



# Sociability from the Perspective of Cultural Diversity in Virtual Communities of Practice

Tatiany Xavier de Godoi<sup>1</sup>(✉), Breno Guerra Zancan<sup>2</sup>,  
Daniela Freitas Guilhermino<sup>2</sup>, Eduardo Filgueiras Damasceno<sup>1</sup>,  
Jose Reinaldo Merlin<sup>2</sup>, Thiago Adriano Coleti<sup>2</sup>, André Menolli<sup>2</sup>,  
and Ederson Marcos Sgarbi<sup>2</sup>

<sup>1</sup> Universidade Tecnológica Federal do Paraná, Cornélio Procópio, PR, Brazil  
tatigodoi\_ll@hotmail.com, damasceno@utfpr.edu.br

<sup>2</sup> Universidade Estadual do Norte de Paraná, Bandeirantes, PR, Brazil  
brenozancan@gmail.com, {danielaf, merlin,  
thiago.coleti, menolli, sgarbi}@uenp.edu.br

**Abstract.** Virtual Communities of Practice (VCoPs) create spaces for collaboration that provide communication and interaction between individuals, so that knowledge and experiences are shared. Collaboration is a significant tool for building knowledge around a domain. In this sense, a significant effort has been expended to discover guidelines that it allows to facilitate the collaboration. A significant aspect of collaboration is the sociability, since it refers to how people interact in an environment. In VCoPs the aspects of sociability and interactivity are significant for achieving the objectives of the collaboration. However, we must consider that people have cultural differences, and it sometimes impose conditions that prevent the access and inclusion of some people in virtual environments of collaboration. Thus, in this work, is proposed a heuristic to evaluate how sociability is treated in VCoPs, with emphasis on cultural diversity aspects. The proposed heuristic was applied in the evaluation of some VCoPs. The results support the proposal of guidelines for the treatment of cultural diversity, seeking to assist specialists to plan and create environment interfaces that allow to promote sociability effectively and satisfactorily.

**Keywords:** Cultural differences · Sociability · Cultural diversity  
Virtual Communities of Practice · Heuristic

## 1 Introduction

Virtual Communities of Practice (VCoPs) are developed in order to allow the users to discussing about subject and sharing experiences through the Web. Benbunan and Hiltz (1999) affirm that “working in group brings motivation to the individual, because their work will be observed, commented and evaluated by people from a community of which they are a part”. Corroborating, Fuks et al. (2002) describe that “collaborating the abilities, knowledge and the individual efforts complement each other”.

A significant aspect of Virtual Communities of Practice (VCoPs) is the sociability issue, that, according to Baechler (1995) “is the human capacity to create and maintain

social ties, using units of individual or collective activities and makes circulate information representing the interests and opinions”.

Socialibility allows the interaction among people who present cultural diversity, which could include: religious, economic, gender, among others.

In order to understand the cultural diversity, it is necessary to understand the concept of culture. According to Candau (2000), the culture refers to meanings historically transmitted, formed by symbols. Thus, as the actor mentions, the big challenge on the cultural issue is dealing with diversity, multiplicity of trends in relation to the culture issue.

In this paper is proposed a heuristic to assist in the research of the main difficulties caused by cultural diversity during the socialization in VCoPs.

This research was performed in three stages: (1) Diagnosis of difficulties related to cultural diversity; (2) Proposed heuristic for the evaluation of cultural diversity; (3) Application of the proposed heuristic.

## 2 Virtual Communities of Practice

The expression “Community of Practice” (CoP), was coined by Lave and Wenger (1991), it is defined as a group of people informally and contextually connected, with responsibilities in the process, who share a concern or passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis in order to improve their knowledge on the same topic.

