Aligning Soft Skills in Requirements Engineering Between Academia and Industry: A Pilot Study

Rômulo Antônio Valle[1], Alinne Cristinne Corrêa Souza[2], Pedro Henrique Dias Valle[3]

[1]Instituto de Informática
Universidade Tecnológica Federal do Paraná (UTFPR)
Cornélio Procópio - PR, Brasil

[2]Coordenação de Engenharia de Software
Universidade Tecnológica Federal do Paraná – Dois Vizinhos – PR – Brasil

[3]Instituto de Matemática e Estatística
Universidade de São Paulo (USP) – São Paulo, SP – Brasil

romulovalle19@gmail.com, alinnesouza@utfpr.edu.br, pedrohenriquevalle@usp.br

Abstract. *The Requirements Engineering (RE) process is crucial for the success of software projects, as it establishes the foundation for developing efficient systems aligned with the needs of end users and stakeholders. In this context, soft skills play a fundamental role, being as valued as technical skills due to their impact on the success of software projects. This article aims to map and categorize the soft skills commonly cited in academia and industry concerning the RE process in software development in light of the perspectives of the CHAOS Report: Beyond Infinity. For this, a pilot study was carried out to validate the interview protocol that will be conducted. The main contributions of this study were identifying essential soft skills for RE practices, analyzing soft skills concerning CHAOS Report: Beyond Infinity, and categorizing the mapped skills.*

1. Introduction

Requirements Engineering (RE) plays a crucial role in the success of software projects, being responsible for managing requirements throughout the software lifecycle [Pohl 2016]. In addition to being essential for development teams, RE also involves clients and other stakeholders, especially in agile development models [Herrmann et al. 2014]. The growing interest of the business area in defining software requirements has been intensified by the advancement of Cloud Computing, which enables the direct acquisition of Software as a Service (SaaS) solutions [Herrmann et al. 2014]. However, despite the significant impact of RE on project success, few organizations invest in developing the essential competencies for professionals in the area [Laplante and Kassab 2022].

Several studies [Calazans et al. 2017, Herrmann 2013, Daneva et al. 2019] analyzed the competencies required for RE professionals and concluded that, in addition to technical skills (*hard skills*), companies value *soft skills*. These skills include interpersonal competencies, involving effective communication, leadership, and teamwork [Bora 2015]. The Standish Group, in its Chaos Reports, has demonstrated that non-technical factors significantly influence the success or failure of projects, highlighting the importance of behavioral aspects in Requirements Engineering (RE). According to

Johnson (2020), the success of a software project depends on three fundamental factors related to people: the project sponsor (*Good Sponsor*), the work environment and team support (*Good Place*), and the stakeholders involved (*Good Team*). These principles, identified in the Chaos Report: Beyond Infinity, emphasize that, even with the adoption of best management practices, behavioral challenges continue to be decisive for project success [Johnson 2020].

Despite advancements in understanding the relevance of *soft skills* for Requirements Engineering (RE), there are still gaps regarding their specific impact in this area [Yousef et al. 2021]. The main gaps refer to the absence of consolidated models linking *soft skills* to specific Requirements Engineering activities, as well as the scarcity of empirical evidence to guide professionals on which interpersonal skills are most critical for project success [Hidellaarachchi et al. 2021]. The main identified issue is the difficulty in operationalizing the use of *soft skills* in the RE context, due to the fragmentation of knowledge between academic literature and industry practices [Ahmed et al. 2015]. In this context, this work aims to present an analysis based on the categorization of the most cited *soft skills* in academic literature and industry, associated with the RE process. The analysis was grounded in the 28 success principles from the *CHAOS Report: Beyond Infinity* [Johnson 2020], which can guide professionals in the field in identifying opportunities for improvement. To achieve this objective, a pilot study was conducted to validate the mapping and categorization of *soft skills* in RE. Additionally, a pilot study was carried out to validate the interview protocol that will be used to validate the mapping and categorization of *soft skills* in RE.

The remainder of the document is organized as follows: Section 2 presents the main concepts for understanding this work. Section 3 discusses the main related works. Section 4 presents the research method used. Section 5 discusses the main results, as well as the conduct of a discussion. Section 6 shows the pilot conducted. Finally, Section 7 presents the final considerations and future work.

