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Towards a Transcultural Approach for Inter-Professional Communication in Complex IT Project Teams—Aiming to Avoid Cross-Functional and Cross-Hierarchical Conflicts

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Abstract: IT projects are becoming increasingly complex due to rapidly advancing technologies, the need to tackle more difficult problems, and the involvement of a larger variety of experts with different backgrounds and experiences from different countries and cultures. It is also common for these teams to often work remotely in virtual settings. In this context, besides conflicts between IT project team members, cross-functional and cross-hierarchical organizational conflicts might emerge as well. These conflicts can vary in terms of their origin, nature, and intensity. This paper is a qualitative study focused on understanding interpersonal communication-based conflicts in multicultural and multidisciplinary IT project teams. The purpose is to find a common approach that can mitigate and eventually resolve these conflicts, aiming to promote shared knowledge and ultimately reduce the gap in understanding and the likelihood of conflicts. Both secondary research (a literature survey) and primary research (involving experienced managers and experts from project teams in the Romanian IT industry) were conducted in order to reach the objectives, besides sets of lessons learned and recommendations, to develop a framework for systematic conflict analysis and to propose a practice for a transcultural framework of common team vocabulary. To achieve these, a number of conflicts were investigated in IT project teams and corresponding cases. Based on the research findings, the authors concluded that a more formal approach is needed to address the problem of conflicts. From a theoretical standpoint, this paper suggests the concept of *management diversity* and provides a typology of organizational conflicts. Nevertheless, the framework for systematic analysis of conflict typology (FACT) and the framework of common team vocabulary in the multicultural environment of IT organizational project teams, as well as the sets of lessons learned and recommendations, might be useful and inspiring for both scholars and managers, not only in the IT sector.

Keywords: complex IT projects teams; way of working; transcultural approach; inter-professional; business communication; management diversity; cross-hierarchical conflicts; cross-functional conflicts



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1. Introduction: Complexity of the IT Projects

In addition to its significant impact on public health, the COVID-19 pandemic has also presented an opportunity for digital acceleration [1,2]. IT (information technology) projects have scaled up, along with the software development teams [3] and the interest in team performance [4]. Furthermore, the pandemic has stimulated the adoption of remote work [5,6], leading to the widespread use of virtual teams [7,8] in a culturally diverse and globalized environment [9].

Organizational IT projects are becoming more and more complex, not only because of tight time requirements (as products need to have a shorter time-to-market), but also because they are faced with increasingly challenging problems that demand higher levels of difficulty to be resolved.

To better understand the concept of complexity, it is necessary to be aware of the large variety of projects and have a picture of their typology, which is important from

a management standpoint [10] (pp. 16–17). There are many criteria to categorize the projects—as size; sector of activity; purpose; complexity; etc. Size categorization depends on activity volume, cost/budget, duration, number of people involved, etc.—all related to the specific industry and area of interest that also count. Note that a complex project is different from a large one (complexity is different from size) or even a complicated project.

To comprehensively understand the multidimensional nature of project complexity, a study was conducted [11] that examined seven dimensions. The results of the study revealed that the top dimensions with the highest influence in characterizing project complexity are autonomy, diversity, size, connectivity, belonging, context, and emergence. Diversity encompasses factors such as the variety of organizational interdependencies and the geographic location of stakeholders. On the other hand, context is addressed by examining five factors: environmental complexity, level of competition, geological conditions, political issues, and cultural configuration. These two dimensions and their corresponding factors are also, tangentially, the focus of this article, as they could represent sources of conflict.

To effectively address the increasing complexity of problems, IT projects leveraging advanced technologies like artificial intelligence (AI) require input from a diverse range of disciplines. AI teams are composed of professionals such as data engineers, data scientists, machine learning engineers, domain experts, AI ethicists, sociologists, intellectual property lawyers, and more. This highlights the significant diversity of professions and the multidisciplinary nature inherent in IT project teams.

Moreover, to acquire the necessary expertise for IT projects, it is frequently essential to extend the search beyond local boundaries. This could be attributed to the scarcity of particular specialized skills in specific geographic regions or financial constraints that hinder the recruitment of professionals from a specific location. Consequently, the solution is to foster collaboration with team members from diverse countries, thereby cultivating a multicultural profile within IT project teams.

In addition to the traditional diversity types (profession-linked and cultural diversity added to gender and other demographic variety forms), the authors introduce the notion of *management diversity*—in that sense of variety of organizational structures as well as decision typology.

The scope of this work is limited to culturally and professionally diverse project teams from IT companies based in Romania (yet active on the global market). As an explorative study, it is essentially qualitative, and its purpose is to investigate the conflicts associated with the organizational IT project teams—conflicts that may appear as a result of diversity—in particular professional and organizational management diversity—on the background of cultural and language diversity. To achieve this, a combined approach of secondary research involving a comprehensive review of the literature and primary research utilizing observations and interviews was employed, as per the methodology design.

It is expected that the results of this investigation will serve the purpose of the research: to develop proposals for mitigating, solving, or even avoiding conflicts. The research outcome would be a practice for a transcultural framework of common team vocabulary aiming to facilitate shared knowledge and understanding among project team members.

Therefore, the subsequent sections of this paper are structured as follows: a review of the existing literature on diversity-related complexity, the different types of diversity and their potential role as sources of conflicts; the research methodology employed, including the materials and methods utilized; the presentation and discussion of the results; the proposal of a team vocabulary; and the concluding remarks, which encompass the research limitations and suggestions for further research, lessons learned, and recommendations.

The proposal of a team vocabulary—the nexus of this study—aims to foster a transcultural approach to enhance inter-professional communication within multicultural and cross-functional IT project teams.

2. Literature Survey on Types of Diversity and Its Role as Possible Source of Conflicts within Organizations

This section explores the diversity-based complexity of IT projects; it investigates the organizational diversity types that are visible in IT project teams, as well as their role played as possible sources of conflicts. In addition, cultural and language diversity and professional diversity, it is proposed the diversity of organizational management—in two dimensions: functional diversity and hierarchical diversity. On this complex background of diversity, a variety of conflicts happen within organizational project teams (IT project teams specifically). Hence the research questions and objectives.

2.1. Cultural Diversity

According to Hofstede [12], culture is defined as a system of shared values, rules, norms, and institutions (most of them unconscious, unwritten, and socially transmitted), aiming to regulate social life. Hofstede also makes the difference between deep culture (deeply embedded, hard to change—as national culture) and superficial culture (as organizational culture—subject to change).

While the term multicultural (e.g., multicultural environment, multicultural teams) refers to several national cultures that are circumstantially in inter-cultural contact, trans-cultural and cross-cultural specifically refer to attributes of communication (as in the present case: team communication). Authors such as Caligiuri and Lundby [13]—and many practitioners—consider them equivalent: Cross-cultural teams refer to national and global teams of two or more members located in more than two countries that share common goals and depend on each other to achieve those goals.

Some characteristics of cross-cultural project teams are that they span across multiple geographical sites and that most of the communication and work is carried out in a virtual environment (they are also referred to as virtual global teams). Moreover, such teams often cross national, economic, social, functional, and organizational boundaries in order to deliver the required expertise and skills. There are specific challenges when it comes to collaboration and communication and a higher level of complexity given the language differences, time zone(s) differences, cultural differences, and trust issues [14,15].

For the purpose of this article, multicultural project teams are understood as teams made of members belonging to different national cultures yet to the same organizational culture; so are the employees within the same company (one organizational culture) that might be located in more than one country (i.e., multiple national cultures). The choice to explore this set-up with priority is because, when looking at the link between the two, a national culture can influence an organizational culture, while an organizational culture cannot influence a national culture too much. Moreover, Hofstede [12] makes the distinction between deep cultures, such as national cultures, that cannot be changed and superficial cultures, such as organizational ones, that are consciously acquired and can be subject to change.