According to Wenger et al. (2002) three structural components characterize the CoP: domain, community and practice:

- The *domain* is the essential element of a community of practice, and it corresponds to an area of knowledge, interest or human activity. It defines its identity and the key issues that members need to address (Wenger 2004). It is the focus of the CoP and evolves over its life span in response to new, emerging challenges and issues (Henri 2006).
- The *community* is the central element of a CoP, it is composed by members, their interactions and by the building of relationships. From the communities it is that the CoP are characterized, thus forming the identity of the individuals in the group (Wenger et al. 2002).
- *Practice* can be understood as the knowledge shared by members. Sharing knowledge and experiences with the others users is one of the usual ways of interaction and socialization in CoP, these relationships include a set of structures, tools, information, styles, language, documents and understanding, shared by members (Wenger et al. 2002).

Thus, to create a CoP it is necessary that a group of people (community) interact each other, collaborate, share knowledge and perform a common activity (practice) in the same context (domain) (Trindade 2013).

Mengalli (2014) states that CoPs tend to have their own identity and, if well-developed, they can develop their own language allowing members to have a better communication and affirmation in identifying, as a result, each member in a

community contributes with some important aspect to its characterization, one of these contributions is related to a specific language. According to Mengali (2014), these expressions help communities to work in communion, they differentiate from the other communities and strengthen themselves as they fell part of a solid group.

The CoP involves a series of elements (actors, resources, competencies, activists, among others) and their interrelationship, necessary to achieve the purposes. In a robust work, Tifous et al. (2007a, 2007b) presents the main elements and semantic annotations for the learning in CoP. The concepts related to members, resources and knowledge were defined from an investigation into 12 CoPs from Palette4 project (Henri 2006). Table 1 presents a synthesis, made by Trindade (2013) from the research of Tifous et al. (2007a, 2007b).

**Table 1.** Main concepts inherent in CoPs.

Source: Trindade (2013) adapted from Tifous et al. (2007a, 2007b)

CoP – main concepts		Autores
Community	Motivation, Domain, Practice	Wenger (2001)
	Area; Purpose; Structure; Composition	Tifous et al. (2007a, 2007b)
	Cultural Diversity	Langelier and Wenger (2005)
Members	Personal Characteristics; Type of involvement; Role in the CoP; Peripheral Role	Miller (1995), Tifous et al. (2007a, 2007b)
Competence	Type of Competence	Tifous et al. (2007a, 2007b)
Collaboration	Collaboration objective; Collaboration Activities; Actors Involved (Roles); Geographic Dimension; Temporal Dimension; Collaboration Resources; Media and Modes of communication; Type of interaction,	Vidou et al. (2006)
	Engagement, Coordination	Deaudelin et al. (2003), Weiseth et al. (2006)
Decision-Making	Actors Involved (Roles); Resources for decision making	Tifous et al. (2007a, 2007b)
CoP Resources	Interactions registration; Tools CoP	

Related to CoP, the term Virtual Community of Practice (VCoP), is defined by Souza (2000) as a group of people sharing the same interests through the Internet.

According to Teigland and Wasko (2004) VCoPs can present some different functions in relation to CoPs, they are: the sent messages are automatically recorded, allowing you to interact at any time, in addition to being able to consult past information; the interactions may be instantaneous, however, in most cases they do not happen in real time; most of the time people are not aware of the people they are

interacting with, in this case it is not necessary to know the other person as an individual, the interest is to know about the person's knowledge.

Considering some of the main differences between CoP and VCoP, it is verified that the VCoP incorporates some functions related to the technological aspect, which allows, among other things, the storage of information for the future recovery. Nevertheless, the information storage has also been predicted on the ontology of Tifous et al. (2007a, 2007b), which describes the CoP Resources as tools that can support the Interaction Registration (as presented in Table 1).

Thus, in this research, it was considered that the work of Tifous et al. (2007a, 2007b), which details the main elements and interrelationships of a CoP (characteristics, objectives, possible roles, skills that actors can present), can also be related to VCoPs.

### 3 Sociability and Cultural Diversity

Sociability refers to the joining of people, which generates purposes and practices in which individuals share the same idea, and also have different relationships (harmonic or conflicting), thus, they always acquire knowledge of the competences and contributions of each other. Each person usually has prior knowledge about the subject being treated, and for this reason the information is transmitted with greater speed, going straight to the point (Recuero 2009).