2. Related Work

This section presents the main initiatives and studies on the research topic identified with ID (for example, as A1 and A2) to facilitate their reference throughout the text and assist in analyzing related works. Among the studies found, the research conducted by Penzenstadler et al. (2009) (A1) stands out. They investigated the *soft skills* required for RE, proposing a four-layer model for their acquisition and development. The layers include: core identity, formed in the early years of life and influenced by genetic and environmental factors; sociocultural imprint, which shapes the expression of these characteristics based on social environment, culture, and education; professional experience, which adds specific social skills acquired throughout the career; and training, which complements this development by providing additional skills in a short period.

Vale et al. (2011) (A2) investigated the importance of soft skills in software development, prioritizing essential competencies for requirements analysts. The research combined questionnaires with project managers from Ceará, Pernambuco, and the Federal District — evaluating 33 competencies extracted from the literature — with semi-structured interviews. The results indicated that the most critical skills for these professionals are: orientation towards customer needs, oral and written communication, listening

skills, and ease of relationship-building, which are fundamental to ensure clarity in requirements elicitation.

Among the studies found, the research by Ahmed (2012) (A3) is noteworthy. He analyzed the demand for *soft skills* in software requirements engineers based on 250 job descriptions from different regions of the world. The study revealed that 87% mentioned communication as the most valued skill, followed by analytical skills, problem-solving, interpersonal, and organizational skills. Calazans et al. (2017) (A4) analyzed the importance of *soft skills* for software engineers in Brazil and Mexico. The authors examined 311 job postings for requirements analysts between 2016 and 2017 using Nvivo software. The results indicated that in Brazil, 26.5% of the postings related to planning, 18.55% to methodological competence, and 16.43% to the use of techniques and tools. In Mexico, 18.66% were related to information analysis and evaluation, 16.11% to the use of techniques and tools, and 15.15% to methodological competence.

Daneva et al. (2019) (A5) investigated the most demanded *soft skills* in RE through an empirical analysis in two Focus Groups during the *REFSQ'18* conference. With 13 participants in total, the first group brought together professionals from various organizations in the Netherlands, Germany, Canada, and Italy. In contrast, the second included internal consultants from a large global IT company. After the meetings, the researchers recorded impressions of the discussions, where participants shared experiences and opinions on the presented *soft skills*. In a complementary way, in the study proposed by Yousef et al. (2021) (A6), the authors assessed the importance of soft skills for Requirements Engineering professionals through a survey with 122 software developers. The study revealed that critical thinking was considered the most relevant (89%), followed by problem-solving and commitment (85% each) and the desire for learning (81%). Interpersonal skills – encompassing problem-solving, commitment, resistance to pressure, and critical thinking – showed the strongest associations with Requirements Engineering. Additionally, 31.1% of these skills had a positive impact on the field.

The Table 1 compiles relevant studies on *soft skills* in RE. While the six previous studies focused on identifying and categorizing these skills in specific contexts, this work adopts a broader approach, combining literature analysis with the *CHAOS Report: Beyond Infinity*, which reflects the reality of the software development industry. This strategy allows for a comparison between the *soft skills* highlighted in the literature and those prioritized by the market, revealing convergences and gaps between research and demand. The focus contributes to a better understanding of the practical relevance of these skills and aligns expectations between academia and industry in RE.

Tabela 1. Related works on *soft skills* required in RE practice

ID	Reference	Methods	Total soft skills identified	Use of CHAOS 2020 principles
A1	[Penzenstadler et al. 2009]	Survey	20	No
A2	[Vale et al. 2011]	Survey	31	No
A3	[Ahmed 2012]	Job descriptions	11	No
A4	[Calazans et al. 2017]	Survey	27	No
A5	[Daneva et al. 2019]	Focus groups	17	No
A6	[Yousef et al. 2021]	Survey	17	No

3. Methodology

The study is characterized as descriptive research with a qualitative approach. Descriptive research aims to record and analyze facts or phenomena without manipulating them, seeking to discover the frequency of a phenomenon, its relationship and connection with others, its nature, and characteristics [Wohlin et al. 2012].

The study was planned following the *Goal-Question-Metric (GQM)* template proposed by [Basili and Weiss 1984] to define the objectives of the case study, which can be summarized as follows: *"To analyze the soft skills categorized based on the literature and with the purpose of* ***evaluating*** *the* ***importance in the practice of RE*** *from the perspective of* ***professionals*** *in the context of* ***real projects****"*. To achieve the objective set in this case study, four research questions (RQs) were defined:

RQ1 – Which *soft skills* identified in the literature are considered essential for the practice of RE?

