each of the motivational items, descriptive statistics including mean standard deviation and Skewness/Kurtosis were calculated. Factor analysis was conducted on the motivational items and correlation analysis was conducted, followed by regression analysis in order to share common characteristics and further hypotheses were tested.

Table 1: Antecedents of Contribution

Variables	Antecedents	Description
Social Integration	Reputation	Motive to improve and increase value of individual
	Social Responsibility	Motive to link with communities as cultural practice
	Status	Motive to be part of good citizenship and social benefit
	Social Presence	Motive to interpersonal relationship and Personal interactions
Technology Integration	Knowledge	Motive to know about service or product
	Learning	Motive to learn about service or product through exchange of ideas
	Usefulness	Motive to explore through technology benefit for product or service
	Trust	Motive to get trust in service or product through technology ease
Personal Integration	Self-Efficacy	Motive to get feeling of participation
	Enjoyment	Motive to create mental stimulation and intellectual
	Identity	Motive to feel self-derived and perception of belonging
	Creativity	Motive to contribute for the area of interest

4. Results

The data for this study presents demographic characteristics and mobile social network usage in Table 2. As it can be seen in table 2, the sample is little skewed towards males as the results show that 1,844 (57.6%) male and 1,356 (42.4%) females have responded in this study. The age bracket of the respondents is from 18 to 37 years as 2,155 (67.3%) are aged between 18-22 years, 895 (28.0%) are aged between 23-27 years, 112 (3.5%) are aged between 28-32 years while 38 (1.2%) are between 33-37 years. In terms of education attaining, 2,063 (64.5%) respondents are from graduate studies, 789 (24.7%) are from master studies and 348 (10.9%) are from PhD studies. All respondents are having smart phones with mobile internet connection and 363 (11%) are having both devices (smart phones & tablets). The sample population is using popular social apps and networks from the last 13 years and majority respondents 2,091 (65.3%) are using mobile apps and social networks up to four to six years. The most important reason to use these networks is tabulated and it is found that 2,572 (80.4%) respondents use these social networks for updates and to interact with society. The sample is relatively representative of the population from east, west, south, north, central, south east, north east, north west, south west, south central, coastal eastern, north east and mostly all parts of China as respondents are from different provinces of China studying in universities.

Table 2: Demographic Features

Demographics					
				N	%
Gender					
Female				1,356	42.4
Male				1,844	57.6
Total				3,200	100.0
Age					
18-22 years				2,155	67.3
23-27 years				895	28.0
28-32 years				112	3.5
33-37 years				38	1.2
Total				3,200	100.0
Education					
Graduation				2,063	64.5
Master				789	24.7
PhD				348	10.9
Total				3,200	100.0
Phone Devices Users					
Smart Phones				3,200	100.0
Tablets & Smart Phones				363	11.3
Mobile Internet Users				3,200	100.0
Duration Using Networks					
1-3 years				499	15.6
4-6 years				2,091	65.3
7-9 years				449	14.1
10-13 years				166	8.8
Total				3,200	100.0
Reasons to Use Networks					
Social Symbol				15	0.5
Popularity of Networks				47	1.5
Interact with Society				361	11.3
Get Updates				2,572	80.4
For Online Products				83	2.6
Technology Advancement				122	3.8
Home Towns					
	N	%		N	%
An hui	112	3.5	Jiang Su	119	3.7
Beijing	14	.4	Jiang xi	119	3.7
Chong qin	24	.8	Jilin	14	.4
Fu jian	77	2.4	Liao ning	56	1.8
Gansu	21	.7	Macau	7	.2
Guang don	84	2.6	Ningbo	7	.2
Guang xi	84	2.6	Ningxia	28	.9
Guizhou	70	2.2	Qing hai	21	.7
Hai nan	28	.9	Shan dong	120	3.8
He bei	49	1.5	Shan xi	147	4.6
He Nan	308	9.6	Shanghai	21	.7
Hei ling	12	.4	Si chuan	140	4.4
Hu Nan	161	5.0	Tianjin	7	.2
Hubei	1155	36.1	Xinjiang	42	1.3
Inner Mon	42	1.3	Yun nan	28	.9
Ji Lin	14	.4	Zhe Jiang	42	1.3
Total				3200	100%

