

Giving and Taking in Online Communities of Practice: The Role of Geography and Culture in Knowledge Sharing and Innovation

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Abstract

Researchers have long been fascinated with the phenomenon of lurking and free riding in knowledge sharing. This interest has led to the investigation of which factors drive decisions to contribute to a knowledge exchange as opposed to only exploiting the information in such exchange. Many studies have specifically focused on identifying the extrinsic and intrinsic motivational drivers for knowledge sharing in communities of practice by administering user surveys on behavioral intention, expectations, and satisfaction with the community. Our analysis is different from prior studies in that it does not look at expectations of reciprocity and other individual characteristics. Rather, it extracts and analyzes interaction data and, then, it groups such data based on factors like geographical location and related cultural background. This study adopts known models of national culture and relates them to social interactions using a large dataset mined from an online community of practice. The results show interesting deviations from the literature, which may be limited to the specific community of practice (programmers sharing coding knowledge) or may guide the design of open innovation systems that support knowledge sharing. This paper presents the first step on why and how to conduct such studies and suggests open questions for future study.

1. Introduction

Research on knowledge management (KM) follows many directions with various foci and longevity patterns. One area that has continued to attract attention, regardless of the stage of maturity of the discipline and the related information management system, is that of knowledge exchanges in communities, both face-to-face and online. The fascination with this research stems from the fact that many of the failures in KM implementation have to do with the inability to set up both processes and technologies that sustain long-term knowledge sharing

and utilization across groups. This has been especially true within organizational boundaries as opposed to more fluid, hybrid decentralized and dispersed specialized communities [1].

Lai and Chen [2], preoccupied by the fact that online communities of practice had shown limited success in retaining members and motivating them to contribute to the knowledge base, set out to investigate motivational factors and summarized extant literature previously focused on uncovering personal, technological and contextual factors, the latter including community, normative influence, shared vision and social ties. They found that prior research centered around surveying behavioral intentions and focused on frameworks based on social capital theory [3], [4], and social exchange theory [5], [6]. Their study on “posters” and “lurkers” communication lifecycle is based on a survey of user perceptions on reputation, enjoyment, knowledge self-efficacy, enthusiasm and others as drivers of knowledge sharing intention (as opposed to actual knowledge sharing) [2]. They found that lurkers may initially benefit from an asymmetry of effort, but they will eventually contribute to the exchange as they become more proficient with the community expectations and their own mastery of knowledge. Lurkers eventually move from “takers” to “givers” of knowledge. This process has been identified as “legitimate peripheral participation” in the online community literature [7].

While many earlier studies provide insights into the factors that motivate individuals to contribute to the knowledge exchange, our analysis is focused on a different approach: it looks at usage patterns from interactions data scraped from an online community of practice web platform. This web platform provides access to an objective dataset containing proxies for factors such as knowledge use, reputation, expertise, and more. Using multi-year data from this platform, we set out to prepare the dataset for a comprehensive and large-scale investigation of whether geographic and cultural factors influence actual knowledge exchange in the online community.

The following sections illustrate the various aspects of this research. Section 2 presents the

background for this study, specifically as it relates to culture and location factors. Section 3 explains the methodology used to gather the data and prepare it for analysis. Section 4 and 5 present the data, analysis and results. Finally, section 6 introduces limitations and future work.

2. Background and Hypotheses

2.1. Knowledge Sharing in Communities of Practice

Authors [1] have described the evolution of knowledge sharing from a face-to-face to virtual communities, and from structured organizational entities, often supervised by management, to more fluid cross-organizational and open environments. Anchoring these communities' interactions to the actor-network theory, these authors take an interesting view that some communities move online to find other exchange fora outside of managerial influence so that relationships can become more open, participants can retreat to "zones of uncertainty" where their actions and interactions are self-driven rather than organizationally imposed.

Gallagher and Savage [8] describe these online communities as groups of people who share interests, purpose, professional or personal goals, rituals and tacit or explicit policies, and interact primarily through computer-mediated communication tools. Online communities may emerge around many different topics, from social networks, to specialized interest groups. Within these online communities, communities of practice (CoPs) have emerged as those groups who support knowledge creation and dissemination within and beyond organizational boundaries, and focus on sharing professional knowledge and know-how related to the life of the community [7].