A particular category of team members, associated mostly with social media communities, is made up of multicultural individuals [16]. Longley [17] (p. 3) defined “multicultural individuals as the members of a society where people with different nationalities, languages, religions, and ethnicities live together. People with different cultures have different traditions, lifestyles, or ideas of values and ethics”.

Nowadays, online information sharing has become as convenient as it has never been before. Today, social media platforms are turning into interesting multicultural phenomena for sharing information throughout the world. In this globalized world, social media such as Facebook, Twitter, WeChat, etc. provide a favorable environment where information can be shared smoothly and frequently among multicultural individuals, despite their geographical and cultural differences [18].

Benessaïeh made interesting observations on culture-related concepts such as multiculturalism [19,20], inter-culturality [21], and transculturality [22,23]. She argues that “in the literature, transculturality is often used in the following meanings: cross-cultural

competence, identity continuum, and plural sense of self.” [24] (p. 21). Xu [25] discussed meta-cultural competence while teaching English as an international language. Yet Benesaieh largely discusses terms related to multiculturalism. She argues [24] (p. 20) that “multiculturalism describes specific state policies for managing cultural diversity that account for the right difference, and inter-culturality aptly qualifies the more dualistic and antagonistic relations between groups, communities, and nations that perceive themselves to be culturally distinct from one another and that are struggling to maintain that distinction”.

On ‘transcultural’ versus ‘cross-cultural’, Brink [26] (p. 344) makes the following comments: “the word transcultural refers to the beliefs in, and definitions of, concepts that transcend cultural boundaries. They are universal. All cultures have these concepts and there is a portion of the definition that is present in every culture. The word cross-cultural, in contrast, comes from the situations [...] in which cultural groups are compared and contrasted with one another. These are called cross-cultural comparisons [...] therefore, a cross-cultural study will look for concepts that occur within a culture group, describe the beliefs and customs and definitions for that culture group, then look for contrasts, similarities, and comparisons across other culture groups. Cross-cultural research yields transcultural concepts.” To note that cross-cultural research and studies are of vital importance while dealing with and managing cultural diversity—as in the case of cross-cultural management [27–29].

Culture is the central concept referred to in the terms “transcultural”, “multicultural”, “cross-cultural”, and “intercultural”. Examining these terms is particularly important and relevant in the context of globalization, “a rapidly diversifying and transnational world characterized by new mobility patterns, interconnectedness, and post-ethnicity” [30].

In addition to defining the terms, an examination of how they are perceived within the context of project management standards (specifically the PMBOK Guide from PMI) and a project management methodology (such as Prince2 from Axelos) is performed. In [31], when it comes to culture, it mentions organizational culture as one of the factors that drive project tailoring. A subchapter is dedicated to project team culture; the term “cross-cultural” is mentioned twice in the context of cross-cultural communication, and “multicultural” is mentioned once in the context of communication models. “Cross-cultural” and “multicultural” are not that richly represented, although their importance is recognized in the context of the increasing number of cross-cultural teams and dispersed stakeholders. What is acknowledged is the need for a dedicated communication model. The guidance given in this sense is pointing out the existence of a communication model developed by Browaeys and Prince. The terms “intercultural” and “transcultural” are not present. This could be explained, in the case of “transcultural”, by the fact that it is a rather new concept, and as mentioned in [22], there is no standard definition for this term yet. When it comes to “culture”, in Prince [30] positions itself as a generic method for managing projects that can be universally applied, no matter the culture and geography, but when it comes to applying it, one needs to take into account tailoring it accordingly to the corporate culture. Regarding how to perform this, there is not a lot of guidance. There are some tips and two sections with examples of how organizations tailor and embed Prince2, but the examples are so little detailed, more like a summary, so you cannot really capture the essence of the challenges and the wins. Also, there are not too many references to the national culture, although adding this might make sense, and there are no occurrences of “transcultural”, “cross-cultural”, “multicultural”, or “intercultural”.

For navigating projects where multiple cultures meet, processes, procedures, and principles represent guidance for an approach to managing projects. However, to successfully apply and tailor them, one needs to be equipped with specific competencies. This is why IPMA ICB 4.0, a competency-based standard, is particularly relevant for this study. IPMA ICB 4.0 is a competence-based standard that ensures organizations possess people who can perform tasks in projects, programs, and portfolios. It is positioned as complementary to the other standards that are process- and procedure-based [32–34].

In the IPMA ICB 4.0 standard, competences are organized in three areas: people, practice, and perspective. From the perspective area (which defines “contextual competences that must be navigated within and across broader environments”), “culture and value” competence is relevant for this study as the purpose of it is to “enable the individual to recognize and integrate the influence of internal and external factors”. Some of the skills and abilities needed are: cultural awareness; respect for other cultures and values; aligning with and working within different cultural environments; dealing with issues related to cultural aspects; and bridging different cultures and values to achieve project objectives [32]. There could be a discussion here if we could consider these skills and abilities as part of transcultural competence, but it is not in the scope of this paper.

When it comes to related competence elements, personal communication is mentioned, but not conflict or crisis. However, it happens the other way around: “culture and value” is seen as a related competence element for conflict and crisis.

Culture and language are distinct concepts (the language is the essential part of the culture), yet they are inseparable. In this respect, Sharifian’s work on cultural linguistics [35] is insightful. Language is intrinsically related to culture—as interaction with any culture is by the respective language; and social communication within any culture is by their people’s language. Therefore, considering the context of business communication in this paper, both terms—cultural diversity and language diversity [36]—are used.

2.2. Organization Management Diversity

Organizational diversity is twofold: (i) the diversity of the organization’s management structure; and (ii) the diversity of the decision-making process.

First, the organizational management structure can be either functional or hierarchical, basically. However, in practice, there are a large variety of intermediary forms or combinations between the two basic types that can be met. Hence the functional and hierarchical diversity. In this respect, Yu, Kilduff, and West [37,38] have studied conflicts across hierarchies and argued that the ability to accurately perceive status hierarchies reduces status conflict—to the benefit of group performance.

Secondly, as decision-making typology, Kaneman and Tversky [39] distinguished between risk-free and risk-related decision processes: “Analyses of decision-making commonly distinguish risky and riskless choices. The paradigmatic example of a decision under risk is the acceptability of a gamble that yields monetary outcomes with specified probabilities. A typical riskless decision concerns the acceptability of a transaction in which a good or a service is exchanged for money or labor”. When probability is [quite well] assessed, then the decision process is less uncertain; it is just risky; decisions under risk are frequently met in both daily and business life: “Making decisions is like speaking prose—people do it all the time, knowingly or unknowingly. It is hardly surprising, then, that the topic of decision-making is shared by many disciplines, from mathematics and statistics, through economics and political science, to sociology and psychology” [39] (p. 433).

The risk dimension is associated not only with the missing information (uncertainty), but it is also related to time—the longer the time horizon; the more risky the decision is. This is exactly the case with strategic decisions.

In publishing the findings of their research, Kahneman, Lovallo, and Sibony [40] stated this: “When executives make big strategic bets, they typically depend on the judgment of their teams to a significant extent”. Hence, it is of interest to explore possible (even latent) conflicts between executives and project teams.

By categorizing the business decisions, Lovallo and Sibony [41] have analyzed 1048 major (strategic) decisions made over five years (back in the 2000s) by type and by company function. They asked managers to report on “the extent to which they had applied 17 practices in making that decision” (eight practices were related to the quantity and detail of the analysis, and nine practices described the decision-making process). They found that sound strategic decisions should be bias-free—in harmony with Tversky and Kahneman, who found that decisions under uncertainty are often influenced by biases [42] (p. 419):

“Many decisions are based on beliefs concerning the likelihood of certain events [...] Occasionally, beliefs concerning uncertain events are expressed in numerical form as odds or subjective probabilities. [...] The subjective assessment of probability resembles the subjective assessment of physical quantities such as distance or size”.