RQ2 – Which *soft skills* highlighted in the *CHAOS Report: Beyond Infinity* are seen as fundamental in the practice of RE?

RQ3 – Which *soft skills* are attributed to each factor in the *CHAOS Report: Beyond Infinity*, according to the perceptions of professionals?

RQ4 – Which *soft skills* are attributed to each RE activity, according to the perceptions of professionals?

The data collection instrument used was semi-structured interviews to map the *soft skills* essential for the practice of RE, combining the analysis of the literature with the *CHAOS Report: Beyond Infinity*, which reflects the reality of the software development industry. The goal is to understand how these skills contribute to the success of RE activities and identify patterns that can be used in the development of professional competencies in the field. The methodology was conducted in four main stages: (1) Identification of *soft skills* in the literature; (2) Identification of *soft skills* in the industry based on the *CHAOS Report: Beyond Infinity*; (3) Mapping of *soft skills*; and (4) Evaluation.

In the **Identification of *soft skills* in the literature (Stage 1)**, a systematic search was conducted to identify *soft skills* associated with RE. The related works were identified through a search in the Scopus and IEEE Xplore databases [Borges and Gratão de Souza 2024], using the search string: ((*requirements engineering*") AND (*soft skills*")). In this stage, a set of *soft skills* was identified after reviewing the papers presented in Table 1. These *soft skills* were reviewed by the authors, and a final list was created, including the *soft skills* with the highest recurrence in the studies.

In the **Identification of *soft skills* in the industry (Stage 2)**, the skills were identified using the *CHAOS Report: Beyond Infinity*. In this context, the 28 principles were analyzed by the authors, from which the *soft skills* corresponding to each of the principles were extracted. In the **Categorization of *soft skills* (Stage 3)**, the *soft skills* identified in Stages 1 and 2 were initially grouped into 10 categories. These 10 categories were then reorganized into four final categories according to the similarity of the *soft skills*, in a process conducted by the authors of the research. Finally, in the **Evaluation (Stage 4)**, a pilot descriptive case study was conducted to analyze the perceptions of three professionals working in the software development team regarding the importance of *soft skills*, categorized based on the *CHAOS Report: Beyond Infinity*, in the practice of RE. The interviews were conducted by one of the authors of this research. Three professionals with

different levels of seniority participated: a junior software engineer, a mid-level requirements analyst, and a senior technical lead. All had previous experience in Requirements Engineering activities, with 1 year for the junior, 2 years for the mid-level, and 5 years for the senior. The case study was conducted following the process proposed by Wohlin et al. (2012). To assist the evaluation process of the mapped categories and *soft skills*, an artifact created on the Miro platform[1] was used. The use of Miro allowed the professionals to visualize the categorized skills and make real-time adjustments according to their knowledge and practical experience. The research protocol, as well as the artifact created on Miro, are available at the link: `https://zenodo.org/records/15080633`.

Each interview lasted approximately 1 hour and 30 minutes and was conducted in three sequential stages. In the first stage, the participants evaluated the previously categorized groups of *soft skills*, indicating, according to their judgment, whether any skill should be removed from the analysis or reallocated to another category. In the second stage, the interviewees associated each *soft skill* with one or more of the three success factors described in the *CHAOS Report: Beyond Infinity*: on-time delivery, within budget, and with the agreed requirements. Finally, in the third stage, the participants associated the *soft skills* with typical Requirements Engineering activities, such as elicitation, analysis, specification, validation, and requirements management. The responses were qualitatively analyzed through thematic inspection, aiming to identify patterns and convergences between the professionals' perceptions regarding the relevance and applicability of interpersonal skills in the context of RE.

4. Results

This section presents the results achieved by RQ. For the pilot evaluation, three professionals with requirements analyst positions participated in the study.

4.1. *Soft Skills* Identified in the Literature

To answer RQ1, from the analyzed studies, a set of *soft skills* related to RE was identified, emphasizing the importance of interpersonal competencies for the success of requirements activities. In Figure 1, for each study (numbered from A1 to A6), the *soft skills* identified in the RE phase are presented.