Because of their distributed nature, whereby members of an online community may be situated anywhere in the globe, studying the behaviors of these communities calls for an understanding of the type of culture associated with such groups. A typical approach to studying online communities' behaviors, motivation and sustainability, centers on cross-cultural or identity analyses as key elements that drive participation, at least at the beginning, among nascent communities. After an extensive literature review of cross-cultural studies published between 2000-2011, Gallagher and Savage [8] concluded that, while geographical locations is the most common way to study dispersed communities, this approach is problematic in online communities as geographical boundaries tend to fade, even when the communities

start within a specific location. The authors also recognize that generalized models that group participants by countries are problematic in online communities and in a globalized economy where presence in a country does not necessarily reflect the belonging to a specific national cultural or ethnic group.

Nevertheless, national boundaries or grouping may represent a starting point, which can be followed by more detailed analyses of self, group, social and professional identity, for example. No matter what the final unit of analysis is, information systems researchers are increasingly aware that users' identities - and their internalization of cultural meaning - affect both adoption and use of technology. Understanding their role and impact is fundamental for the success of any technology platform that supports online interactions [9].

In a content analysis of the interactions in a large international community of practice linked to a major French company with 370 highly specialized members across 62 countries, Bourdon et al. [1] found that contributors to the knowledge base engaged with the community primarily because of moral beliefs (they believed that it was the right thing to do) or because they had specific research interests. Among the seekers, some groups acted as in a free market: both giving and taking knowledge from the community. Others were more focused on taking information, with limited reciprocity and were mostly focused on benchmarking their own work with others.

This case study showed that location appeared to affect relations and interactions, with some participants complaining that most of the decision making in the community was done in France, or that some members were favored because of their European background. In other instances, participants in the community were active online to achieve recognition beyond their local network, i.e. to be visible in the headquarter in France and increase their international recognition. In summary, the geographical aspects of the context of the study played a significant role.

In a study by Hwang et al. [10], the importance of location reappears, even though the impact diminishes once community participants acquire experience with the online knowledge exchange. The authors review the literature and conclude that even online interactions tend to be easier when users share similarities such as socio-demographic attributes (ethnicity, religion, age, nationality, etc.) and they tend to be persuaded more and trust people that are geographically close rather than far away. Hwang et al. identify two factors determining interactions: categorical similarity and expertise similarity. The

categorical similarity includes elements such as geographic location and hierarchical status in the community. Expertise similarity refers to shared areas of competence (similar knowledge base) as exemplified by a continued interaction in an online community where users become known for their knowledge and their community engagement.

Hwang et al. note that online communities may either eliminate geographical boundaries, by enabling participants to reach audiences throughout the world, or might amplify. For example, individuals could initially identify themselves more with people that are closer to them, who they can meet offline, or who share the same cultural background (from the same location). A large study conducted by Google on drivers of knowledge exchange in electronic prediction markets showed that the best predictor of how googlers selected their answers (i.e. why they bet “google coins” on a specific investment or company initiative) was best explained by the location of their desks, that is the proximity of the employees to one another [11].

Hwang et al.’s study confirms that geographical factors impact knowledge exchanges, although they found that the influence of geography may decrease as users spend more time within the community and become more known. Their conclusion is that highly visible and experienced users are more likely to move beyond regional boundaries. For example, if counting virtual distance travelled, online community contributors answered twenty percent more questions, and travelled more “distance miles” than a novice contributor answering questions an average of 581 miles away, while and experienced knowledge contributor answering questions about 5,182 miles away [10].

Based on the above study, we expect to find differences between the amount of knowledge contributed and the answers sought in an online community web site, depending on the geographical location of the users and their status as contributors (those who answer questions, or “give” to the community) or seekers (those who ask questions or “take” from the community). This background provides the framework for our first research hypothesis:

Hypothesis 1: *Seekers will receive more answers from collocated contributors than from contributors who are geographically dispersed.*

2.2. Geography and Culture

Geographical location often determines physical proximity but also socio-cultural closeness in that

people who are located within the same regions of the world may also share the same cultural values of such region. Significant earlier research on country-level cultural differences has been conducted by many authors, with one classification that withstood the test of time (Hofstede’s model), not without criticism. Yet, no significantly different models have been proposed and, to date, Hofstede’s classification of national cultural dimensions stands as one of the largest and most replicated study of regional differences [12].