Lovaglio and Sibony [41] recommend a ‘four-step path’ for “leaders who want to shape the decision-making style of their companies”: (i) decide which decisions warrant the effort; (ii) identify the biases most likely to affect critical decisions; (iii) select practices and tools to counter the most relevant biases; (iv) embed practices in formal processes. This approach eventually led to the “strategic decision architecture of the firm” [43].

Therefore, besides the functional and hierarchical diversity, the decision process diversity highlights the primacy of strategic decisions as opposed to other types of decisions (call them non-strategic). Kahneman, Lovaglio, and Sibony [44] argued that a disciplined strategic decision-making process is necessary to reduce strategic errors.

The literature survey on organization management diversity shows that studies related to strategic decisions are focused on the formalization of decision-making procedures in order to reduce the probability of strategy failures and points to the scarce literature on cross-functional and cross-hierarchical conflicts between project teams and company executives—conflicts that might have a negative impact on the organization strategy—and how to avoid these conflicts.

2.3. Professional Diversity

Projects need people of diverse professions to interact, and IT projects need even highly specialized, diverse professions in order to have a team to perform and achieve the project goal/s. Hence, attention is to be paid to professional diversity and inter-professional communication while dealing with IT projects.

The word ‘inter-professional’ refers to ‘between different professions’ (i.e., type of work that needs special training or a particular skill). Rizzo Parse [45] (p. 5) recommended avoiding the possible confusion between ‘inter-professional’ and ‘inter-disciplinary’, based on definitions of profession and discipline: “A discipline is a body of scientific knowledge that is ever-changing with the integration of creative conceptualizations and formal research findings [...], a body of knowledge constituted with the existing theories and frameworks that are the basis of research and practice endeavors. The focus of the discipline is to expand knowledge to enhance the scientific grounding [...] A profession is an organizational body consisting of persons who are committed to a vision and are educated with particular disciplinary knowledge to promote that vision. “The focus of the profession is to define, regulate, and monitor standards of education and practice [in that particular area of knowledge]”. It is important to note that managers are a particular type of professional.

Daudt, van Mossel, and Scott [46] (p. 8) made the distinction between inter-professional teams and multidisciplinary teams while analyzing a large team that had both inter-professional and multidisciplinary team members: “A multidisciplinary team is academic in character because it brings together members trained in different disciplines, whereas an inter-professional team is professional in character because it brings together members [with different professions. . .], plus academic researchers” [47]. Thus, you can have inter-professional team members corresponding to the same discipline but with different roles that correspond to different practices and skills. A similar distinction is valid when discussing cross-professional vs. cross-disciplinary.

In this respect, Ellingsen et al. [48] conducted research on students engaged in a cross-disciplinary project (engineering students versus work and welfare students). In addition, fresh project solutions, the research results have revealed cross-disciplinary conflicts: “major disruptions and conflicts driving the student projects, exposing inviting confrontations, social identity threats, managing diversity, and friction of ideas”—concluding that there is a need for tools and methods for training students (aka project team members).

For the purpose of this article, the IT inter-professional teams are under scrutiny. However, the cross-disciplinary teams will not be excluded. An argument in this respect is

provided by Angée et al. [49]: the analysis of big data and analytics projects highlighted that the main characteristics of such projects are that work is conducted by cross-disciplinary teams that are geographically distributed. Notably, when referring to cross-disciplinary collaboration, Mullaly's [50] definition is applied—as representing the integration of different areas of expertise (be it subject matter knowledge, technical domains, organizational delineation, business emphasis, or operational focus).

2.4. Diversity as a Possible Source of Conflicts

Diversity does not necessarily mean conflicts; moreover, diversity assumes different ideas and opinions, and constructive debates on different opinions are supposed to be beneficial. This is exactly what happens in project teams—in IT projects in particular—as long as suitable principles and communication rules and protocols apply.

Culture-based differences—therefore; culture-based different opinions—are inherently associated with multicultural/multi-linguistic project teams among their members. Normally, the debates on these divergent opinions lead to better technical solutions for better team performance [4,37,38,51], and rarely to conflicts.

In the case of organizational IT projects under scrutiny, it is expected that the higher the hierarchy level of organizational management, the less frequent cultural-diversity-based conflicts will be. Although there are studies that have revealed that cultural differences among project teams cause conflicts, misunderstandings, and poor project performance. In addition, Ogbodo [52] found that, in a multicultural software development inter-professional project team (including software developers, testers, and business analysts), cross-cultural differences led to miscommunication and misperception that resulted in conflict. Conversely, Agarici, Scarlat, and Iorga [53] provided examples of avoiding conflicts by turning cross-cultural management conflicts into collaboration while working in global project teams.

A recent doctoral study conducted by Nnaji [54]—based on theories developed by Avruch [55,56] and Kim [57]—investigated challenges faced by 15 project managers or senior leaders of “multicultural software development teams with diversified team members” from the Nigerian IT industry. The results included language barriers, cultural differences, perceptions of time, a lack of tolerance, differences in work cultures, and perceptions and stereotypes.

Another study conducted by Aza [58,59] has explored the challenges faced by 12 project managers “leading multicultural software development project teams to successfully manage and resolve cross-cultural interpersonal conflict amongst project team members”. The findings exposed the challenges (as language barriers, cycles of mistrust, and competitive attitudes) and the skills needed (as excellent communication, negotiation, and emotional intelligence skills)—in order to minimize; eliminate; or mitigate the obstacles and the “resulting interpersonal conflicts”.

As culture-/language-based conflicts are relatively frequently studied, the conflicts resulting from organization management and professional diversity are less so. Therefore, there is an interest in investigating of conflicts generated by organizational management diversity (still in a multicultural context) within IT projects; the higher the hierarchy level, the higher the interest (topping the strategic level).

By identifying these conflicts, their actors, and the reasons behind them, analyzing and understanding their mechanisms, and assessing their intensity and management level (hence the research objectives listed in the next section), it is possible to propose possible solutions for avoiding these conflicts—which is actually the purpose of this study.

According to the IPMA Competence Baseline (ICB) standard [32], conflicts—regardless of their source and environment, industry, or organization—pass “through various stages” that “can be summarized in three broad categories” or stages of evolution, which reflect the increasing intensity of the conflict: (i) latent, (ii) emergent, and (iii) escalated. In this paper, the research focus is on the first two stages, before conflicts escalate, when solutions to solve the conflicts have higher chances of succeeding—namely:

- Latent conflicts (potential, slumbering, but not yet visible or acknowledged);
- Emergent conflicts (visible but still rational).

The term ‘conflict’ (in this paper) refers to these early stages, when conflicts do not escalate to open conflict. It is not necessarily assuming a fight but divergence in stand-points, opinions, approaches, options to act, or even courses of action—often as a result of misunderstanding of the other side’s statements because of differences in linguistic; educational, and/or professional background, individual, and/or organizational culture (i.e., cultural differences in their largest sense).

3. Materials and Methods

As presented in the previous section, conflicts within complex IT organizational projects may emerge as a result of diversity—in particular professional and organizational management diversity—on the background of cultural and language diversity. The scope of work of this qualitative, exploratory, pilot study concerns the IT industry, in particular the interactions within companies from this industry, based in Romania yet active in the global economy, in particular culturally and professionally diverse IT project teams. This study aims to enhance the understanding of conflicts and their origins in cross-functional and multicultural IT project teams.

The overall purpose is to investigate the conflicts associated with the organizational IT project teams, conflicts that may appear as a result of diversity—in particular; professional and organizational management diversity—on the background of cultural and language diversity; and to develop suitable tools for addressing these conflicts.