From the analysis of the six studies, a total list of 123 *soft skills* was compiled; however, considering the intersections between the studies, disregarding the repeated skills, 73 unique *soft skills* were obtained Of the 73 *soft skills* mentioned, 39 were mentioned only once, 23 were mentioned twice, 5 appeared three times, 3 were recorded four times, and 3 were mentioned five times. Among the *soft skills*, "Oral Communication, Written Communication,"and "Result Orientation"were the most frequent, mentioned in five studies. In contrast, various *soft skills*, such as "Persuasion"and "Passion,"were mentioned only in one study, suggesting lower convergence in the literature regarding their relevance. This pattern suggests that there is a core group of *soft skills* that are widely recognized, while others are more specific to the context of each study.

4.2. *Soft Skills* Identified in the *CHAOS Report: Beyond Infinity*

The *CHAOS Report: Beyond Infinity* presents a detailed analysis of the causes of success and failure in software projects, highlighting the role of *soft skills* in the effective

[1] `https://miro.com/app/board/uXjVILxwROs=/`

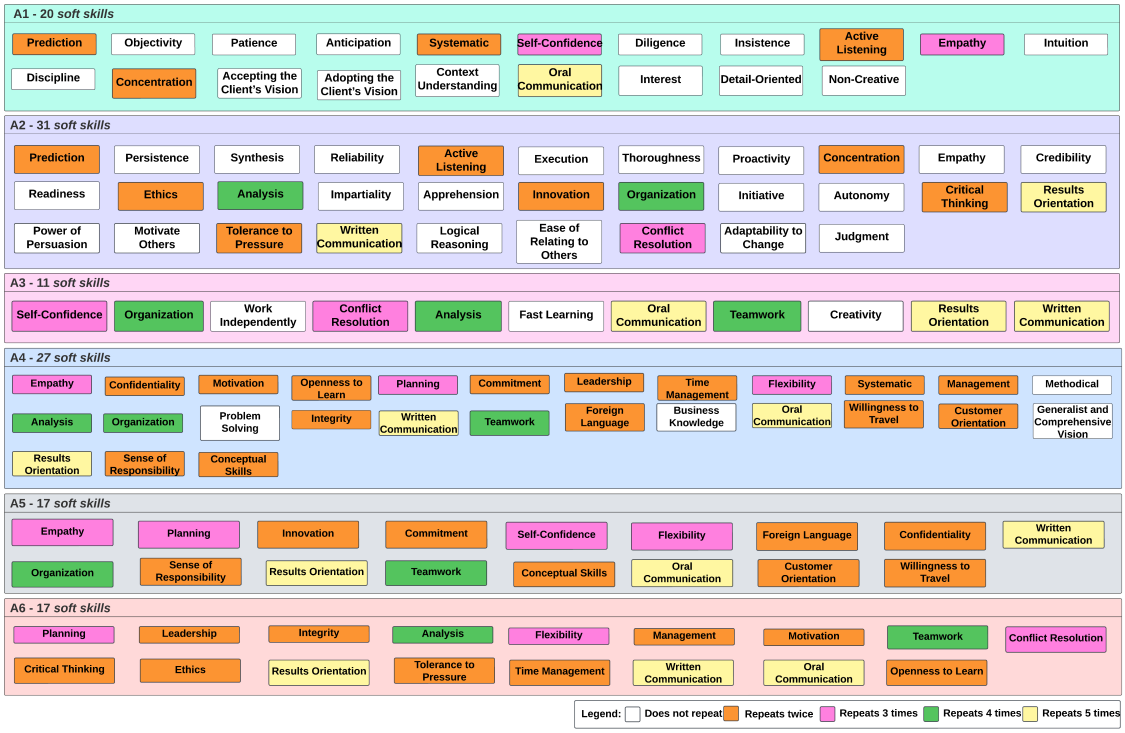

Figura 1. Distribution of *soft skills* by study.

management of requirements. The adoption of appropriate interpersonal skills can significantly improve team performance and the execution of complex projects. To answer RQ2, Figure 2 presents the distribution of *soft skills* by the three success factors of a project according to the *CHAOS Report: Beyond Infinity*. From the analysis of the *CHAOS Report: Beyond Infinity*, a total of 92 *soft skills* were identified. Of the 92 *soft skills*, 80 were mentioned only once, and 12 were mentioned twice. Among the *soft skills*, for the *Good Team* factor, 34 skills were identified, followed by the *Good Sponsor* factor with 32, and the *Good Place* with 26.