Descriptive results for each of the motivational items under main variables are presented in table 3. These descriptive results indicate the perception of respondents and motivational items with higher mean score indicates they were highly evaluated by the respondents compared to those which has a low mean score. Personal Integration factor has lower mean of 342 with a standard deviation of .874. Social Integration factor scored overall the highest in terms of mean; however 'identity' from the motivational items under personal integration factor scored the highest with mean of 3.98 with standard deviation of 1.183. The mean values of items under each variable in this research are fairly high in mean score ranging from 3.12 to 3.98. Skewness refers to the symmetry of distribution and Kurtosis refers to the peakness of the distribution. The Skewness and Kurtosis of variables shown in table 2 falls within acceptable range as the most commonly critical value for *Z*(Kurtosis/skewness) distribution is±2.58.

Table 3: Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Main Variables							
Social Integration	***3200***	***3.67***	***1.079***	***-.608***	***0.43***	***-.232***	***.087***
Reputation	3200	3.48	1.247	-.452	0.43	-.852	.087
Social Responsibility	3200	3.38	1.257	-.417	0.43	-.887	.087
Status	3200	3.64	1.253	-.666	0.43	-.571	.087
Social Presence	3200	3.62	1.202	-.657	0.43	-.467	.087
Technology Integration	***3200***	***3.46***	***.917***	***-584***	***0.43***	***.442***	***0.43***
Knowledge	3200	2.95	1.322	-.063	0.43	-1.175	.087
Learning	3200	3.37	1.113	-.428	0.43	-.494	.087
Use fullness	3200	3.49	1.136	-.520	0.43	-.454	.087
Trust	3200	3.49	1.219	-.551	0.43	-.651	.087
Personal Integration	***3200***	***3.42***	***.874***	***-.495***	***0.43***	***.109***	***.087***
Self-efficacy	3200	3.61	1.210	-.710	0.43	-.408	.087
Enjoyment	3200	3.49	1.202	-.557	0.43	-.586	.087
Identity	3200	3.98	1.183	-.021	0.43	-.853	.087
Creativity	3200	3.12	1.218	-.244	0.43	-.901	.087

In table 4, reliability test results are shown and all constructs Cronbach's alpha is greater than 0.7and overall model reliability basing upon structured items as well as the acquired data is 0.86which shows measurement has a good reliability.

Table 4: Reliability Analysis

Variables	**Items**	**Cronbach's Alpha**	**Cronbach's Alpha**
Social Integration	Reputation	0.852	***0.861***
	Social Responsibility	0.851	
	Status	0.846	
	Social Presence	0.850	
Technology Integration	Knowledge	0.871	***0.703***
	Learning	0.853	
	Use fullness	0.851	
	Trust	0.852	
Personal Integration	Self-efficacy	0.847	***0.631***
	Enjoyment	0.848	
	Identity	0.863	
	Creativity	0.883	
Model	No of Items: 12	0.867	***0.867***

Factor analysis enables to analyze sets of many interrelated variables items and table 5summarizes the results from factor analysis. Three components extracted from factor analysis as the motivational items of online participation in crowdsourcing via mobile in China. Using the original 12 items used to measure motivational determinants of Chinese users, 11 items with a total variance of 72% were retained and distributed under the three components. The first principal component has four items with factor loading ranging from 0.832 as the highest to 0.766 as the lowest. The second component has three items with total variance of 18%. The last component has four items with total variance of 25%. This study therefore confirms that the most important motivational items include creativity under personal motivational factors, social responsibility under social motivational factors and trust under Technological motivational factors. The results of KMO in table 4 and Barletts' test (Approx. Chi-Square, df, sig) indicates the significance of Barletts' test ($p<0.05$) and the exceeding of KMO index above the minimum value of 0.6 there by suggesting the factorability of data.

Table 6: Correlation between Demographic Variables and Motivational Variables

			1	2	3	4	5	6	7	8
Demographic	1		1.							
	2	Pearson	-.080**	1						
		Sig.	.000	.						
	3	Pearson	-.063**	.838**	1					
		Sig.	.000	.000	.					
	4	Pearson	-.058**	.104**	.084**	1				
		Sig.	.001	.000	.000	.				
	5	Pearson	.009	.271**	.308**	.079**	1			
		Sig.	.624	.000	.000	.000	.			
Main Variables	6	Pearson	.008	.011	-.012	.027	.031	1		
		Sig.	.658	.528	.498	.124	.078	.		
	7	Pearson	.015	-.046**	-.055**	.006	-.016	538**	1	
		Sig.	.410	.009	.002	.748	.377	.000	.	
	8	Pearson	.010	-.004	-.012	-.032	-.009	.464**	574**	1
		Sig.	.576	.818	.509	.067	.626	.000	.000	.