This investigation does not provide a holistic view, but correlated with theoretical concepts, it can give a direction regarding which areas require special attention and further investment in order to better approach conflicts. Here we could include the proposed practice for a transcultural framework of common team vocabulary that aims to facilitate shared knowledge and understanding among team members. This practice, used not as a stand-alone but with other tailored practices (e.g., enhanced project charter from [60]), principles, processes, and methods, can represent an approach for handling inter-professional communication in complex IT project teams. Concrete objectives are formulated as follows:

- To develop and test a framework for systematic analysis of the conflict typology (management conflicts included) in the multicultural environment of IT organizational project teams;
- To propose a practice for a transcultural framework of common team vocabulary aiming to address some of the communication issues and complexities in such an IT project set-up;
- To formulate a set of lessons learned (while working in multicultural/multi-linguistic and inter-professional IT project teams)—aiming to avoid management conflicts (as cross-functional and cross-hierarchical conflicts).

The data were collected from IT managers and professionals with work experience in organizational multicultural projects in IT companies with international activity, located in Bucharest—the largest Romanian IT business hub. Notably, the Romanian IT industry is very dynamic [61] and its IT professionals are visible on the international stage—as Romania made the Top 10 countries with the best programmers in the world, ranking fifth [62]: “Romania is one of the places to hire in the IT market [...] and almost 90% of Romanian developers speak English and many other foreign languages; it is a particularly attractive destination due to its large base of engineers as well as its low-cost outsourcing capabilities”.

The research included both secondary and primary research.

The secondary research (literature survey mainly) served as this study setting: to picture this study background, define the terminology used in order to avoid terminology confusions, and identify the rather scarce area of multiple-diversity-originated (cultural diversity, professional diversity, organization management diversity) conflicts within organizational IT projects in Romania.

The primary research consisted of interviews (based on a semi-structured interview guide) with selected IT young managers and professionals (under 40 years old) experienced in multicultural IT projects (at least 1 year), completed with the authors' lessons learned from their own professional-specific work experience acquired in IT projects (counting over two decades, cumulatively).

An interview guide served as a research instrument. It was developed by observing the research objectives. The structure of the interview guide is depicted in Table 1.

Table 1. The structure of the interview guide and its mapping.

Section	Research Issues	Details
0	Demographics	Age, gender, nationality
I	Work experience	<p>Focused on work experience as a manager/decision-maker against total work experience</p> <p>Position and duration—in organization/s</p> <p>Position and duration—in projects</p> <p>Type and size of organization</p>
II	Intercultural experiences (inter-linguistic interactions)	Interactions with people from other cultures than yours, as a direct result of your job, within the organization (circumstances, type of culture and interaction, intensity, duration, frequency, etc.)
III	Identification of possible management conflicts and the reasons behind them	Focus on management conflicts—on the background of inter-culturality (parties in conflict, conflict type, intensity, duration, frequency, etc.) Were they inter-professional, cross-functional, or cross-hierarchical? Were they decision-making- or strategy-linked?
IV	Description of the most significant management conflicts ¹	<p>In-depth discussion on:</p> <ul style="list-style-type: none"> - Conflict circumstances - Reasons behind - Conflict mechanism (description, in specific, concrete terms) - Conflict resolution
V	Major lessons learnt	(Open)
Other comments		Other details, explanations, and arguments

¹ More than one example is accepted.

It used a semi-structured interview guide, which was chosen as the type most suitable to the research objectives (i.e., to capture as much as possible the variety of tensions and/or conflict situations experienced by interviewees—mainly sections III and IV in Table 1). It also has the advantage of possible identification of conflict intensity and of “catching the company atmosphere”, as well as the ability to conclude on lessons learned by the interviewees (section V in Table 1). In addition, being able to identify and capture facts and opinions, this type of interview guide is the best compromise between rigidly structured and relatively imprecisely unstructured types of interviews.

The interviews were conducted from 2020 to 2022, and the data collection involved three main phases.

- (i) Sending letters of invitation by e-mail to potential participants in the interview: young graduates of engineering schools of computer science and electronics who accepted to be interviewed and satisfied certain criteria: at least one year of work experience in organizational IT projects and experience intercultural interactions in a multicultural environment at their workplace (phase 1, 2020).
- (ii) Running interviews properly with the selected respondents using the interview guide (phase 2, 2021). In order to process the data collected during interviews, an instrument

for data analysis was developed: a framework for systematic analysis of the conflict typology—FACT. During this core phase, the main activities were: identification of the inter-cultural/inter-linguistic interactions (as sources of possible conflicts in multicultural settings); identification of the conflicts, conflict parties, intensity, and type of each conflict identified; and identification of conflict mechanisms, from causes to resolution.

- (iii) Selectively running a number of in-depth interviews focused on unclear issues or significant particular elements of the intercultural interactions experienced by some interview participants (i.e., relevant to the conflicts identified)—when necessary only (phase 3, 2022).

For phase one, the authors have used lists of contacts (graduates from engineering schools of Computer science and Electronics, working in the IT sector). In addition, the willingness of the respondents to be interviewed and to be located in Bucharest area, the requirements were to work in a multicultural environment and have more than one year of IT-project-experience. The targeted population was young (under 40), highly educated professionals, and experienced in IT project work.

The second phase was meant to identify the relevant intercultural interactions that generated tensions and were considered conflicts [31]. It aimed at having a panel of 16 valid and relevant (from the standpoint of conflicts identified) sets of data/answers from 16 respondents from 16 IT companies—to be further analyzed using the FACT instrument (by participants and their project position, causes, intensity, management level, etc.). The size of the panel (16 participants) was decided following the recent literature analysis [54,58,59] as well as based on the author's experience while running panel interviews/focus groups. In their doctoral research projects, Aza [58,59] opted for a size of 12, and Nnaji [54] analyzed 15 managers of multicultural software development teams with diversified membership. Since our panel included managers and professionals, the decision went to a panel of top 16 candidates with maximum experience in IT projects and maximum intercultural exposure from 16 different companies.

After the second phase (phase 3), the answers from selected companies were analyzed, and then focused interviews with more in-depth questions were conducted in order to complete missing details when necessary (as circumstantial details, diversity-related details, conflict mechanism and resolution, etc.)—aiming at completing the image of conflicts that emerged in the selected companies. In these situations, in-depth interview questions (open questions, in general) might be asked—in order to find important details after the identification of significant conflicts. These in-depth questions, which were asked in particular instances, are not mentioned per se in Table 1; however, they were still in the area mentioned by the interview guide (Table 1). As examples: 'Which was your feeling when you realized that ...?' Or, 'Have you considered another course of action when ...?' In principle, all the selected panelists can be subjects of focused interviews. In practice, only part of them is in-depth interviewed, related to cases of interest (e.g., Case 2 and Case 3).

By the end of this exploratory study, it is expected that a set of lessons learned will be developed, which, eventually, might serve to draft a framework working methodology for IT professionals working in multicultural/multi-linguistic and inter-professional project teams, ultimately aiming to avoid possible management conflicts (either cross-functional or cross-hierarchical), mostly at the strategic level, in organizations active internationally in the IT industry.

4. Results and Discussion

There were respondents from 16 selected organizations, considering their international activity (yet Romanian companies) and their project-based multicultural teams, as well as their willingness to be interviewed, considering their significant expert experience acquired predominantly in multicultural IT or IT-related projects as part of their total work experience.

4.1. Demographics

Organization size largely varies from small to large companies (11 to 12,000 employees; over 100,000 employees globally), while IT project teams count between 5–6 and 20 team members.

The age of the respondents ranges from 24 to 40 years; gender is pretty balanced.

As designed, the work experience of the experts interviewed is predominantly in projects. Their cumulative work experience is 68 years, out of which 62 years represent work experience in IT or IT-related projects—which means almost four (3.88) years as an average of their project-based work experience. In other words, the interviewed panel mirrors a young, expert labor force of highly educated professionals who work predominantly on IT projects.

As this study was conducted during 2021–2022 (i.e., a full coronavirus pandemic that was associated with remote project work), the remote work negatively influenced (mostly delayed) the interviewing process.