4.3. Categorization

The process of categorizing the *soft skills* was conducted through three main activities: (1) consolidation; (2) initial categorization into 10 groups; and (3) final categorization into four groups. In the **consolidation (Activity 1)**, the *soft skills* identified from both literature sources and industry (the *CHAOS Report: Beyond Infinity*) were combined. The aim was to standardize terminology, eliminate duplicates, and harmonize the competencies extracted from different studies and the report, creating a single consolidated list. The standardization was carried out in pairs and, after consolidation, validated by an expert. From the initial 215 identified *soft skills*, the analysis process resulted in 125. Of these, 45 were found exclusively in the literature, 69 only in the *CHAOS Report: Beyond Infinity*, and 11 in both sources, such as: Communication, Empathy, Active Listening, Ethics, Flexibility, Emotional Intelligence, Leadership, Motivation, Goal Orientation, Organization, and Conflict Resolution.

During the consolidation analysis, some *soft skills* were merged or excluded to

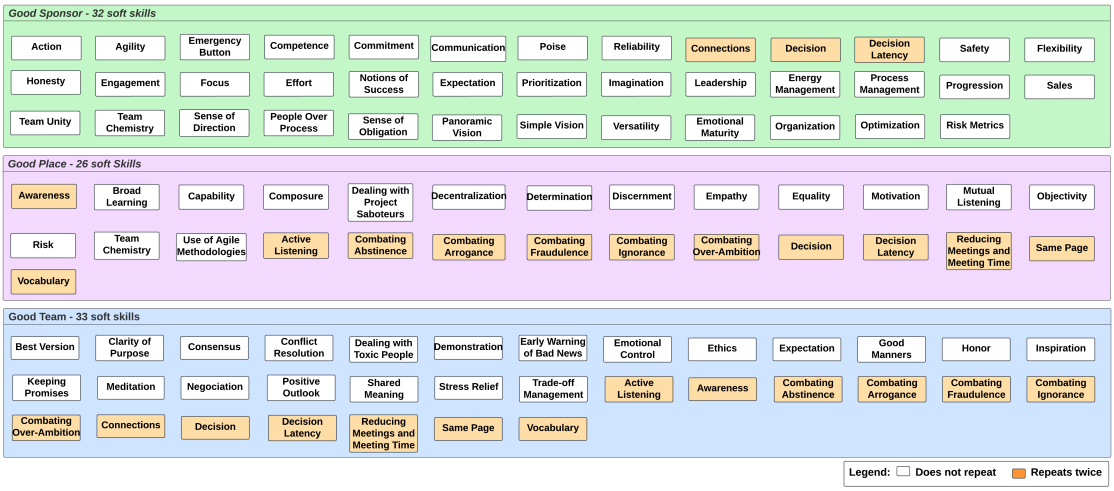

Figura 2. Distribution of *soft skills* by factor according to the *CHAOS Report: Beyond Infinity*.

ensure the standardization and relevance of the competencies. For example, the terms "Determination," "Effort," "Perseverance," and "Hard Work" were grouped into the consolidated skill "Determination." Similarly, "Positivity" and "Positive Perspective" were unified into "Positivity." On the other hand, skills that did not qualify as *soft skills* were disregarded, such as "Common data structure in a project" and "Standardized programming tools," as they do not fit the definition of interpersonal and behavioral competencies, instead referring to software improvements in a requirements project.

In the **initial categorization into 10 groups (Activity 2)**, the consolidated list from Activity 1 was analyzed for semantic and functional similarities, enabling the identification of contextual relationships among the competencies. Based on this analysis, the *soft skills* were organized into 10 preliminary groups, each containing skills with similar characteristics. Figure 3 illustrates the 10 categories, their objectives, and examples of the included *soft skills*. Among the groupings, the category "Personal and Behavioral Skills" had the highest number of skills, with 29 *soft skills* (14 from the literature, 11 from the *CHAOS Report: Beyond Infinity*, and 4 common to both). Next, "Execution and Performance Skills" contained 26 *soft skills*, divided into 12 from the literature, 12 from the report, and 2 in common. In contrast, the categories "Well-being and Energy-Related Skills" and "Security and Risk Skills" had the fewest skills, with only 5 each—both having 1 skill from the literature and 4 from the *CHAOS Report: Beyond Infinity*.

