Sharing Knowledge through Social Media: The Influence of National Cultures

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***Abstract*—This paper aims to understand if knowledge sharing through social media is suitable for all types of cultures and if cultural dimensions can interfere or facilitate the diffusion of information.**

Keywords-Knowledge sharing; Social media communication; Hofstede's cultural dimension

I. INTRODUCTION

The explosion of social media communication in the last years has brought about numerous changes in the knowledge exchange processes and consequently in the firm's market: a real revolution that is changing the way organizations work.

The ability of social media to create and disseminate information is playing a supporting role in social change, increasing propagation of messages in an easier time and reducing the costs of coordination. Social media determine therefore a dynamic process that generates new knowledge founded on the negotiable interaction of the members.

In this scenario firms are facing an extremely dynamic and complex environment, which requires the adoption of strategies aimed at continuous change. In order to be "competitive", they need to evaluate and highlight new variables that allow them to respond to the social and cultural evolution. They have to be able to quickly move: flexibility is required in strategies, in the structure and in the carrying out of operations with the purpose of maintaining a lasting competitive advantage. Accelerating the flow of information, they have modified, also, the process of transformation of a good idea (knowledge sharing as a creator of value vector) in managerial action, altering, in this way, the nature of competition in all the world and encouraging managers to re-examine the way business. In fact, the possibility offered by these tools is to facilitate the definition of shared problems and of learning processes that furnish knowledge useful to the change.

This paper aims to understand if knowledge sharing through social media is suitable for all types of cultures and if cultural dimensions can interfere or facilitate the diffusion of information. In each context, companies take decisions trying to translate, in a global knowledge, the various concepts of knowledge and local cultures, considering that sometimes the words, messages, formalities, body language, status, can be a potential impediment to effective cross-cultural communication. Simple words or behaviours can lead to misunderstanding, embarrassment, and conflict. This possibility is higher when we consider countries, characterized in the last years by complicated political situations. In these countries, in fact, it is difficult for SME's to balance the local culture and the ability of every company to have information in abundance, to access easily to information and to creatively use information to select the best talents.

In literature, various models of cultural diversity have been developed [1], [2], [3], [4], [5]. From this prospective, the research that involves 60 countries, aims at examining the impact of Hofstede's cultural dimensions on social media communication bringing to light the differences and the similarities in the use of the social media as knowledge media. This study is organized and presented as follows. First, the literatures review discusses the job search trends and the conceptual model and hypotheses. Second, the research method is provided. Third, the results are presented. Next, the discussion and implications, and limitations of the research findings are discussed. Finally, the conclusion is drawn and recommendations for further study suggested.

II. METHODOLOGY

There is a relevant relationship among culture, knowledge sharing and social media communication's use. In effect, many models have showed that culture guides the interaction between people [6], [7]. In order to advance research propositions that enable us to better understand knowledge sharing in different contexts in a comparative perspective, we have utilized the original research and its extension of Hofstede [8], [9], [10]. It provide a framework for studying national cultural differences on six dimensions: power distance, uncertainty avoidance, individualism, masculinity, indulgence and pragmatism. Despite being subject to criticisms [11], [12], [13], Hofstede's model is acknowledged to be the most comprehensive and cited national cultural framework, in fact a number of successive studies have validated results [14]. For example, in masculine and individualistic cultures knowledge sharing is less automatically recognized, [15]. The use of social media is changing the landscape of knowledge sharing.

Then, if we consider that the knowledge sharing differs among cultures because it can depend from a differential level of formality, respect, familiarity or intimacy [16], it is simple to understand that sometimes, the values, traditions and uses of local culture of a country can contrast also with the choice of the tool for communication process: changing, for example, the relationships between two users: instead of respecting the status relative to each other (high power distance), it treats everyone as a "friend" (low power distance). So, in the last years, numerous researchers have applied the analysis of

cultural dimensions to the studies of Internet-related communication [17], [18], [19], [20], but few studies contain specific and explicit reference to each cultural dimension and to social media.

Starting from this point, we define a pilot project, based on an integrated theoretical model (fig.1), in which, putting in evidence the relationship between Hofstede's Cultural dimensions and social media penetration to identify if social media are good tools to implement knowledge sharing.