4.2. Hierarchy—Project Hierarchy versus Organization Hierarchy

The distribution of the project positions as compared to the organizational management positions—measured by the number of years of project work—is depicted in Table 2.

Table 2. The project positions of the interview panelists are associated with the corresponding positions in their organizations, respectively (in the cumulative number of years of their project work experience).

Position in Organization	Project Position [Cumulative Number of Years of Project Work Experience]		
	Project Team Member	Project Management Team	Project Manager
Top management ¹	-	-	-
Middle management	1	1	12
Front-line management	8	-	-
Non-managerial position	27	11	2

¹ There is no top manager directly involved in projects. However, conversely, a former top manager is currently involved in a project management team.

Table 2 illustrates significant associations between {project team member and non-managerial position in organization} and {project manager and middle-manager position in organization}, which are marked in light-blue color (27 and 12, respectively). Table 2 also suggests the ascending trend from the first position {project team member and non-managerial position in organization} association to the second {project manager and middle-manager position in organization}—which is also visible in Table 3.

Table 3. The distribution of the project positions of the interviewed IT experts is associated with the corresponding positions in their organizations, respectively (as the number of interviewed panelists).

Position in Organization	Project Position [Number of Interviewed Experts]		
	Project Team Member	Project Management Team	Project Manager
Top management ¹	-	-	-
Middle management	-	-	2
Front-line management	1	-	-
Non-managerial position	11	2	-

¹ There is no top manager directly involved in projects.

In addition, strong association {project team member and non-managerial position in organization} that was already mentioned, Table 3 also suggests most likely possible career

paths in the one's professional promotion as project manager—getting promoted either through organizational hierarchy (as manager) or through project hierarchy (as member of project management teams)—as intermediary positions. Obviously, other possibilities are not excluded.

4.3. Multi-Culturality in IT Projects

Multi-culturality refers to more than 25 other cultures/countries (two respondents have mentioned “Arabic” countries and “Islamic” cultures, and another one just “Scandinavian” countries) from five continents (but Latin America). Their distribution by project positions is displayed in Table 4.

Table 4. The cultural diversity, as the number of different cultures of origin in interaction (Romanian included) encountered by panelists—according to their project experience and position.

Project Position	Project Multiculturalism [by Number of Cultures ¹ in Interaction]			
	Two	Three	Four or More	Average
Project manager		1	3	5.00
Project management team		1	3	5.75
Project team member	2	3	9	4.50

¹ In this table, the number of cultures is considered equal to the number of languages. The total is higher than 16, as several experts have experienced more than one multicultural project.

The distribution by number of languages shows a neat dominance of ‘four or more’ different cultures, which reflects a relatively higher degree of multiculturalism.

The distribution presented in Table 4 should not be misleading: the higher figures in the ‘team member’ line are because the number of team members is dominant in the group of interviewed experts (12 out of 16 in Table 3). The truth is exactly the opposite: the team members’ average figure is the lowest (4.5). There is a straight explanation—as behind ‘four or more’ count 4–7 cultures/languages. Therefore, a more meaningful indicator of multicultural exposure by project positions is the average number of linguistic/cultural interactions per project position an interviewed person is exposed to, which demonstrates a more balanced multiculturalism among the project positions yet points to higher multicultural exposure for managerial positions.

In addition, it should be observed that members of the project management teams display higher multi-cultural exposure than project managers (equally represented in the panel), which could be explained by the fact that the size of the project management teams confers larger exposure—and; consequently; they simply are in contact with more project colleagues than project managers.

Notably, the number of cultures of origin is considerably larger than the number of languages actually spoken by panelists along their project work experience—call it ‘project language’ (English, French, and German—in this order by their frequency of making use of it).

Therefore, the panelists’ multicultural experience is multifaceted: (i) the panelists’ own experience working with their project colleagues, performing in the ‘project language’; (ii) the panelists’ subjective opinion on their colleagues’ performance (in the ‘project language’); (iii) the panelist’s experience as a result of interaction with people belonging to different cultures (beyond the formal communication in the ‘project language’). Even if this study focuses on the first standpoint (i), being aware of this threefold approach is important for understanding the opinions related to project conflicts (presented in the following section).

Thus, it is expected to meet two categories of cultural interactions, according to their cause: cultural clashes and management-related conflicts. However, both could have roots in the poor command of the ‘project language’, which can be overcome by using suitable

metaphors in communication—even suitable proverbs [63]. Nonetheless, “Metaphor is a powerful and wonderful tool. Explaining one thing in terms of another can be both illuminating and pleasurable, if the metaphor is apt. But that ‘if’ is important. Metaphors can be particularly helpful in explaining unfamiliar concepts” [64] (p. 71).

4.4. The ‘Project Language’ in Multicultural Projects

The term ‘conflict’ (in this paper) is not necessarily assuming a fight but divergence in standpoints, opinions, approaches, options to act, or even courses of action—often as a result of misunderstanding of the other side’s statements because of differences in linguistic, educational, and/or professional background, individual, and/or organizational culture (i.e., cultural differences in their largest sense).

The following case illustrates one of the most common types of unintended conflicts in multicultural projects, caused by imperfect use of the ‘project language’ and/or business communication rules.

Case 1: Mastering the ‘project language’.

Some time ago, one of the authors (call him A) was experiencing his very first position as team leader while working on an international project with American partners (a small team led by a chief of party—CoP).

Instance One.

By the end of a staff meeting, A was assigned to produce a comprehensive report: “Can you do this report?” A was asked by CoP. Instantly, A responded, ‘Of course, I can do it.’ Unfortunately, no further discussion followed (on deadlines, milestones, etc.)—since the meeting was working just fine, in a very friendly and collaborative atmosphere—and no party considered further discussions on this subject as necessary.

The time flew by, and by the end of that quarter, A was asked to present the report, but there was no report ready. Why? Because of the English ‘project language’, which was not A’s mother tongue. In the A’s mind—which worked according to its Romanian pattern—the word ‘can’ means not only ‘can’ (as a firm engagement) but also ‘to be able to’ (as a potential to do only, with no firm engagement to do actually). The discussion that followed made things clear, and the report was produced.

Instance Two.

In the same project, at a certain point in time, while working on the human resource appraisal, A was told that a certain (although unimportant) action was influencing the organization’s morale. Unfortunately, A has taken the word as moral (ethics) and... got very upset. The frozen atmosphere was installed between the two parties, and only after an explanatory open discussion were things reset. Needless to say, the project was completed successfully.










These two instances highlight the key importance of mastering the “project language” (be it English, German, or Chinese). If not, make sure that the communication process is right and that the message is transmitted undistorted and well understood by the recipient (the crucial role of communication feedback should be underlined). Concluding, in novel or uncertain culturally diverse circumstances as those illustrated in Case 1, standardized formulations may be of great support if used as alternative, redundant communication—in order to avoid unintended conflicts (similar/analogous to those presented).




4.5. Project and Organization Interactions: Types of Conflicts Identified

There are several types of interactions and conflicts identified as a result of interviewing the same panel of experts with experience in IT project work.

Table 5 synthetically summarizes the results. There are three dimensions of this mapping: by project position of the panelist (columns); by interaction intensity from the least to the most intense (by lines)—symbolized with capital letters—X, D, L, and I, respectively; and by nature—predominantly cultural diversity-based (marked in green color, according to the legend); and predominantly management conflicts (cross-hierarchical in purple and cross-functional in red).

Table 5. The map of the interactions and conflicts identified (a typology); their intensity and frequency by project positions of the experts interviewed.

Interaction Intensity	Conflict Identification ¹ by Project Positions			Comments
	Project Team Member	Project Management Team	Project Manager	
X (exchange of different information or opinions)				Usually enriching experiences based on inter-cultural differences
D (different views or expectations declared)				Even complex interactions are mediated and solved (Case 2)
L (low impact conflicts, ultimately may be solved)				If not addressed, may evolve to managerial conflicts (Case 3)
I (impactful, longer-term and strategy conflicts)				If happens, organization strategy conflicts involve project managers

¹ By number of interviewed people. Total is higher than 16 since the interviewed experts experienced more than one multicultural project. Legend:  cultural diversity-based tension;  cross-hierarchical conflict;  cross-functional conflict.