Finally, in the **final categorization into four groups (Activity 3)**, the *soft skills* were regrouped into four final categories, providing a more integrated and functional perspective for professional development. The transition from the initial 10 categories to the final four aimed to consolidate the skills into broader groups, reflecting a more integrated and functional approach to professional development. The grouping process considered the semantic and functional similarity of the competencies, allowing the merging of categories with shared characteristics. Thus, the group "Personal and Behavioral Skills" was combined with "Well-being and Energy-Related Skills," resulting in the new category "Personal and Development Skills," which includes a total of 34 skills. The category "Communication Skills" was merged with "Learning and Development Skills" and

Figura 3. Distribution of the 10 *soft skill* groups

"Skills for Facing Challenges and Difficult Situations," forming the category "Communication and Adaptability Skills," which contains 35 skills.

The balancing criterion ensured an equitable distribution of skills across the final groups, with each category having an approximately equal number of competencies. For example, "Execution Skills" resulted from combining "Execution and Performance Skills" with "Knowledge and Analytical Skills," totaling 33 skills. Meanwhile, "Leadership and Ethics" was formed by merging "Ethics and Responsibility Skills," "Management and Leadership Skills," and "Security and Risk Skills," gathering 24 skills. This reorganization aimed to harmonize the groups and better distribute the competencies. Figure 4 presents the four final categories.

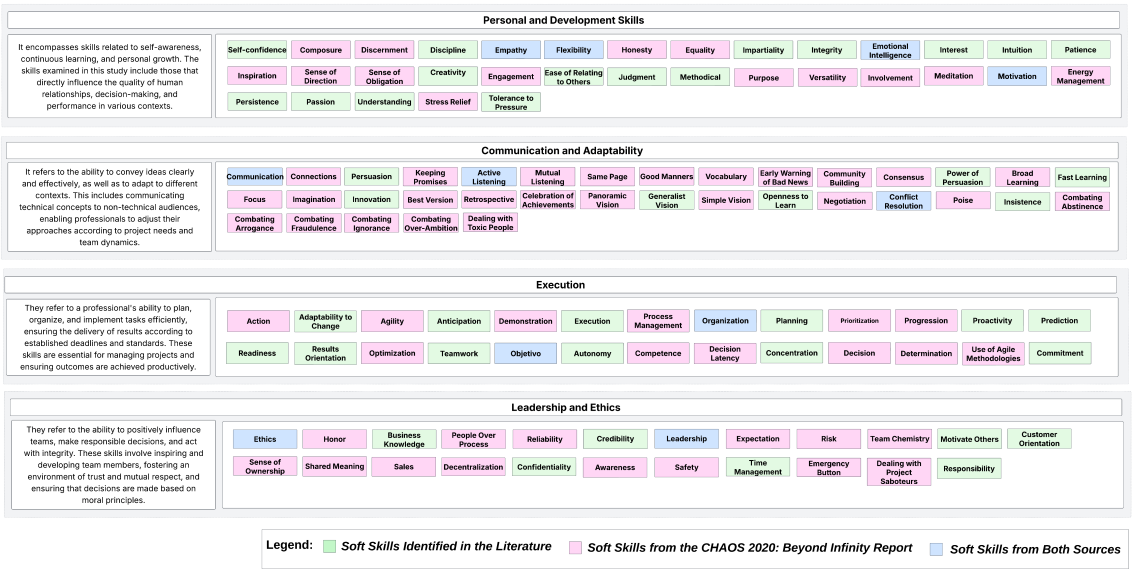

Figura 4. Final categorization of *soft skills* based on the literature and the *CHAOS Report: Beyond Infinity*

4.4. Professionals' Insights

The pilot results highlight the importance of *soft skills* in Requirements Engineering, emphasizing the value of interpersonal competencies such as communication, empathy,

and conflict resolution. These skills were frequently mentioned by the interviewees, aligning with the findings of previous studies and the *CHAOS Report: Beyond Infinity*. This observed convergence particularly underscores the relevance of emotional intelligence and the ability to maintain a collaborative work environment.