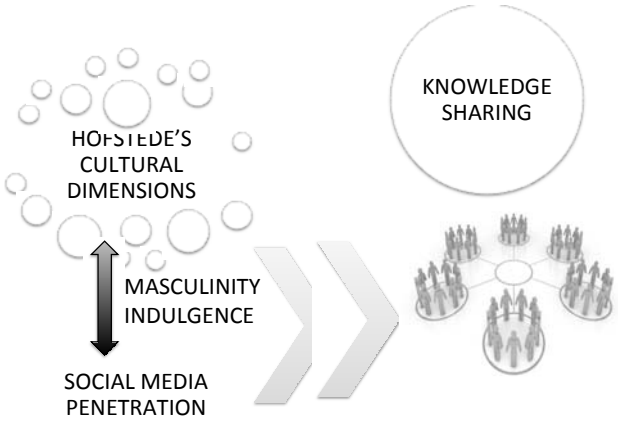

FIGURE I. METHODOLOGICAL MODEL

Power Distance (PDI) expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally.

Individualism (IDV) measures the degree of how much people are integrated into groups. That means is there a feeling of "we" or "I".

Masculinity (MAS) expresses the society`s preference for achievement, heroism, success on the masculine side – or the preference for cooperation, taking care for others and quality of life on the feminine side.

Uncertainty Avoidance (UAI) expresses how people, in different countries, deal with uncertainty and ambiguity. Pragmatic (PRA) examines the society's thinking on the present and the future. Long-term oriented societies try to live in a sustainable way – they try to change the circumstances to get a maybe even better future. Whereas short-term oriented societies foster virtues related to the past and present such as national pride, respect for tradition, preservation of "face", and fulfilling social obligations. The Pragmatic dimension was included in 2010 Michael Minkov's survey based on research. This dimension deals with recent values [21]. The results are delivered by the World Values Survey. The Long Term Orientation and the Pragmatic vs Normative dimension are dealing with similar questions and as a matter of fact the outcome of the survey is very similar but not identical. The Hofstede Centre uses the Pragmatic vs Normative approach for its surveys. The Pragmatic vs Normative dimension describes the desire of people to explain the things, which are going on all around us. In normative societies, people want to explain everything and want to explore the secret how something is happening. Whereas in pragmatic societies people just try to deal with the circumstances and live their way without thinking how things are going on. They are more likely to accept and adapt to different circumstances. Indulgence (IND) is the sixth dimension that was also added in 2010. In a society with a high level of indulgence it is very easy to gratify the natural human drives and basic needs and desires as well as to have fun. In restraint countries the society tries to control every part of human life and restricts the gratification of the mentioned needs by rules and norms.

The research proposes a linear regression model for statistical testing. The underlying assumption is to understand if social media penetration is correlated or not with Hofstede's cultural dimensions.

Our model analyzes the social media penetration countries in relationship to the culture dimensions of each country to understand the correlation.

We hypotheses that:

Hypothesis 1. Hofstede's cultural dimensions influence social media penetration.

Hypothesis 2. The relation between social media penetration and Hofstede's cultural dimensions is positive/negative and relevant.

III. RESEARCH ANALYSIS

On the basis of literature this study compares data of sixty countries (fig. 2), selected with a random process.

COUNTRY	IDV	PDI	MAS	UAI	IND	PRA	SMp
Albania	20	90	80	70	15	61	45
Argentina	46	49	56	86	62	20	56
Australia	90	36	61	51	71	21	57
Austria	55	11	79	70	63	60	39
Bangladesh	20	80	55	60	20		4
Brazil	38	69	49	76	59	44	45
Bulgaria	30	70	40	85	16	69	43
Canada	52	80	48	39	68	36	55
Chile	23	63	28	86	68	31	61
China	66	20	30	80	24	87	46
Croatia	33	73	40	80	33	58	40
Denmark	74	18	16	23	70	35	58
Egypt	25	70	80	45	4	7	23
Estonia	60	40	30	60	16	82	43
Finland	63	33	26	59	57	38	46
France	71	68	43	86	48	63	42
Germany	67	35	66	65	40	83	35
Greece	35	60	57	100	50	45	41
Hong Kong	25	68	57	29	17	61	61
Hungary	80	46	88	82	31	58	48
Iceland	60	30	10	50	67	28	70
India	48	77	56	40	26	51	7
Indonesia	14	78	46	48	38	62	25
Iran	41	58	43	59	40	14	150
Ireland	70	28	68	35	24	65	50
Israel	54	13	47	81		38	54
Italy	76	50	70	75	30	61	42
Japan	46	54	95	92	42	88	17
Jordan	30	70	45	65	43	16	48
Leebanon	40	75	65	50	25	14	48
Libia	38	80	52	68	34	23	30
Malaysia	26	100	50	36	57	41	53
Mexico	30	81	69	82	97	24	45
Morocco	46	70	53	68	25	14	22
Netherlands	80	38	14	53	68	67	52
New Zeland	79	22	58	49	75	33	55
Nigeria	30	80	60	55	84	13	6
Norway	69	31	8	50	55	35	64
Pakistan	14	55	50	70	0	50	6
Peru	16	64	42	87	46	25	44
Philippines	32	94	64	44	42	27	32
Poland	60	68	64	93	29	38	31
Romania	30	90	42	90	20	52	32
Russia	39	93	36	95	20	81	33
Saudi Arabia	25	95	60	80	52	36	28
Serbia	25	86	43	92	28	52	52
Singapore	20	74	48	8	46	72	59
Slovakia	52	100	100	51	28	77	40
Slovena	27	71	19	88	48	49	40
South Africa	49	65	63	49	63	34	7
South Korea	18	60	39	85	29	100	27
Spain	51	57	42	86	44	48	41
Switzerland	68	34	70	58	66	70	43
Taiwan	17	58	45	69	49	93	64
Thailand	20	64	34	64	45	32	36
Turkey	37	66	45	85	49	46	47
United	89	35	66	35	69	51	57