Preece (2001) cites three components that contribute to have a good sociability:

(i) *Purpose* - A community's shared focus on an interest, need, information, service, or support, that provides a reason for individual members to belong to the community; (ii) *People* - Some of these people may take different roles in the community, such as leaders, protagonists, comedians, moderators, etc.; (iii) *Policies* - The language and protocols that guide people's interactions within the community. More formal policies may also be needed, such as registration policies, and codes of behaviour for moderators.

According to Marcotte (2003), the members of the community are involved in a culture, a value system and a symbolic universe, of the members that constitute it and helps them to create an identity. This identification and cultural development of communities finds the maximum expression in the CoPs, in which the individual comes from different cultures and, consequently, there is great diversity in various aspects, thus sharing their culture, history, goals and meanings.

Wenger (1998) considers that diversity in a CoP arises from the interaction among participants in their practices and it is related to the competencies of each participant, resulting in organized and coherent practices. The author estimates that this diversity present in the CoPs is responsible for the organization and the coherence of the community to the extent that it makes possible the complementation of functions and individual skills within the CoP. This interdependence among the elements of CoP can become a limit when it comes to a component that is resistant to interaction.

A diversity of people, from adolescents to adults, students or not, professionals, retirees, elderly are increasingly using interaction tools. The cultural aspect can cause differences in behavior among people, such as differences in work planning,

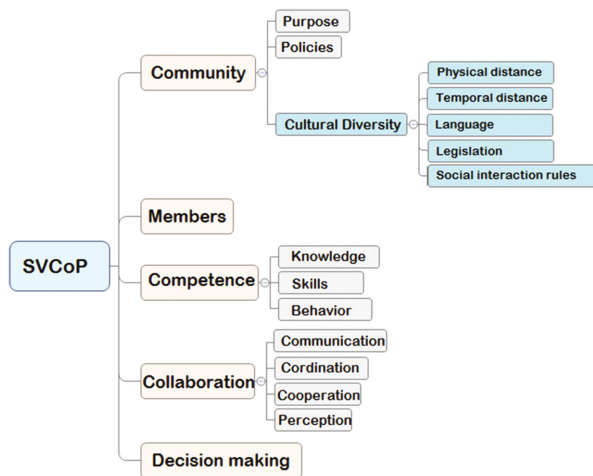
decision-making, style of argument, conversation flow, among others (Olson and Olson 2003).

Cultural diversity can take many forms, such as: Physical Distance; Temporal Distance; Language; Social Interaction Rules and Legislation.

#### 4 Heuristic of Support for the Evaluation of Sociability from the Perspective of Cultural Diversity in VCoPs

This research aims to complement the heuristic aspects of sociability proposed by Lopes et al. (2015), considering that cultural diversity is also a factor that influences social interactions. The heuristic proposed by Lopes et al. (2015), named SVCoP, addressed different aspects inherent to VCoPs. However, considering the breadth and complexity of each aspect, it did not address the aspects of cultural diversity, which seeks this research in order to contribute with this model of evaluation.

Figure 1 presents the conceptual model of the heuristic of Lopes et al. (2015) with the inclusion of the evaluation of cultural diversity, proposed in this article highlighted in blue.



**Fig. 1.** - Conceptual model of Heuristics – SVCoP with aspects of Cultural Diversity (Color figure online)

SVCoP (Lopes et al. 2015) was organized in the following order:

- “Community” refers to the domain, objective, composition and cultural diversity of CoP, it is aligned to the concepts of Preece (2001) highlighted in green on the second level, “Purpose” is a reason why a member would belong to VCoP and “policies” are records and codes that guide interpersonal interactions in VCoP.