Anthropologists have divided cultures based on the way people communicate for example, into high and low context cultures [13]. Sociologists such as Parsons and Shils [14] have looked at patterns of affectivity, self or collective orientation, universalism, achievement and specificity. Others have focused on human nature dimensions (e.g., evil, mixed, and good). Overall, these approaches have all focused on studying elements such as relation to authority, conception of self, and how a group handles conflict [15].

Ardichvili et al. [16] make the case for studying the impact that cultural differences play on knowledge sharing patterns in online communities of practice (CoPs), but they also recognize that not many studies have been able to focus on studying global knowledge sharing effectively. They identify some of the most significant international models using the work of Triandis [17], Trompenaars [18], and Hofstede [19].

Triandis’ distinction of individualistic cultures as focused on themselves and independent from others, and collectivist cultures as inter-dependent and focused group behaviors, explains how groups transfer knowledge by relying on written and explicit rules (individualist cultures) or social clues and tacit interactions (collectivist cultures). It also explains the reticence to share even with the “in-group” (individualist) or reticence to share with the “out-group” (collectivist will share within their groups but less with the outsiders). Triandis distinguishes between horizontal and vertical cultures’ knowledge transfer patterns based on top down or distributed communication and knowledge sharing models [20], [21].

Trompenaars [18] separates cultures based on “achievement” versus “ascription” orientation. In achieving cultures, knowledge is shared based on roles, expertise and reputation in the community. In ascription cultures, knowledge flows from experts who are recognized as leaders because of their age, seniority, wealth or other similar characteristics. Other studies include “fear of losing face” or “modesty” as cultural factors that affect knowledge flows across communities [22].

Finally, and most notably, in Hofstede's highly replicated study, various cultural dimensions are grouped in distinct clusters. In his empirical study on IBM employees globally, Hofstede identified clusters of behaviors connected to national culture [19]. He found that this macro-level aggregation was sufficiently able to discriminate across group of actors across regions, which were acculturated to specific patterns of interactions explained through variables such as:

1. Power Distance (PDI)
2. Uncertainty Avoidance (UAI)
3. Individualism vs Collectivism (IDV)
4. Masculinity vs Femininity (MAS)
5. Long-term Orientation (LTOWVS)
6. Indulgence vs Restraint (IVR)

The fifth and sixth dimensions were added later based on the work of psychologist Michael Harris Bond [23] and Minkov [24]. These variables and clustered patterns have been replicated across organizations and nations. Authors have related these dimensions to patterns of knowledge sharing, arguing that national culture impacts knowledge transfer in communities by impacting trust, and eventually, interdependency and reciprocity. In particular, Ford and Chan [25] have hypothesized that:

- 1) Individualistic cultures may transfer knowledge less than collectivist cultures
- 2) Knowledge flows top-down in high power distance cultures
- 3) Masculine cultures may compete for knowledge
- 4) Knowledge transfer in heterogeneous groups may be more difficult than transfer among homogenous cultural groups

In addition to the above patterns on knowledge sharing behaviors, a significant correlation has been found between the Hofstede model and the OCEAN personality dimensions, such as openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (the "Big Five Personality Factors"). This underscores the existence of a relationship between macro level and individual level factors [26], creating a link between the national and the individual level. Nevertheless, generalizations at the country level must allow for individual differences. National culture is not an instrument for stereotyping individuals, says Hofstede, but an element to understand patterns [19].

In this study, we assume that the connections we might find at the national level relate to cultural dimensions that drive people-to-people interactions. For example, hierarchy and power distance were already identified as drivers of interactions in online

communities of practice by earlier authors [1], [10]. Therefore, we intend to further explore whether Hofstede's dimensions can explain patterns of interactions between participants herein named as "contributors" (if they post answers to the community) and "seekers" (if they look for answers to questions or ask questions) in online communities.