*correlation is significant at the 0.05 level (2-tailed).

** correlation is significant at the 0.01 level (2tailed)

Key: 1 = Gender, 2 = Education, 3 = Age, 4 = Reasons of Networks usage, 5 = Duration of using networks, 6 = Social Integration, 7 =Technology Integration, 8 = Personal Integration

Pearson correlation analysis method is used to test the linear correlation between motivational variables and demographic variables in table 6. The first five variables relate to demographic characteristics of the respondents while the remaining three variables are the motivational determinants. The results suggest a negative correlation between education and technology and personal integration (r = -.046**, sig.009, r = -.004, sig. 818), age has a negative correlation with all motivational variables (r = -.012, sig. 0.498, r = -.055**, sig. 0.002, r = -.012, sig. 0.509) and duration of using networks has also negative correlation with technology and personal integration. There is positive significance relationship between gender and all three motivational variables (r = .008, sig. 0.658, r = .015, sig. 0.410, r = .010, sig. 0.576), positive correlation is also between education and social integration (r = .011, sig. 0.528) and also positive correlation between duration of network usage and social integration. A negative correlation between age and all three motivational variables indicate that the levels of motivations are likely to vary as a result of age influence and education also has the same impact. On the other hand, a positive correlation between gender and all three motivational variables indicates that gender influence is high. Finally, the results indicate that important capacities where motivation to participate in online activities ought to be directed. The impact of motivational factors on the 'duration of using social networks 'is tested in table 7. Model 1 checks the effect of the social motivational factors on demographic factor 'duration of using social network' and collective value of the R square 0.001means that social motivational factors are affecting by only 1% which is not very significant. The model 2 that is used also to check the effect of technological motivational factors on the relationship of 'duration of using social networks' and the value of R square is 0.000 that the effect is none. In model 3 the influence of personal motivational factors has effect on 'duration of using social networks' has also no impact as the value of R square is 0.001. It means that motivational factors cannot impact on duration of usage and it has no link with duration of using social networks.

Table 7: Multi Regression Analysis

Model 1					Model 2					Model 3				
	R Square	**F**	**t**	**Sig**		**R Square**	**F**	**t**	**Sig**		**R Square**	**F**	**t**	**Sig**
Social Integration	.940	1.257		.000	Technology Integration	.913	8.353		.000	Personal Integration	.901	7.267		.000
Reputation			47.442	.000	Knowledge			62.675	.000	Self-efficacy			39.946	.000
Social Responsibility			49.057	.000	Learning			45.535	.000	Enjoyment			38.511	.000
Status			40.712	.000	Use fullness			45.717	.000	Identity			52.898	.000
Social Presence			48.499	.000	Trust			54.215	.000	Creativity			62.972	.000

To assess the impact of demographic variables on motivational factors, multivariate analysis is done to know the impact of control variables (Gender, age & education) on motivational factors in table 8. Age has more high impact on social motivational factors than education and gender and gender has more high impact on technological motivational factors as compare to education and age. On the other hand education has high impact on personal integration. Overall all control variables has high impact on technology integration among motivational factors.

Table 8: Multivariate Analysis Tests of between-Subjects Effects						
Demographic Variables	Main Variables	Type III Sum of Squares	df	Mean Square	F	Sig.
Gender	Social Integration	.976	1	.976	.839	.360
	Technology Integration	1.772	1	1.772	2.116	.146
	Personal Integration	.473	1	.473	.620	.431
Education	Social Integration	2.429	2	1.215	1.044	.352
	Technology Integration	1.149	2	.574	.686	.504
	Personal Integration	2.189	2	1.095	1.435	.238
Age	Social Integration	5.423	3	1.808	1.553	.199
	Technology Integration	2.193	3	.731	.873	.454
	Personal Integration	2.290	3	.763	1.001	.391
Gender * Education * Age	Social Integration	.452	2	.226	.194	.824
	Technology Integration	2.825	2	1.412	1.686	.185
	Personal Integration	.305	2	.153	.200	.819