There are several obvious observations as a result of analyzing the map depicted in Table 5.

There is a clear cut between the upper part of the table (X and D lines)—where the most interactions (about 76%) are depicted—and the lower part (L and I lines)—where significantly fewer (24%) are shown.

Note that X and D interactions are generated by the diversity of team members (in general, cultural/language diversity), which is very common in IT project teams. In opposition, L and I lines describe real conflicts—either low-impact or more impactful interactions.

All project team members are associated with X and D-type interactions, all of which cultural diversity-based. These ‘conflicts’ are easy to solve through inter-party explanatory discussions during either formal meetings or mostly informal talks among team members. There were no team members associated with impactful management conflicts (L and I).

The project managers are involved in all types of interactions, except the basic X-type. As expected, most of them are real, impactful managerial conflicts (5 out of 11 are cross-hierarchical, and 4 out of 11 are cross-functional).

The members of the project management teams display a balanced, in-between variety of interactions (both inter-cultural and managerial), although they are less inclined (4 out of 15) towards impactful L and I-type conflicts.

Case 2: Project team members within the organizational structure.

E was a young engineer working part-time (4 h/day) as a QA (quality assurance) member in a project scrum team within a larger organizational IT project. E has remained the single QA engineer in that scrum team after other people from the QA department left the company. At that point in time, the QA manager (located in India) had a discussion with E about taking the position full-time. During the discussion, E told the QA manager that he wanted to advance in his career, which was welcomed by the QA manager. Then things were not so straight-forward. Several weeks passed, and E did not receive any news about changing his employment status. Therefore, the scrum master (from the team) talked to the QA manager (within the organization) when it looked that E was going to be a full-time QA engineer (this is what the QA manager suggested). In addition, during that period, E had another interview with the company’s HR (located in Romania) in order to take that full-time position, with positive results (E would obtain that full-time position as QA engineer).

In reality, things looked differently, to the Es disappointment. The QA manager did not make a final decision about Es employment, and he continued to search for people with greater work experience in order to remain in this position for a longer period—despite Es commitment to advance in his career. The QA manager told E that he was ‘on top of the list, but this does not help’. On the other hand, from the scrum master’s point of view, it is much more difficult to hire somebody from a different company and train that person.

Note that, in the end, a compromising solution was applied: the newly hired QA engineer (still part of the same scrum team) was supposed to report to the QA manager, and A switched to a position of full-time applications engineer—reporting directly to the scrum master (who actually is the manager of the developers and applications engineer).

It is debatable if the QA manager’s decision is influenced by his culture or has other organizational reasons—either functional or hierarchical; maybe a mix of them. Maybe in India people are more conservative and want to occupy a position for longer periods, while the Romanian young engineer was more dynamic and willing to develop and quickly advance in his career. Maybe there is a difference in culturally embedded expectations since the Indians—as opposed to Romanians—are more passively listening to their managers and doing what they are told to do; while they are less inclined to openly declare their point of view.

Apparently the conflict is between the E and QA managers (concluded in individual frustration over the first one); actually, there are at least three other more profound organizational conflicts:

- (i) QA manager versus HR officer(/s) (as members of different functional structures within a hierarchical organization, although);
- (ii) QA manager versus scrum team master (as members of different hierarchical and functional structures within the organization); and
- (iii) both QA and HR departments (as organizational structures) versus scrum teams (as project structures).

Yet it is certain that the solution(/s) to the minor conflict presented in this case should be in the neat, clear-cut design of management hierarchies: project management versus organization management; functional versus hierarchical structures; setting the right expectations in business communication—both cross-functional and cross-hierarchical; all these on top of cultural differences.

Case 3: Team of software developers versus organization management.

There was an organization with no major conflicts for several years. The only ‘creative conflicts’ were generated while people exchanged opinions about how the software produced by the project team should feature, work, or be implemented—which is quite normal among the software developers.

The project team worked using the scrum framework, which assumes a certain degree of management flexibility in that it puts less pressure on the team, leaving it to self-manage internal activities (like professional team meetings). As such, members of the scrum team participate in the meetings, which are fixed by mutual agreement, and the only way to participate at this meeting is by team invitation.

When the organization’s Belgian management team was replaced by an American (USA) one, the new manager was required to attend the review meetings (at the end of each project’s print) called by herself (at a time convenient for herself). As a consequence, the scrum team members had to modify the meeting schedules so that review meetings and retrospective meetings were moved later that day, when many members of the scrum team usually finish their work schedule. Therefore, some team members—who were not able to attend the meetings (personal reasons included)—were a little bit outraged.

The conflict situation was addressed when the scrum team master discussed it with the new manager and explained the difficulties generated by imposing a rigid schedule on a self-managing scrum team.

This case illustrates how organization management with strong cultural prints (as a rather dominant American hands-on style) collides with IT professional project teams

and their own working environment (a Scrum framework that allows relatively flexible self-management).

The IT projects discussed are organizational projects directly associated with the company's strategy. Thus, the types of tensions presented (if not addressed properly) could develop into more impactful cross-hierarchical and cross-functional conflicts, which may negatively influence the company's strategy.

It is not accidental that illustrative cases 2 and 3 were focused on scrum teams, since scrum methodology for software development [11,65] is recommended to be used in complex IT projects.

In addition, since IT companies provide their clients with IT solutions (developed by professional teams), interactions between IT project teams and the company's clients are not uncommon. Hence, this enlarged multicultural environment is a potential source of misunderstandings and likely inter-professional conflicts, on top of inter-cultural and managerial conflicts.

Consequently, the main recommendation made following this exploratory pilot study is to draft a proposal for developing a framework for inter-professional communication in IT project teams while working in a multicultural environment.

5. Towards a Transcultural Approach for Inter-Professional Communication in IT Projects

This paper is built around one of the biggest sources of conflict (when the IT project set-up involves cross-discipline and/or cross-cultural teams): flawed communication. Although this is pointed out as an inherent issue with a high probability of being present in the risk register, there is a need to acknowledge it more, be conscious of its presence, and constantly work within the team towards finding a solution.

That is why, in order to address the issue in a more formal way, the authors propose a concept and possible template for a common *team vocabulary* and *a process to obtain it*. The aim is to mitigate possible tensions and conflicts by decreasing the gap in understanding and having shared knowledge.

The team vocabulary can be seen as a collection of words and their definitions specific only to a given project and a given project team. This would be in line with considering projects as having their own internal culture. [32] "Projects are often integral parts of the parent organization, and, at the same time, projects are temporary organizations that need their internal culture to be aligned with external cultures (external adaptation and internal integration)". However, the "team vocabulary" approach focuses on building and having cohesion internally while acknowledging and taking into account the need to navigate multiple cultures or to align with corporate culture. Also, in the latest edition of PMBOK [31], a whole subchapter is dedicated to project team culture and reckons that each project team develops its own culture, be it by informal means (through behaviors and actions of team members) or formally by creating norms. The team vocabulary is correlated with the project team culture, and its main purpose is to ensure understanding among the project team members but can also be used to improve interactions with project stakeholders (other potential uses are optional and of less focus).

An Illustrative Example: The Word "Staging"

Looking at the word "staging," there are some different meanings it could take based on the project within which it is used.

In the context of a business intelligence project, "staging" can refer to the staging area, which is an intermediate storage area used for data processing during the extract, transform, and load (ETL) process.