FIGURE II. SAMPLE

Our model is based on the following regression, considering as regressors the advanced Hofstede's cultural dimensions:

SMp= μ_1PDI+ μ_2IDV+ μ_3MAS+ μ_4UAI+ μ_5IND+ μ_6PRG + e

μ1= coefficient of the PDI, i.e. effect on SM of a change of PDI, holding all others factors constant

μ 2= coefficient of the IDV, i.e. effect on SM of a change of IDV, holding all others factors constant

μ 3= coefficient of the MAS, i.e. effect on SM of a change of MAS holding all others factors constant

μ 4= coefficient of the UAI, i.e. effect on SM of a change of UAI, holding all others factors constant

μ 5= coefficient of the IND, i.e. effect on SM of a change of IND, holding all others factors constant

μ 6= coefficient of the PRG, i.e. effect on SM of a change of PRG, holding all others factors constant

e= errors due to omitted variables

In this model quantitative databases has been used as data sources and has been previously evaluated. We have selected countries considering report of "WEeareSocial 2014" for social media penetration values and Hofstede's Country list (2014) for cultural dimensions. The data collected for Social Media Penetration refers to year 2014.

Dependent variable - Social media penetration

Social media Penetration (SM) data have been extracted from Social, Digital & Mobile Worldwide Reports in WeARESocial's series (2014). They based on US Census Bureau, Facebook, Tencent an VKontakte.

At the beginning of 2014, social media penetration of analysed countries, based on active users of the largest active social networks in each country, was of 41,5% in medium. Analyzed countries have high indexes compared to medium value (30%) of the rest of the world. The value is lower than medium only in 23 countries and the data is really relevant because it is very low in Bangladesh, India, Japan, Nigeria, Pakistan, South Africa.

Independent variables – cultural variables - sample

In our sample, 38 countries have individualism rates under 50 (medium value for Hofstede) and 19 have power distance index under 50. In relation to the masculinity dimension, we can note that 32 have index under 50, and that for aversion to uncertainty, it is interesting to note that the rate of 18 countries is under 50. With regards to pragmatism 35 countries have indexes under 50. While, as regards indulgence, only 22 countries have index above 50.

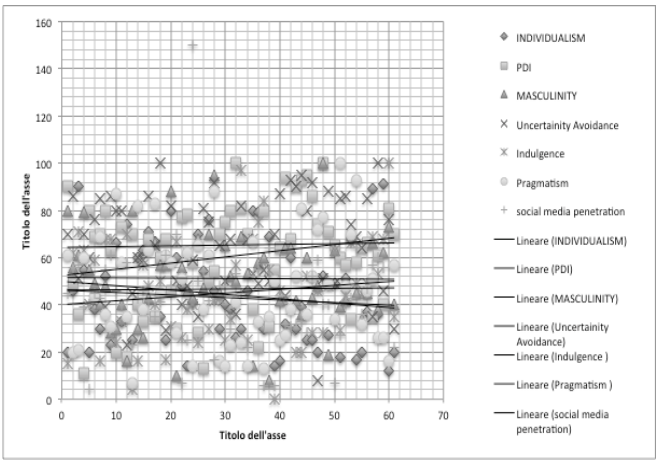

FIGURE III. SAMPLE DISTRIBUTION

IV. ANALYSIS AND RESULTS

In the analysis of our model (Table n.1) we have used software STATA

TABLE I. MODEL ANALYSIS

Social media penetration	t	P>t
INDIVIDUALISM	1.09	0.282
PDI	-0.50	0.619
MASCULINITY	-2.21	0.032**
Uncertainity Avoidance	-0.47	0.642
Indulgence	1.79	0.080 *
Pragmatism	0.44	0.660
_cons	2.89	0.006

In our analysis we have used Adjusted R^2. It is a variant of simple R^2 and it is used for the analysis of multiple linear regression while simple R^2 is used for the simple linear regression analysis as the main index of the goodness of the regression curve. In our model advanced R^2 are near to 1 (92%), it means that the model regressors predicted is statistically significant. Thus, we can affirm that regressors are an effective cause of the movements of the dependent variable, that is the cultural dimensions (MAS and IND) influence social media penetration (Hypothesis 1).