- “Members” are people from CoP with your given roles and personal features, referring to the features of people from VCoP, to their different roles and positions.
- “Competency” is defined as a set of resources provided to be acquired by an actor, highlighted in blue on the second level of the tree. The resources to acquire the expected competency are “knowledge”, which refers to acquiring theoretical information of a determined subject, “skills”, which is the capacity of an actor to perform tasks in practice and “behavior”, which is summarized by the way in which actor behaves in a group or in a particular situation.
- “Collaboration” groups concepts of “communication”, “coordination”, “cooperation” and “perception” as cited by Fuks et al. (2002) in Collaboration Model 3C. This model is based on the premise of in order to have collaboration, not only communication junction, but also coordination, cooperation and perception is required.
- “Decision Making” refers to available resources for such, to the individuals involved and to the strategies utilized in the process.

Langelier and Wenger (2005) (as presented in Table 1), relates in his work the cultural diversity to the “Community” aspect, considering that a community can be homogeneous or heterogeneous (nationality, organizational culture, among others). Thus, the aspects related to cultural diversity were included in the community axis: physical distance; temporal distance; language; legislation and rules of social interaction.

#### 4.1 Diagnosis of Difficulties Related to Cultural Diversity

To support the development of heuristics, an initial survey was done, based on literature, to verify the difficulties found in VCoPs caused by cultural diversity. Nevertheless, not many papers were found about these problems in practice communities.

In these circumstances, a questionnaire was drawn up, containing 7 questions, in order to investigate better these aspects. The questionnaire was developed using google’s form creation tool and exposed in private through social networks (facebook and whatsapp) and by e-mail.

This questionnaire was sent to 25 VCoPs users, among them, undergraduates and graduates of Information Systems and Computer Science courses from the Universidade Estadual do Norte do Paraná. It was obtained 18 questionnaires answered.

Therefore, from the questionnaire, was possible to observe some difficulties related to cultural diversity in social interactions in VCoPs:

- Time-based separation affects interaction when it occurs between people from different countries, due to differences in time zones. Because VCoPs can involve people of all nationalities, language differences can also be found, which could be solved with the help of some online translators, but using some dialects and slang may complicate communication.
- Problems related to the difference in religion were observed. Some have reported that they have witnessed some discussion related to the type of belief and its inherent customs. A reported custom is that of Sabbath, in which people “keep the

Sabbath.” Thus, Sabbath-keepers from the sunset from Friday to sundown do not engage in activities, do not work, dedicating themselves only to rest.

- The internet allows us to contact people from all over the world in a VCoP, so participants are free to exchange information and experiences with people they have never seen in life and even with people who pretend to be what they are not. In the questions raised on this subject, 8 of the respondents reported that there is a certain mistrust about the profile of the participants, which makes trust and relationship difficult. The others state that there is no problem because people in this environment share a common interest which, in a way, characterizes the participant’s profile.
- Some respondents have argued that Brazilian international forums are highly criticized, since the vast majority of Brazilians tend to be informal and even jokers, which creates fears among participants who are more formal.

Based on the research conducted, both in the literature review and in the questionnaire applied to VCoPs users, the main difficulties related to cultural diversity in VCoPs are presented in Table 2, the main difficulties related to cultural diversity in VCoPs. It also sought to establish the guidelines for minimizing these difficulties. The guidelines presented were based on a literature review of Cibotto et al. (2009), Olson and Olson (2003) and the other works present in the theoretical basis of this research.

The main problems of physical distance are related to the fact that users access communities from anywhere and at any time, becoming subject to local physical transmission problems, such as, storms, earthquake. These problems may make VCoP inaccessible for a given time, in this way, the availability of historical data is required.

As members are interacting with people from different places, there is a certain uncertainty about the personality and the real intentions of each member. This can lead, in some users, to the fear of interacting. In this case, it would be interesting for the community to have an active moderator to control actions that diverge from the real interest of the community, contributing to its enrichment.

The difference of calendars is another problem related to the physical distance, because, the different places have different commemorative dates or holidays. Therefore, it is necessary to have good agenda planning for the important events, in order to minimize these differences.