In other projects, "staging" can refer to the staging environment, which aims to be a replica of the production environment, and it is used before the deployment to production for testing. However, when it comes to the extent to which this environment should resemble production, what should be its purpose, who should have governance over it,

and who should use it, things can vary significantly, up to the point where they represent distinct concepts. For example, in some organizations, the staging environment was used for testing by the devops and development teams to see if upgrades to the application worked correctly. They could test installation, configuration, and migration scripts, as well as run load and performance tests. In other organizations, this environment was owned by the product team, and they would decide what changes should be made there by the development team. The environment was then accessed by some “champion” users (a restricted number of users with a great knowledge of the application) who could have a preview of some functionalities and test them. In other organizations, the staging environment was more of a demo environment. It was used by the sales team and product to showcase the application and give access to some prospective users to test it. The risk underlying such terms is that some professionals might think they know what they mean based on their previous experience and not identify the wrong understanding until later on in the project. The source of confusion is in understanding the terms by experience, not by knowledge: “know-how” versus “know-what”.

What will be added at the end to the team vocabulary is a mixture of project specifics and team members’ experiences. One example and possible template could be as illustrated in Table 6.

Table 6. Example of a team vocabulary template/format.

Domain	Word	Team Definition	Example *	Dictionary Definition
IT	Staging	An environment designed for demos is used for pilots and close-circle customers. The Devops team is in charge of maintaining it, and the product owner controls access.	<Attached link to the architecture document>	N/A

* Here any type of additional support document can be added: drawings, diagrams, etc. (whatever could lead to quick clarification).

How does it differentiate from other types of vocabularies/glossaries within an organization?

One main differentiator is that it is out of the team’s scope to help learn thoroughly new areas of knowledge from scratch; the idea is just to obtain a basic understanding of the concepts and get acquainted with the vocabulary just enough to understand each other in project interactions (these are daily in case agile is used).

Also, the objective is not to create a vocabulary that can be reused by other projects/teams. While this is not excluded and might be possible, it is not a focus. The intention is to obtain a team vocabulary tailored for a specific team and project, with the aim of making communication more efficient. Once the project is over, the vocabulary can be considered obsolete.

The team vocabulary can be used in various ways, and it can also be a means of helping new members ramp up or communicate with external stakeholders. The vocabulary can be integrated with the communication application used by the team (e.g., Slack, Google Chat, Skype, etc.).

Last but not least, the exercise of creating the team vocabulary can be seen as an exercise of team synergy. Leveraging each team member’s strengths and unique perspectives to produce remarkable results can be achieved if the team members know each other’s skills and expertise, have a good working relationship, and, in this way, have implicitly efficient communication as well. It is a good set-up to take advantage of the team members who possess transcultural competence. In [24], transcultural competence is seen as “a chameleonic disposition for strategically rearranging one’s sense of cultural identity by drawing from an expanded repertoire—according to the moment; context; and location”. Viewed as a competence, transculturality is attained only by “those individuals who, by virtue of a mixed background or lived experience, participate in a plurality of actively connected cultural flows and worlds and need a precise term to express their mobility and multifaceted identity”. In [66], it is emphasized that transcultural competence can

be studied and developed. This will give an advantage to the organizations, facilitating growth, as it can “bridge gaps between local norms, standards, perceptions, and working habits” and “stimulate better usage of talents, facilitate socio-cultural adaptation, and foster an inclusive society”. Overall, “transculturally competent workers and leaders with cognitive, affective, and social knowledge will be more adaptable and flexible on a local and global stage, better prepared to face technological progress in all spheres.” Some of the skills and abilities presented in the ICB 4.0 standard in the “culture and value” category could be related to this transcultural competence and are complementary to the “project team vocabulary” as they share similar purposes and acknowledge the existing challenges of navigating multiple cultures.

One of the biggest points of reflection when it comes to the team vocabulary exercise is: how much can we simplify? And in fact, this is a key aspect because the practice relies on finding just the right balance to give enough information so that a concept is sufficiently clear to conduct the work needed and not to give details that are not relevant in the given context. In this case, we come back to the idea that the way a message is transmitted and received depends on the context of communication, on the relationship between the sender and receiver, on their knowledge and experience, and on their traits when it comes to communication styles, language, stereotypes, etc. So, giving just enough information would bring efficiency in terms of communication and time, but we should be aware and consider the risk of not giving details that could be important and might bring value in a larger future context.

6. Conclusions, Limitations and Further Research, Lessons Learned and Recommendations

This qualitative, explorative study concerned the project teams within companies in the IT industry based in Romania yet active in the global economy. The purpose of this study was to investigate the conflicts associated with the organizational IT project teams—conflicts that may appear as a result of diversity—in particular professional and organizational management diversity—on the background of cultural and language diversity.

According to methodology, both secondary and primary research was conducted. The data were collected by interviewing selected IT managers and professionals with work experience (Table 2) in multicultural (Table 4) and organizational projects (Table 3) in IT companies with international activity. The interviews were conducted using an interview guide (Table 1) that was developed for this purpose.

The panel of IT professionals who accepted to be interviewed should not be confused with a survey sample since the research method, instrument, and source of data are different. So, the goal of the research is to explore and identify latent and emergent conflicts and to test novel research analysis tools and approaches for avoiding such conflicts. The research findings could not be generalized. However, they may open new investigation paths, which eventually might serve to formulate hypotheses for further survey-based research on a larger scale and population.

The data collected as a result of interviews was systematically processed and completed by additional interviews when necessary. In the process, the steps of the research methodology process were followed:

- The intercultural/inter-linguistic interactions were identified (Tables 2 and 5).
- The conflicts among participants, type, and intensity were identified, and the results were systematically presented (Table 5).
- Two cases were presented in detail (Case 2 and Case 3) to illustrate the main types of management conflicts: project (management) versus organization (management); inter-cultural and inter-professional conflicts; and cross-functional and cross-hierarchical management conflicts. The conflict mechanism, from causes to resolution (for each management conflict identified), was presented as well.

The research objectives were fully completed, considering the multicultural settings selected; ultimately, sets of lessons learned and recommendations were developed in order

to contribute to the formulation of an approach aiming to avoid and/or mitigate these conflicts (as cross-functional and cross-hierarchical conflicts), which might appear while working in multicultural/multi-linguistic, and inter-professional IT project teams.

Most of the studies related to conflicts deal with conflict management, observing the principle that “fear of conflict and inaction has been termed a classic team dysfunction” [67]. In this line of thought, while discussing conflicts in project teams, Dasgupta [68] agrees that conflict management systems (CMS) should be used not to prevent conflict altogether (it would be damaging to try to suppress it), but to prevent conflict escalation, mitigate it, and work for conflict resolution. Such conflict management systems as the ICMS (Integrated Conflict Management System) were adopted by companies in the US context, mostly in the case of employment litigation, where workplace conflicts are widespread and costly [68]. After an eight-year longitudinal study, [69] has shown that “simply holding conflict management interviews may not be sufficient”, but the quality of these interviews counts, leading to “successful outcomes”. A fairly theoretical study conducted in Romania on CMS [70] argues—with limited to not much field study—that CMS “has been subjected to intense scrutiny and even criticism; coming from both traditionalists (still dominant among Romanian managers) and progressive managers”.

Our piece of work has a less ambitious and quite different address: rather than managing relatively strong organizational conflicts (as employment litigations), it is focused on conflicts that might emerge in IT organizational project teams in quite specific circumstances: interactions among professionals in a multicultural environment (communication among IT professionals with diverse and deep specialization, as well as strong characters)—aiming to identify conflicts in their early stages (latent and emergent stages [32]) and to avoid cross-hierarchical and cross-functional management conflicts (usually linked to project structure versus organization structure relationships). Moreover, this study is specific to the IT industry and its own language, which is itself extremely dynamic (probably the most dynamic) as compared to other industries/sectors: construction, medical services [45,46] or education [48]. The studies on team conflicts in the IT industry are concerned mostly with team performance and software quality [71], which are not in contradiction to our study. Hence, the proposal of a specific team vocabulary serves the purpose of this study. The findings of this study go in this relatively less large but deeper direction.