We have conducted the test of normality of residues (Jarque and Bera), the p-value is equal to 0,2789.

In order to evaluate the efficiency of the linear regression models identified, we have conducted the F-test to assess the significance of the model, to verify if there is a significant relationship between the dependent variable and the set of explanatory variables.

The value of μ5 emphasizes a positive relationship between the dependent variable SMp and cultural dimensions while the value of μ3 shows that there is a negative relationship – *Hypothesis 2*. In particular this means that if indulgence increases social media penetration, considering all others factors constant, increase. On the contrary, when masculinity

increases, (ceteris paribus) social media penetration decreases. Moreover, there is no significant correlation between IND, PD, UAI and PRA and Social media penetration.

Starting from these results we have crossed data od IND and MAS and it is emerged that only four coutries (Iceland, Netherlands, Chile and Denmark) have an high level of indulgence and a low level of masculinity. This means that they tend to allow gratification for their desires, enjoying life. They focus on individual happiness and well-being, free time is very important. Positive emotions are freely expressed. These values are all expressed in social media communication.

Traditional feminine countries have an orientation to good relations with supervisors, peers, and subordinates; so, as results demonstrate, it is evident that they have developed an elevate social media penetration. In particular Iceland has the highest index of social media penetration. One of the lowest indexs of social media penetration is in Japan where there are an high value of masculinity and a low index of indulgence.

A different analysis have to do for Bangladesh, Pakistan, Nigeria and India, where political situation has a pivotal role in the development of countries and consequently in the knowledge sharing processes.

V. CONCLUSIONS

Every business today competes in a world "market sphere" constituted of two sub- worlds: a physical world of resources that managers can see and touch and a virtual world made of information. In the creation of dynamical knowledge theory the business knowledge becomes a fundamental resource for the competitiveness of the enterprise, an anomalous good whose theoretical value grows with its re-employment and possibilities of recombination, therefore a territory in which knowledge sharing is convenient. The continuous interrelation between the company formal-generalized knowledge and the informal knowledge of the single individuals is at the foundations of the competitive advantage creative process. Through learning, the produced knowledge is supported by the abilities of the individuals and will be integrated and used in a coherent and finalized way.

Using new mediatic tools, a group of people shares a practices, activities or working interests and finds in the Internet the proper environment that allows the access to specific information, allows them to meet, interact and share experiences and knowledge. They draw benefits from the change of information and from the system of relationships, developing, in a collaborative and dynamic way, better practices, solutions and knowledge. The constitution of a social bond is liberated of territorial, institutional or power binds, and gets founded, instead, on interests and knowledge share, on processes of collaboration and collaborative learning [22].

Social media determine therefore a dynamic process that generates new knowledge founded on the negotiable interaction of the members.

By favouring the learning process and the development of more stable network relationships, social media offer the possibility to manage in a more efficient way the inside relationships and the informative flows. This way one can exchange and share distinguishable information where both the individual and the organizations can identify themselves. Social media, defining these relational contexts, are able to translate metaphors in an explicit and constructive language, and offer everyone the best conditions to express themselves and share experiences and information. The importance of such process is evident especially when one considers that the relational process is as much a function as it is an intrinsic characteristic of the individual behaviour, therefore an attitude of people in permanent contact and dialogue, that has to assume an usual character, recurrent and not occasional. This way the use of social media becomes "a source of relational and shared intelligence", whose main task is the creation of innovative ideas and of relationships that are constantly able to feed the native cognitive patrimony. Their use in organization improves the creation and acquisition of knowledge, making it less tacit, but available and pervasive, enabling organizations to experiment a sort of virtualisation of the chain of value, transferring some phases of the physical chain to a more cognitive dimension, trying to contemporarily manage the two chains of the value in a separate and permanent manner.

From this point of view, the learning that feeds the cognitive die is constituted by relationships that give holistic nature to the meanings with which experiences are understood and organised in the life of everyone.

Then, if social media increase knowledge sharing and MAS and IND have a correlation with social media it is easy to perceive that if governance encourage feminine dimensions and indulgence, it is possible for individual, groups and organization to develop knowledge management.

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