During the interviews, professionals emphasized that success in Requirements Engineering goes beyond technical knowledge and is strongly influenced by how teams deal with interpersonal challenges. One interviewee remarked: *"Currently, I believe that in the professional environment, soft skills contribute more to career success than technical skills, as technical skills are easier to learn."* Participants also pointed out that excessively long interviews negatively impacted their concentration and understanding, particularly during the final phase of mapping skills to the stages of Requirements Engineering. The suggestion to limit the interview to 1 hour and 30 minutes was considered during the pilot to maintain quality without overburdening participants. Additionally, the sequential organization of the questions was mentioned as an aspect to improve in order to ensure greater flow.

On the other hand, participants appreciated the opportunity for reflection provided by the interview flow, especially the ability to recall and think critically about the presented *soft skills*. One interviewee noted: *"As the study progresses, it becomes easier to make associations with the questions, since I become more familiar and can recall the soft skills more easily throughout the stages."* Based on the collected perceptions, both improvement opportunities and strengths were identified. The improvement suggestions (IS) aimed to optimize the interview dynamics, while the strengths (ST) highlighted the reflective and learning benefits of the process. Table 2 summarizes these elements, offering a structured view of the contributions raised by the participants.

Tabela 2. Summary of improvement suggestions and strengths from the presentation of the four categories.

ID	Description
IS1	Reduce the total interview time to a limit of 1:30h
IS2	First focus on the Chaos Report factor or the Requirements Engineering stage, and then go through all the skills in the group
IS3	Contextualize with practical examples what is meant by Good Place, Good Sponsor, and Good Team
ST1	Reflection on which soft skills are present in daily activities and how they influence project success perspectives
ST2	Learning about new soft skills
ST3	Reflection on the influence of Chaos Report factors on project success

Among the skills highlighted by the interviewees, Emotional Intelligence emerged as a crucial factor within the Communication and Adaptability category. All participants emphasized that the ability to recognize, understand, and manage one's own emotions, as well as to empathize with other team members, significantly contributes to conflict resolution and maintaining a collaborative work environment. This aspect was considered essential for project success, reinforcing the importance of interpersonal relationships in Requirements Engineering. Moreover, Process Management was classified under the Personal and Development Skills category. The interviewees pointed out that the ability to structure and optimize processes is critical in RE, as it facilitates the identification of bottlenecks and the implementation of improvements. Additionally, Purpose, also part of the Personal and Development Skills category, was mentioned as a key element for pro-

fessional engagement and dedication. Participants emphasized that when team members have a clear understanding of the value and impact of their work, their motivation to face challenges increases, resulting in better project outcomes.

The implementation of the pilot study demonstrates that professionals' soft skills have a significant impact on the development and execution of Requirements Engineering (RE) activities. The project considers the potential of companies that foster collaboration and promote the advancement of best practices related to soft skills. Furthermore, the relevance of soft skills such as Emotional Intelligence, Purpose, and Process Management is emphasized, as they are essential for ensuring alignment between team members and stakeholders.

4.5. Threats to the Validity

Several threats to the validity of this study must be considered. First, the selection of studies in the literature may have been influenced by publication bias, as research with positive results on the importance of *soft skills* may be more frequently published. To address this, two databases were used—Scopus and IEEE—to include independent research and less-explored sources. Another threat relates to the subjectivity in the categorization of *soft skills*. Different studies use distinct terminologies to describe similar skills, which may have impacted the classification adopted in this research. To mitigate this issue, professionals currently working in Requirements Engineering were consulted to validate the list of *soft skills* identified in this study.

Moreover, the generalization of the findings may be limited by the variation in the organizational and cultural contexts of the companies analyzed. The *soft skills* that are most valued may vary depending on the industry type, geographical location, and maturity of the Requirements Engineering processes. One way to address this issue is to conduct comparative studies across different sectors and regions, identifying common patterns and specific particularities.

5. Conclusions and Future Work

This study analyzed the role of *soft skills* in Requirements Engineering through a literature review and an in-depth industry analysis based on the *CHAOS Report: Beyond Infinity*. The findings emphasize the importance of these skills for the success of software projects, particularly in the field of Requirements Engineering.

The comparison between the results from the literature and the data from the *CHAOS Report: Beyond Infinity* revealed a strong correlation between the skills most valued by researchers and those identified as critical to project success. This reinforces that training in *soft skills* should be a priority for both professionals and organizations aiming to improve their Requirements Engineering processes.