Regression analyses are conducted for each of the hypotheses shown in table 9. For hypothesis 1, Social motivational factor as independent variable is tested against the dependent variable'reasons to use mobile networks for online activities'. The analysis gives a b value of .048. The significance for the hypothesis is .000. 3200 respondents answered the questions and the four questions that should stand for the hypothesis had a cronbach's alpha value of .861 when a reliability test was made. For hypothesis 2, Technology Integration as independent variable is tested against the dependent variable 'reasons to use mobile networks for online activities'. The regression analysis gives a b value of .017. The significance for the hypothesis is .026. 3200 respondents answered the questions and the four questions that should stand for the hypothesis had a cronbach's alpha value of .703 when a reliability test was made. The independent variable Personal Integration is tested against the dependent variable 'reasons to use mobile networks for online activities'. The regression analysis for hypothesis 3, gives a b value of -.064. The significance for the hypothesis is .082. 3200 respondents answered the questions and the four questions that should stand for the hypothesis had a cronbach's alpha value of .631 when a reliability test was made. The results demonstrate support for first and second hypothesis for the direct relationship between motivational factors and crowdsourcing. According to the results, the general attributes have a significant positive impact of social practice and trust in technology to participate in online activities in mobile crowdsourcing.

Table 9: Hypothesis Testing Results

Hypothesis No	Hypothesis	B value	Sig.	Supported/Not supported
H1	Social motivational factors have a positive effect on Chinese users to participate in online crowdsourcing	.048	.000	Supported
H2	Technological motivational factors have a positive effect on Chinese users to participate in online crowdsourcing	.017	.026	Supported
H3	Personal motivational factors have positive effect on Chinese users to participate in online crowdsourcing	-.064	.004	Not supported

5. Discussion and Implications

In our study we investigated the antecedents of contribution of digital community in crowdsourcing. In support of analytical model, it was found that intrinsic motivations drive some performance aspects of online volunteers. The social motivational factors has a positive effect on the contributions while the personal motivational antecedents are of contribution has not a positive effect on contributions of crowdsourcing. It appears that intrinsic motives have fewer effects than expected. It appears that contributions by individuals are not for planning to contribute only for creativity or for crowdsourcing purposes. The results of this study indicate that rewards to persuade personal motive is more important in driving participatory behavior than pleasure. The most essential antecedents are addressed in this study related to Chinese digital communities in China (Yu, 2004). This research addresses the three dimensions of antecedes of contribution: social, technology and personal (Deci& Ryan, 2000, Ryan & Deci, 2000. In Chinese culture, private space, personal desire and individual interest are embedded and a digital community based on personal choices and for individual pleasure encourages Chinese users to stay among online contribution.

The antecedents of contribution in Chinese culture with society are social and technology integration as confirmed in this study. The online contribution is becoming increasingly important in Chinese networks to involve digital communities in crowdsourcing. Digital communities are likely to become a major managerial concern because online activities have a potential role to influence creativity and innovation (von Hippel, 2005).

To engage digital communities in crowdsourcing is not a simple promotional tool but rather a continuous participation to engaging online communities in Chinese context. Chinese social networks are communication networks for social interactions which create motivation tendencies more towards crowdsourcing practices. Chinese culture is a high context culture and people are deeply rooted into collectivist. Crowdsourcing on Chinese networks fits with social set ups and the present analysis regarding digital communities contribution in crowdsourcing investigate for the antecedents to engage crowd. Chinese social networks are essential mechanism in social interaction in Chinese culture that motivates online communities to be engaged for their personal interest (Zheng & Dahui, 2011).