A sample question to explore is whether regions characterized by higher individualism might show higher patterns of exploitation of online communities, as opposed to collectivist regions, where giving and contributing would be of paramount importance. This leads us to formulate the following hypothesis:

Hypothesis 2: *The number of contributions in an online community is related to the national cultural dimensions (based on Hofstede's) of the users in the community.*

While extant literature may inform our hypothesis and suggest its direction on most variables, we intentionally leave the direction of the interaction open. The data collection methods used in this study focus on an open exploration of secondary data representing indicators of knowledge exchange (asking and answering questions) within a significantly active, large, and heterogeneous community. This approach is different from earlier community's studies, summarized in earlier literature, which focused on interviews, surveys, content analyses, participant observations or ethnographic approaches [8]. In this study, we conduct an ex-post objective association among national variable indicators and patterns of interactions, over a ten-year timeframe as described below.

3. Method

3.1. Data Collection

Data was collected from stackoverflow.com to include 10 years of interactions. Since the database is a very large dataset, the raw data extracted needed to be carefully prepared for the analysis, a step requiring an extensive iteration process and a significant amount of data validation and cleaning.

3.1.1 Data Preparation

The Hofstede index for each country was collected using a an up to date website (<https://www.hofstede-insights.com/product/compare-countries/>) from which the researchers scraped 104 different countries for the 6 components that constitute the Hofstede indices.

The Hofstede dimension was then paired with Stack Overflow seeker's and contributor's list based on their respective location. This was done by using:

a. Google Maps Geocoding API: This task is challenging as a simple string-matching approach is insufficient. This is due to the nature of how Stack Overflow users choose their location: rather than selecting from a pre-defined combo-box, users insert whichever string they prefer. This results not only in location descriptions such as, "Silicon Valley," but also strings that do not constitute real locations at all, such as, "Peach's Castle", and, "DROP TABLE IF EXISTS STACKOVERFLOW_USERS". How to discriminate between these locations is not a simple task when dealing with very large datasets. Consequently, the authors utilized the Google Maps Geocoding API which was empirically shown to return the most reliable results. The results still need random checking as some extraneous locations are still returned, for example acronyms such as "\$PWD" will erroneously return a real location, such as, "Philadelphia Water Department." A word of caution is that some geocoders are specifically trained in a single country and will be heavily biased towards that country when returning results.

b. Keeping Costs Down: The Google Maps Geocoding API, while the best empirically, is not free: 0.005\$ for each address query. When the number of users in question increases, this becomes a substantial sum, ~1000\$ for our dataset of ~100,000 users. To circumvent this, we build on the work of a GitHub coder, "shanealynn" whose work can be found at: <https://gist.github.com/shanealynn/033c8a3cacdba8ce03cbe116225ced31>.

- i. A few added steps were taken to alter the values returned so that the city, state, and country were included, if they existed.
- ii. Shanealynn's implementation can cause memory errors as the amount of data increases, so we frequently saved results and emptied working memory to circumvent this error.

c. Speed: Geocoding is not a quick task regardless of the geocoding API selected. This results in a substantial bottleneck when data increases in size. In the effort of saving costs as well as increasing processing speed, we implemented a parallelizing of the geocoding task where the data is split into N portions, (4 in our case), all with unique API keys which can all be processed at once. This also allows for the costs to remain at 0\$ as Google allows for 300\$ worth of API calls at no cost for new users.

d. Error Tolerance: For an unknown reason, it is not uncommon for an API call to stall for an indefinite period. As this error is not on the current system, this causes an odd issue where the process

must be reset manually. To avoid needing to reprocess the entire data multiple times, we instituted saving throughout the processing and a means to restart from where one left off in the previous processing that malfunctioned.

e. Data Verification: This step required the removal of the most common locations, followed by an inspection into the validity of the remaining locations. This was done to ensure that only a statistically negligible portion of the data is being recognized as valid locations, when in fact these locations were noise. If this portion of data is sufficiently small, it will be removed manually but may be left as is.

4. Data Analysis and Results

After cleaning the data to ensure the integrity of the dataset, there were a total of 41,174 observations that constitute questions and answers in the question and answer community.

Multiple analytical techniques were used to test the hypotheses presented in this paper. Paired sample t-test was used to test the first hypothesis and pairwise correlation analysis was used to estimate the relationship between the number of contributions and culture dimensions of the contributors.

There were 10,400 cases where the seeker and contributor are from the same geographical location and 30,774 cases where the seeker and contributor are not from the same location.