For future work, it is recommended to conduct empirical studies that assess the impact and relevance of *soft skills* on the performance of requirements teams, as well as investigations into how different organizational cultures influence the adoption and development of these competencies.

Referências

[Ahmed 2012] Ahmed, F. (2012). Software requirements engineer: An empirical study about non-technical skills. *J. Softw.*, 7(2):389–397.

[Ahmed et al. 2015] Ahmed, F., Capretz, L. F., Bouktif, S., and Campbell, P. (2015). Soft skills and software development: A reflection from the software industry. *arXiv preprint arXiv:1507.06873*.

[Basili and Weiss 1984] Basili, V. and Weiss, D. (1984). A methodology for collecting valid software engineering data. *IEEE Transactions on Software Engineering*, 10(6):728–738.

[Bora 2015] Bora, B. (2015). The essence of soft skills. *International Journal of Innovative Research and Practices*, 3(12):7–22.

[Borges and Gratão de Souza 2024] Borges, G. G. and Gratão de Souza, R. C. (2024). Skills development for software engineers: Systematic literature review. *Information and Software Technology*, 168:107395.

[Calazans et al. 2017] Calazans, A. T. S., Paldês, R. Á., Masson, E. T. S., Brito, I. S., Rezende, K. F., Braosi, E., and Pereira, N. (2017). Software requirements analyst profile: A descriptive study of brazil and mexico. In *2017 IEEE 25th International Requirements Engineering Conference (RE)*, pages 204–212. IEEE.

[Daneva et al. 2019] Daneva, M., Herrmann, A., Condori-Fernandez, N., and Wang, C. (2019). Understanding the most in-demand soft skills in requirements engineering practice: Insights from two focus groups. In *Proceedings of the Evaluation and Assessment on Software Engineering*, pages 284–290. ACM.

[Herrmann 2013] Herrmann, A. (2013). Requirements engineering in practice: There is no requirements engineer position. In *Requirements Engineering: Foundation for Software Quality: 19th International Working Conference, REFSQ 2013, Essen, Germany, April 8-11, 2013. Proceedings 19*, pages 347–361. Springer.

[Herrmann et al. 2014] Herrmann, A., Hoffmann, A., Landes, D., and Weißbach, R. (2014). Experience-oriented approaches for teaching and training requirements engineering: An experience report. In *Requirements Engineering: Foundation for Software Quality: 20th International Working Conference, REFSQ 2014, Essen, Germany, April 7-10, 2014. Proceedings 20*, pages 254–267. Springer.

[Hidellaarachchi et al. 2021] Hidellaarachchi, D., Grundy, J., Hoda, R., and Mueller, I. (2021). The influence of human aspects on requirements engineering-related activities: Software practitioners perspective. *arXiv preprint arXiv:2109.07868*.

[Johnson 2020] Johnson, J. (2020). *Chaos report: Beyond Infinity*. The Standish Group International, Inc., Boston, USA.

[Laplante and Kassab 2022] Laplante, P. A. and Kassab, M. (2022). *Requirements engineering for software and systems*. Auerbach Publications.

[Penzenstadler et al. 2009] Penzenstadler, B., Haller, G., Schlosser, T., and Frenzel, G. (2009). Soft skills required: A practical approach for empowering soft skills in the engineering world. In *2009 Collaboration and Intercultural Issues on Requirements: Communication, Understanding and Softskills*, pages 31–36. IEEE.

[Pohl 2016] Pohl, K. (2016). *Requirements engineering fundamentals: a study guide for the certified professional for requirements engineering exam-foundation level-IREB compliant*. Rocky Nook, Inc.

[Vale et al. 2011] Vale, L., Albuquerque, A. B., and Beserra, P. V. (2011). The importance of professional quality of requirements analysts for success of software development projects: a study to identify the most relevant skills. In *2011 25th Brazilian Symposium on Software Engineering*, pages 253–262. IEEE.

[Wohlin et al. 2012] Wohlin, C., Runeson, P., Höst, M., Ohlsson, M. C., Regnell, B., and Wesslén, A. (2012). *Experimentation in Software Engineering: An Introduction*. Springer-Verlag Berlin Heidelberg, 1st edition.

[Yousef et al. 2021] Yousef, Y. A., Elzamly, A., Doheir, M., and Yaacob, N. M. (2021). Assessing soft skills for software requirements engineering processes. *Journal of computing and information technology*, 29(4):209–218.