The main findings bearing original elements are presented below:

- Mastering the ‘project language’ is essential to avoid turning intercultural/inter-linguistic, and inter-professional tensions into conflicts and to keep them within the project team (Case 1, Table 5).
- The conflict between project (management and organization (management)) is basically independent of any type of cultural diversity. However, if it occurs in a multicultural environment, confusion may generate negative consequences (Case 2), depending on the project and organization’s amplitude.
- Development of an original typology of conflicts by their intensity—from the less to the most intense (symbolized with capital letters—X, D, L, and I, respectively); and by nature (Table 5): cultural diversity-based (marked in green color, according to the legend), and management conflicts: cross-hierarchical (in purple) and cross-functional (in red).

Corresponding analysis performed shows that:

- All project team members are associated with X and D-type interactions—quasi-all of which are cultural diversity-based. These ‘conflicts’ are easy to solve through inter-party explanatory discussions during either formal meetings or mostly informal talks among team members.
- There was no team member associated with impactful management conflicts (L and I-type).
- X and D-type interactions are generated by the diversity of team members (in general, cultural/language diversity), which is very common in IT project teams.

- In opposition, L and I lines describe real conflicts—either low-impact or more impactful interactions.
- The project managers are involved in all types of interactions, except the basic X-type. As expected, most of them are real, impactful managerial conflicts (5 out of 11 are cross-hierarchical, and 4 out of 11 are cross-functional).
- The members of the project management teams display a balanced, in-between variety of interactions (both inter-cultural and managerial), although they are less inclined (4 out of 15) towards impactful L and I-type conflicts.
- The calculation of the indicator of multicultural exposure by project positions (Table 4) demonstrates a relatively balanced multiculturalism among the project positions, yet points to higher multicultural exposure for managerial positions. Notably, the particular observation that members of the project management teams display higher multicultural exposure than project managers (equally represented in the panel) is arguable and needs in-depth research.
- IT projects are organizational projects directly associated with the company's strategy. Consequently, the types of tensions presented (if not addressed properly) could develop into more impactful cross-hierarchical and cross-functional conflicts, which may negatively influence the company's strategy.
- This study suggests that—in the case of organizational IT projects; at least—the higher the hierarchy level of the organizational management; the less frequent cultural diversity-based conflicts will be; and diversity-based conflicts [72] in general.

It is significant to mention that even comprehensive books and manuals focused on the management of software projects [73] do not discuss or pay much attention to the issue of latent conflicts existing in the practice of IT project teams working in a contemporary, multi-sided, diverse environment, which highlights the importance and direct implications of the above findings.

On top of this, there are a few takeaways from the coronavirus pandemic too. From now on, remote working and virtual project teams are going to become the norm for the IT industry active internationally. On the other hand, a hybrid model of working remotely and at the office is developing. For the current study, the coronavirus pandemic has hindered the interviewing process (between 2020 and 2021).

6.1. Limitations and Further Extended or In-Depth Research Avenues

Amid its results and contributions, this qualitative, exploratory study inherently has its own limitations that should be mentioned:

- the limited number of organizations selected to be investigated;
- Despite the variety of companies, the scrutiny was not focused on a certain company size.
- Despite covering a large spectrum of cultures and languages, the investigation was not focused on certain cultures or languages.
- This study was conducted from the Romanians' standpoint.

Going beyond these limitations, it is a matter of further, in-depth, and larger-scale research paths—in order to find out if the findings of the current study will stand—as examples:

- larger number of companies but focused on certain cultures or languages as the most frequent ones (Indian, Chinese, or Arabic, yet noting that each of them can be a variety itself);
- larger number of companies of a certain size (either large companies or small businesses), yet active in diverse environments;
- intercultural comparative studies focused on certain types of management conflict (cross-hierarchical and cross-functional).

Obviously, combinations of the above, still in the IT industry, as well as comparative studies of the above in the IT industry *versus* other industries, are also challenging further research possibilities.

6.2. Lessons Learned and Recommendations for Inter-Professional Communication in IT Project Teams Working in a Culturally-Diverse Environment

Most participants in this study agreed on the following basic communication principles:

- Be polite; do not assume things about people before getting to know them;
- State your comments in a polite manner, listen actively, and try to understand different opinions;
- Keep an open mind to cultural differences;

All these could be covered by pre-project-work short training sessions tailored to the IT project profile (cultural diversity cantered).

There were also major lessons learned as a result of the participants' repeated intercultural experiences, which were a matter of thought—as follows:

- The communication should seek new perspectives for reaching a better understanding (including diversity and inclusion).
- Humans have facts and feelings; feelings point to facts, and facts generate feelings; sometimes it is rather difficult to change one's feeling with a fact.
- As each human is a collection of facts and feelings, we (again, humans) should be aware of them and considerate of them while interacting.
- Humans are blinded by their biases, as confirmed by other studies [41–43].

Here are some recommendations for more preparation before joining a multi-cultural and multi-professional IT project team—as suggested by participants based on their project work experience.

- Do a little research about the respective culture in order to know what subjects you can discuss in small talks without offending other people.
- During project kick-off or when joining a new multicultural project (even if the project is already in progress), try to do some individual research about that culture (read articles, talk to other colleagues who have already experienced those cultures, etc.).
- Get an understanding of how the team perceives the project, its outcomes and objective/s as well as the way to reach them.
- In the case of virtual teams, try to get the team members to know each other face-to-face at least once or on a recurrent basis if possible.
- In the case of virtual teams, encourage, as much as possible, the use of cameras so some of the non-verbal communication can be carried out as well.
- Keep open a shared communication channel [74].
- Keep the communication going! Make sure there is a communication process in place and the team has the necessary tools for communicating.
- When the project is unstable (because of some cultural aspects), keep a detailed risk register and communicate it as often as necessary to other stakeholders in order to find effective ways to respond to some of the risks. Not all stakeholders might understand the risk, or they might underestimate it in the beginning, but transparency on the progress does help to convince them and have everybody on board.
- Try to identify your biases.

A practical consultancy-style approach is suggested while working in multicultural IT project teams, suitable for strategic projects (long-term projects with a major impact on organizations). Such an enlarged project team consists of 15–20 specialists with different backgrounds and from different cultures (yet suitable as a project/organization profile). The team operates based on well-defined tasks, responsibilities, and clear rules. A perfect team will be flexible and adaptable, able to develop new skills in a short period of time, in order to work in different cultural and professional environments.

There is also a beautiful view of professional diversity to be considered while working in multicultural IT project teams, as shared by one of the respondents: “I find it hard to stick to only one identity [...] so I stick to the philosophy concepts serve humans, not the other way around; economy serves humans, politics serves humans, technology serves humans etc., not the other way around”.

6.3. Contributions

This study contributes to a better understanding of intercultural and inter-professional interactions among professional members of IT organizational projects in a multicultural environment in Romania (Bucharest metropolitan area, specifically). Unaware and not addressed, some of these interactions may evolve into conflicts. Particular attention was given to latent and emergent management conflicts—cross-functional and cross-hierarchical conflicts—as a result of an incomplete and/or poor understanding of the relationship between project and organization. In this respect, this piece of work contributes to both theory and practice.

- Proposing the term organizational management diversity (functional and hierarchical diversity) as a source of tensions (Section 2.2).
- Proposing a tool for latent and emergent conflict analysis: the framework for systematic analysis of the conflict typology—FACT (Section 3) and the multi-dimensional map of the interactions and conflicts identified within organizational projects (Section 4.5).
- Proposing the approach, term, and tool for inter-professional communication in IT project teams—the team vocabulary (Section 5).
- Proposing a set of lessons learned and recommendations for managers and professionals from IT project teams working in culturally diverse environments (Section 6.2).

These might be useful and inspiring for both scholars and managers, not only in the IT sector.

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