To test the first hypothesis, we conducted a paired t-test analysis to compare answers contributed by contributors that are collocated with seekers and contributors that are geographically dispersed. The result indicates that answers from dispersed contributors are higher than answers contributed by contributors that are collocated with the seekers ($t = 115.54, p = 0.000$).

To test the second hypothesis, we conducted pairwise correlation analysis to investigate the relationship between the number of contributions in an online community and the cultural dimensions of the users (i.e., contributors) in the community.

Table 1: Pairwise Correlation Results

	# of Contributions
pdi	-0.0126*
idv	0.0189***
mas	0.0049
uai	-0.0059
ltows	-0.0180***
ivr	0.0165***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

The correlation results summarized in Table 1 indicate that the number of contributions is significantly related to the contributors' power distance, individualism, long-term orientation, and indulgence. Specifically, the number of contributions is positively related to contributors' individualism and indulgence scores but negatively related to contributors' power distance and long-term orientation scores.

In addition to these results, the visualization of sub-datasets reveals some interesting patterns in the distribution of seekers and contributors across different locations. For example, as shown in Figure 1, Stack Overflow is dominated by contributors and seekers located in the United States, if we focus on the top 15 countries by seeker and contributor's count. However, focusing on seekers over contributors patterns, we notice that only in India and Ireland, the number of seekers is higher than the number of contributors, while in many other countries there is a balanced number of seekers and contributors. While it is to be noted that contributors might themselves be seekers at different points in time, outliers' behaviors need further exploration, particularly considering the closeness of the national indexes across the mentioned countries in some of Hofstede's dimensions as represented in Table 2.

Table 2: Hofstede's Dimension Comparisons
(Selected among the top 15 countries by contributions)

Country	pdi	idv	Mas	uai	ltowvs	ivr
Great Britain	35	89	66	35	51	69
US	40	91	62	46	26	68
India	77	48	56	40	51	26
Ireland	28	70	68	35	24	65

In quite a few countries, the number of seekers and contributors is roughly similar, while in other countries, contributors surpass the seekers. An additional level of analysis should obviously focus on within countries differences, where we expect to find specific patterns of use in areas collocated with the technology corridors (i.e. Silicon Valley and New York City in the US; etc.). Since the distribution of the number of seekers and contributors are not consistently in favor of any user group, it is useful to investigate how the cultural dimensions of each country may inform the giving and receiving behaviors exhibited in the online community. For instance, do contributors typically play more of a "resident" role in the community where they are readily present to provide help to others whereas seekers exhibit some form of a "visitor" role where they visit the community to get answers and leave?