Time-based separation also implies the time difference, which makes it difficult to exchange synchronous information. Thus, it is necessary to devise strategies to find times more accessible to all for the events. An alternative could be the alternation of schedules, so as not to always harm the same members.

The time zone may also involve the willingness of participants to interact. There is a chance that people tend to be more productive earlier in the day.

Information overload and delay in decision-making are also consequences of temporal separation, given the differences in timetables, schedules, rhythms, and disposition. In this case, a tool for creating polls could help in decision making, contributing to polls more efficiently and without the dependence of synchronous communication.

Another relevant role in this case could be that of a facilitator who could provide a summary table containing the most important topics that were treated in the VCoP on a

**Table 2.** Problems related to cultural diversity

Type	Problems Identified	Diretrizes para VCoPs relativas à diversidade cultural
Physical Distance	<ul style="list-style-type: none"> <li>– Diffusion in the transmission of information</li> <li>– Difficulty in informal communication</li> <li>– Insecurity due to lack of confidence</li> <li>– Difference of calendars</li> </ul>	<ul style="list-style-type: none"> <li>– Provide an easy search tool by subject</li> <li>– Register and make available old topics for the consultation</li> <li>– Define a moderator to assist in the organization and control of VCoP</li> <li>– Define a facilitator to compile the issues at the end of each day</li> <li>– Use a graphic facilitator in the events in real time to visually synthesize the topics covered</li> <li>– Follow the interactions in order to verify if the participants actually have the profile registered in the VCoP (when applicable)</li> <li>– Use calendar scheduling to organize virtual events (calendar)</li> </ul>
Temporal Distance	<ul style="list-style-type: none"> <li>– Difficulty in exchanging synchronous information</li> <li>– Difficulty in face-to-face meetings</li> <li>– Differences in participants' willingness to communicate</li> <li>– Delays in making decisions</li> <li>– Information overload</li> <li>– Wealth of affected context</li> </ul>	<ul style="list-style-type: none"> <li>– Provide an easy search tool by subject</li> <li>– Register and make available old topics for the consultation</li> <li>– Check an appropriate time in common for most members to make the main decisions</li> <li>– Set a time limit for each decision to be made.</li> <li>– Dispose a questionnaire's own tool</li> <li>– Divide the topics into different topics or forums</li> </ul>
Language	<ul style="list-style-type: none"> <li>– Conflicts of errors of interpretations due to the use of dialects and slangs</li> <li>– Loss of important topics</li> </ul>	<ul style="list-style-type: none"> <li>– Define a default language for a particular VCoP</li> <li>– Create a protocol to avoid the use of slang</li> <li>– Provide an instant translation tool</li> </ul>
Social Interaction Rules	<ul style="list-style-type: none"> <li>– Difficulty of demonstrating nonverbal emotions</li> <li>– Misinterpretation of actions</li> <li>– Difficulty in environmental governance</li> <li>– Difference of beliefs and customs related to religion</li> </ul>	<ul style="list-style-type: none"> <li>– Pre-establish rules in the VCoP so that each respects the custom and belief of others</li> <li>– Disseminate the meanings of the emoticons and symbols available for use in VCoP</li> <li>– Prohibit discrimination and disrespect to members</li> </ul>
Legislation	<ul style="list-style-type: none"> <li>– Difference in legislation</li> <li>– Government restrictions on Internet access</li> </ul>	<ul style="list-style-type: none"> <li>– Take advantage of Legislation</li> <li>– Make visible the governmental restrictions of each country for all the members</li> </ul>



given day or period. One feature that has been widely used in meetings, conferences, and other events and that could be useful in VCoP is the graphic facilitator. The graphic facilitator could, for example, graphically represent, through comics or other type of drawing, the topics covered in a videoconference.

The difference in language is a very recurrent problem in VCoPs, which makes communication difficult due to the numerous conflicts of interpretations errors due to the use of dialects and slangs. These conflicts can compromise the interaction by the loss of important content. To avoid upsets and disorganization it is necessary to set a default language for the community or, if some members have a problem with the default language, it would be viable to divide subgroups into common languages. The availability of instant translation tools can also facilitate VCoP communication.