The results show, the sample is skewed toward younger, well-educated and diverse individuals using popular social networks. We note that largest amount of users are between 18 to 25 years of age as 95% of young chine and middle aged are particularly enthusiastic about mobile communications (Yu, 2004). Some interesting results are shown in the study social and technology motivational factors are interrelated with social network usage for crowdsourcing activities. Another very interesting point, considered to have a positive relationship with online social networks. From all the variables social, technology integration showed the strongest positive relationship with is backed by the multiple regression analysis (table 9). The only hypothesis that rejected is the hypothesis about personal integration motivations. One finding of our analysis was that addressing communities helping motives will not encourage their participation in mobile crowdsourcing. Social presence and value is important as motivation (Yang et al., 2011) in Chinese context. Personal integration can be motivational factor with incentives and benefits (Horton & Chilton, 2010). We find that Chinese social networks are tending to provide meaningful channel to contribute online crowdsourcing. Therefore, in the Chinese context, online activities with standardized incentives to individuals can not only motivate Chinese online communities to provide creative ideas, but also make it more convenient for companies to get their needed tasks. Chinese online social networks should put more efforts to connect with considerable monetary reward and promote psychological aspect and participating motivations for Chinese people with incentive mechanism (Zheng&Dahui, 2011).

The findings of this study have a number of implications for crowdsourcing via social networks to motivate digital communities. This study finding can be practically implemented to motivate digital communities in China. Companies can benefit by linking these perceived motivations in crowdsourcingactivities connected to social networks. Especially a focus on personal benefits can have strongest output for digital communities as the findings of the crowdsourcing study shows motivational factor to be promoted for individual benefits. These findings support Nambisan and Baren (2009) for monetary awards as potential motivator because we found that personal integration is not considered as potential motivation for Chinese communities' without financial incentives. Other factors social and technology integration are already present and are focused by online communities on Chinese social networks for mobile crowdsourcing as proved by this study.

From a theoretical point of view, the findings of this research is addressing digital communities from personal, social, technology (Cameron et al. 2001, Higgins, 2000) antecedents that can engaging digital communities to crowdsourcing in Chinese social networks.

This clearly goes against personal integration what one would expect the most important motivation in Chinese networks. As majority of the respondents in our sample preferred social and technology motivational factors and personal integration is deferred without financial incentives. The findings add to the literature by introducing a partial explanation for the relationship between social, technology motives and mobile crowdsourcing in Chinese society. More broadly, the study helps to bridge the gap between companies and social networks connectivity in crowdsourcing literature. More over this research provides an attempt in helping crowd participation people behaviors (Zheng & Dahui, 2011) might represent much stronger motive of social and technology to participate in crowdsourcing.

This study has theoretical and a number of other limitations as all academic research have. The first concern is that there is lack of research on motives to participate in crowdsourcing in Chinese context, we relied on studies in online communities motivations done in other parts of the world. The other concern is with selected data collection method of this study, the findings of this research cannot be largely generalized. However the findings of this research can still be taken as add up to advantage to some extent by companies in crowdsourcing. The main limitation is that all social networks users participating in crowdsourcing or not were considered. From several studies, we developed a list of twelve motivational items under three dimensions. (Brabham, 2010;Stewart, 2010; Olson et al. 2012; Afuah et al, 2012; Bloodgood, 2013; Dodge et al, 2013; Huberman et al, 2009; Kosonen et al. 2013) Two factors social and technology integration proved to be more important although third factor was also very important in crowdsourcing motivation that was not emerged as potential antecedent in this study.

6. Conclusion

In these days, crowdsourcing still remains little understood and create space for many questions (Hopkins, 2011). This study enriches emerging way of mobile crowdsourcing to motivate online communities. This research is helpful for both firms and crowdsourcing for products. Social motivations are (Writz et al. 2013) are very important to mobile crowds in online activities. Crowdsourcing and mobile apps and linking networks are very important for companies. This study hopefully contributes to the body of knowledge in mobile crowdsourcing with social networks. Based on this study finding, we conclude that crowdsourcing is a promising among potential crowd for further research. Future research can be lead to the crowdsourcing activities and crowdsourcing practices in complex tasks. Further studies might choose to address potential antecedents to increase personal integration in mobile crowdsourcing and types of incentives companies can employ in various Chinese social networks. The positive features of this study are to motivate potential crowd to bring innovative solutions in firms and to attract brightest minds to the solution process (Surowiecki, 2005). Another strong side of crowdsourcing is simple tasks that can contribute to crowdsourcing in shot time (Von Krogh, 2009). In developing countries and countries like China with emerging economies can benefit to motivate participants in crowdsourcing activities. Therefore, China's hunt for innovations and products standards has to be viewed in a broader context than just the motivational level, when it comes to digital communities.

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