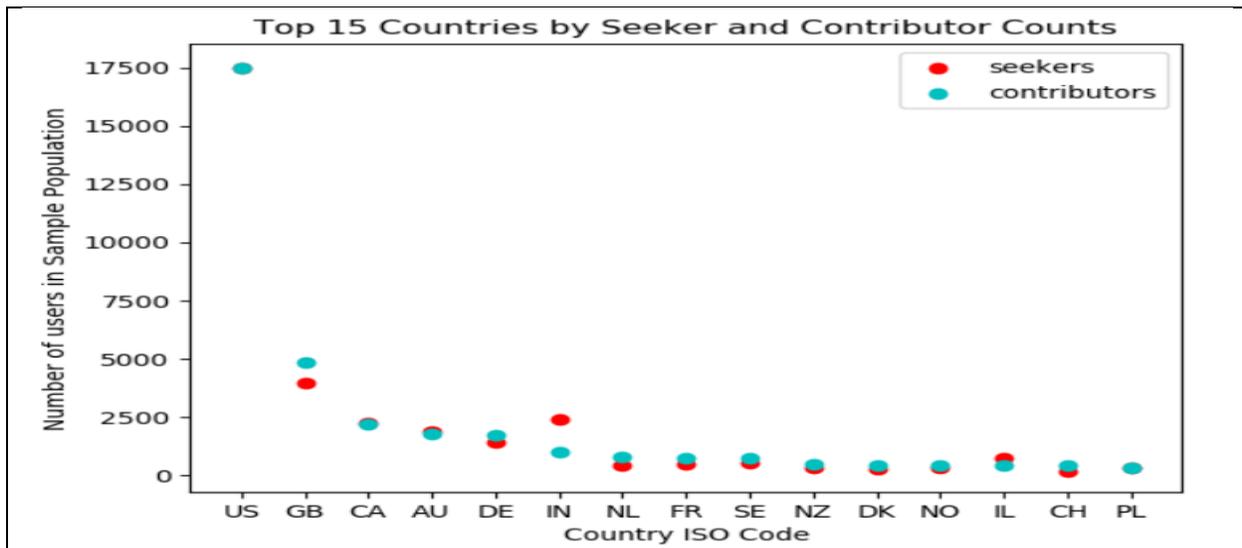


Figure 1. Sample Geographical Distribution of Answers by User Group

While no statistical inferences can be drawn from the partial visualization in Figure 1, the figure highlights differences that warrant further exploration of the connections between location and knowledge exchange across regions of the world.

5. Discussion

This study explored the role of geography and culture on contributions in online knowledge exchange communities. From a geographical perspective, the results indicate that the number of answers provided by contributors who are geographically dispersed from seekers are more than the number of answers by contributors that are collocated with seekers. Although this result is contrary to the hypothesized relationship, it suggests that online communities provide an avenue to reach a broader population, beyond the seekers' immediate community of practice. This broader pool of expertise in online communities presents the opportunity for innovation through global collaboration.

We argue that culture influences a user's interaction in an online knowledge exchange such that the user adopts community behaviors and policies that are informed by his/her national culture. Our results show a negative relationship between power distance and the number of contributions. This is consistent with prior studies that indicate that the lower the power distance, the more individuals are willing to participate in knowledge exchange and vice versa [27]. Contrary to the widely held expectations of higher knowledge sharing within societies with a high degree of long-term orientation, we observed a negative relationship between long-term orientation and knowledge contribution. A possible explanation of this observation is that contributors become more focused on the immediate, rather than the long-term benefits, because in the short run they achieve an immediate reward (earning points or being selected as the best answer). Our results support the expectation that contributors from high individualistic societies contribute knowledge in online communities because the reward boosts individual efforts rather than a community or group effort. Similar to individualistic societies, nations that score highly in indulgence encourage personal gratification, which is facilitated when users earn rewards based on their participation in the community, like in this study. Hence, it may be plausible that contributors from countries that score high on the indulgence dimension tend to contribute more in the online knowledge exchange community.

5.1. Implications for Knowledge Sharing and Innovation

The results from this analysis show that participation behaviors in large and distributed communities of practice change what we observe in traditional and more localized studies. In smaller online communities that were surveyed or observed for shorter amounts of time, location and cultural patterns play a bigger role than what we found in the large dataset of interaction in Stack Overflow. Since knowledge seekers received significantly more answers from non-collocated users than from near ones, it follows that most of the benefits of such large communities are achieved through their distributed nature. While geographical location plays a role at the beginning of the interactions, overtime its impact flattens. Nevertheless, these results could be skewed because the most active countries tend to reply to most of the questions (like the US and the UK). This could "overpower" the local knowledge exchange that still exists, but at a smaller scale. Whether or not dominant countries display a disproportionate influence, it is important to note that the openness and fluid nature of the online system allowed for greater knowledge exchange and participation, and, ultimately, may lead to better quality of knowledge.

Another implication of this study has to do with the design of the gamified and scoreboard mechanisms that engender participants' pride, and competition, for increasing reputation scores within the community. While this study did not specially focus on the changes of the reputation scores for contributors and seekers (scores that vary with active participation in the community), the fact that individualistic and short-term orientation patterns are positively correlated with higher participation in the CoP can only be explained by the (individualistic) interest in achieving higher status in the community. That is, the right dose of competition and its dynamic and changing score based on interactions became a bigger driver to the knowledge exchange than original knowledge hoarding inclinations. Stack Overflow has perfected a system to balance the right amount of collaboration and competition incentives that are worth studying further.

6. Limitations and Future Research

There are several limitations of this research, including the use of models, such as Hofstede's, which have been extensively criticized as old and not reflective of current geographical boundaries and their fuzziness. After all, when Hofstede conducted his study in the 1970s [19], means and modes of

communication were vastly different. Yet, his data has been replicated across countries and conditions for several decades after the original study, and his study still represents one of the most comprehensive classification of employees working at a technology-based company, which is likely to be closely related also with Stack Overflow users, who are programmers, analysts, and technologists.