The difficulty of expressing oneself through writing can be overcome by the use of images, emoticons and some abbreviations, nevertheless, it is necessary to avoid distortions and ambiguities. One solution would be the availability of a manual of meanings, in several languages, for the pre-determined symbols for use in VCoP.

Establishing a communication protocol is an interesting way to avoid discussions and misunderstandings in VCoP. The protocol may explain some rules and also penalties for members who disregard such rules. The descriptions of the rules must be clear, without excess or lack of elements, and without semantic ambiguity. The absence of protocol with the rules of “conduct” could drastically affect governance and lead the environment to chaos.

Another significant issue is that members of VCoPs are subject to different civil, commercial and labor laws. Therefore, it is necessary to have knowledge and care before making certain publications. Government restrictions on Internet access are a clear example of the difference in legislation between countries. Thus, it is important to make these government restrictions visible and to have the user read these restrictions before accessing the community so that they are aware of the actions that will be taken.

## 4.2 Heuristic for the Evaluation of Cultural Diversity

Based on the aspects of cultural diversity raised and their relationships (Table 2), the heuristic was developed to evaluate cultural diversity in VCoPs, containing 15 questions. Table 3 presents the questions and aspects of cultural diversity related to each of them.

The questions were described through an online form and for each question three alternatives were presented in order to analyze the occurrence of these aspects.

At the beginning of the online form some terminologies relevant to the heuristics were described, such as the meaning of VCoP and an event. An event in the context of a VCoP refers to activities such as a forum, a poll, a videoconference, among others, possibly scheduled, that encourage interaction among the participants by providing opportunities for collaboration, which may be asynchronous (e.g.: forum discussions) or synchronous (e.g.: videoconference).

Two questions of identification were also elaborated to know the profile of the evaluator (IT student or HCI specialist), and which VCoP would be evaluated.

**Table 3.** Analysis of Heuristic Questions

Diversity	Question	Aspect Evaluated
Temporal Distance	1. Is it possible to perceive in VCoP an overload of information for the contents made available?	Information overload
	2. Is synchronous event time setting done respecting time zone differences?	Schedule definition of synchronous events
	3. Is there a time limit for running events?	Time limit for running events
Physical Distance	4. Does the VCoP develop the group spirit in the members, so that they are willing to share information, knowledge and experiences?	Team spirit
	5. Is there a VCoP content history (news, forums, polls, etc.) available for the consultation?	Context Information
	6. Are there any moderators active in the community who can convey trust and confidence to members?	Difficulty of interaction
	7. Is scheduling planned for the organization of virtual events due to calendar difference?	Planning of calendars
Language	8. Are the differences in languages respected?	Language difference
	9. Is there any tool in the instant translation community itself?	Instant translation tool
	10. Is there a rule in the community prohibiting the use of slang?	Prohibition of use slang
Social Interaction Rules	11. Does VCoP allow communication in the use of symbols that represent facial expressions, posture, gestures, voice intonations, and so on (called emoticons)?	Means of communication
	12. Is there a manual of meanings of the symbols (emoticons) available for communication that can be used in the community?	Symbols meaning manual
Legislation	13. Does VCoP guide the rules of good use of the virtual community in order to guarantee the overall compliance of the legislation (e.g. information secrecy, content guarding, offensive use)?	Rules of good use
	14. Are government restrictions on members spread?	Government Restrictions
	15. Is there a more severe punishment for cases of a lack of respect for religion, beliefs, customs, among others?	Penalty for lack of respect

For each question, the same verification parameters presented in Lopes et al. (2015), they are: (i) No – when there is no occurrence, the aspect is not identified in the VCoP; (ii) Partially – partial occurrence, aspect and unsatisfactorily identified in VCoP; (iii) Yes, when the occurrence is complete, the aspect of satisfactory in the VCoP; (iv) It is not possible to evaluate when it is not possible to evaluate the question.

It should be noted that the verification parameters were adapted for each question, as can be seen in the example given in Fig. 2:

**4 - Is synchronous event time setting done respecting time zone differences?**

No. Normally, schedules are defined without worrying about time zones.

Partially. Sometimes time zone differences are respected.

Yes. There is a round of schedules so as not to always damage the same members.

It is not possible to evaluate.

**Fig. 2.** Example of parameters used in heuristics

For almost all questions, the “No” response parameter represents that the evaluated aspect has a negative impact, the “Yes” represents a positive impact, but only in question 1 the inverse occurs, the “No” answer has an aspect and the “Yes” response has a negative aspect to the evaluation.

Thus, it was possible to analyze the occurrence of each aspect in a VCoP and it was also possible to identify the VCoPs that present aspects that promote and favor sociability from the perspective of cultural diversity.

### 4.3 Application of the Proposed Heuristic

The heuristic was applied to two classes of students of the courses of Systems of information and Computer Science of the State University of the North of Paraná at previously defined schedules.

The students could choose the VCoPs for the evaluation, in order to evaluate the communities with which they had more familiarity, thus guaranteeing a more faithful result, since they could identify the evaluated aspects more easily. In the application, 52 students participated, responding in full to the questionnaire, by which we can observe:

Regarding temporal separation axis questions, it is noticed that in most cases time zone and synchronous events are not dealt with, and that in most VCoPs, there are not many problems related to content overload.

- The data are more positive when it comes to physical distance, that is, it means that the analyzed VCoPs present tools to avoid problems related to this axis, for example, they have a history of contents, they have a moderator active and develop in the group spirit. Only in the matter of planning of agendas did we get more negative responses. But despite this, this was the axis that presented the most positive evaluations.
- Data related to the language axis shows that most communities do not address language-related problems, not imposing a default language or rules on it, and also not offering instant translation tools. Although this aspect is the most important, since it is the form of communication, this was the axis that presented the most negative aspects.

- Regarding the rules of social interaction, it can be observed that most VCoPs have tools that allow the use of facial expressions, posture, gestures, voice intonations, among others (called emoticons), facts that facilitate understanding, however, do not present a manual of meanings of the symbols, which may be different depending on the region, which brings negative responses to the axis of social interaction.
- On issues related to legislation, it was possible to observe that most VCoPs have some rules, but they do not go so far as to present laws based on such rules.

Through the evaluation of different VCoPs, it was possible to verify the viability of the heuristics, which allowed to evaluate how the cultural diversity is treated by the VCoPs. It is hoped, therefore, that heuristics can contribute to the improvement of VCoPs, which, following the guidelines, may alleviate some difficulties caused by cultural diversity.

## 5 Final Considerations

This work proposes the complementation of the proposed heuristic in Lopes et al. (2015) regarding the dimension of cultural diversity. The heuristic called SVCoP contained 46 questions, organized into five main axes (1-Community, 2-Member, 3-Competency, 4-Collaboration and 5-Decision Making). Thus, a new dimension was considered in the Community axis - Cultural Diversity - adding another 15 questions to the heuristic.

To identify the problems related to sociability and cultural diversity, we studied some factors, such as physical distance, temporal separation, language difference, social interaction and legislation. In order to complement the literature review, a questionnaire was developed and applied to a group of users of VCoPs, to help identify the aspects that have the greatest impact on the use of these communities.

Then, from this survey was proposed the heuristic related to cultural diversity that complements the sociability heuristic proposed by Lopes et al. (2015).

The proposed heuristic was applied to selected VCoPs users. From the answers, the analyzes were made from the point of view of the most critical aspects and also of the analyzed VCoPs. Nevertheless, other evaluations of the instrument are already being prepared by other IHC specialists. From the application of the new heuristic evaluations it will also be possible to verify, in a more complete way, how VCoPs treat and promote sociability among its members.

As a contribution of this work, it was identified that the proposed instrument allowed to evaluate some of the main aspects of sociability related to cultural diversity in VCoPs.

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