Another limitation is found in the use of macro-level dimensions to make conclusions at the individual level, thus risking stereotyping findings that are too generic to be differentiating and meaningful. Nevertheless, this analysis may uncover patterns of knowledge sharing that explain relations beyond information flow beyond economic development clusters or intellectual properties protection boundaries (coders share know-how for free on these open community sites). Future research will therefore focus on understanding how knowledge flows and clusters compared to information and economic clusters.

7. Conclusion

This study presents an overview of research on online communities of practice that is focused on understanding the role of geography and culture in facilitating exchange of coding knowledge across the globe. The research uses a very large dataset scraped from Stack Overflow and supplements it with Hofstede's national culture dimensions to study the relationships between such dimensions and natural knowledge exchanges in a professional community. While the correlation results are preliminary, the paper frames the basis for future research that is expected to uncover communication flows beyond traditional economic patterns (i.e. from developed economies to emerging and developing countries). The distribution of user groups (i.e., seekers and contributors) in our preliminary dataset so far show signs of variations in the giving and receiving behaviors across different cultures that warrant investigation.

8. References

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Appendix I: Hofstede Cultural Dimensions (opposite poles examples), adapted from [19]

Power Distance (PDI) Society	
<i>Small Power Distance</i>	<i>Large Power Distance</i>
Power use should be legitimate	Power use is a fact of society
Older people neither respected nor feared	Older people respected and feared
Student-centered education	Teacher-centered education
Subordinates consulted	Subordinates directed on what to do
Pluralist governments	Autocratic governments
Corruption rare	Corruption common
Income even	Income uneven

Uncertainty Avoidance (UAI)	
<i>Weak UAI</i>	<i>Strong UAI</i>
Uncertainty is part of life, comfortable with ambiguity	Uncertainty must be avoided, need for clarity and structure
Ease, low stress and low anxiety	Emotionality, anxiety and neuroticism
Tolerance for diversity	Intolerance for deviant ideas
Dislike of rules	Emotional need for rules
Teachers say “I do not know”	Teachers must have all the answers
Relativism and empiricism	Belief in ultimate truth and grand theories

Individualism (IDV) vs Collectivism	
<i>Individualism</i>	<i>Collectivism</i>
Self-reliance	Family or clans protect society
“I” consciousness	“We” consciousness
Privacy	Belonging
Personal opinion expected: one person, one vote	Opinions and votes by group
Education is learning how to learn	Education is learning how to do
Task prevail over relationships	Relationships prevail over tasks

Feminine vs Masculine (MAS) Society	
<i>Femininity</i>	<i>Masculinity</i>
Minimum differences between roles and gender	Maximum social differences among genders

Men and women modest and caring	Men and women assertive and ambitious
Balance between family and work	Work prevails
Many women elected to political positions	Few women in political roles
Religion focuses on fellow humans	Religion focuses on God or gods
Sympathy for the weak	Admiration for the strong

Short-Term vs Long-Term Orientation (LTOWVS)*	
<i>Short-Term</i>	<i>Long-Term</i>
Important events past or present	Important events in the future
Personal stability	A good person adapts to the circumstances
Traditions are sacrosanct	Traditions are adaptable to the circumstances
Service to others important	Thrift and perseverance important
Social spending and consumption	Savings for future investments
Success is due to luck	Success is due to efforts
Slow or poor economic growth in poor countries	Fast economic growth to achieve a certain level of prosperity

* Integrated with World Value Survey available at <http://www.worldvaluessurvey.org>

Indulgent vs Restrained (IVR)	
<i>Indulgence</i>	<i>Restrained</i>
Perception of control	Perception of helplessness
Freedom of speech	Limited concern for freedom of speech
Higher importance of leisure and positive emotions	Lower importance of leisure and less positivity
More people involved in sport	Fewer people actively involved in sport
Lenient on food and sexual constraints	Fewer obese and stricter sexual norms
National order not a high priority	National order a priority (high number of police)
Higher birthrates	Lower birthrates