10 years of Workshop on Social, Human, and Economics Aspects of Software (WASHES): Results of a Scoping Review

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Abstract. The Workshop on Social, Human, and Economic Aspects of Software Engineering (WASHES), established in 2016, serves as an interdisciplinary venue for the Software Engineering research community. As WASHES approaches its tenth anniversary, this study presents a scoping review of its contributions. We systematically analyze publication trends, thematic evolution, influential authors, institutional participation, and geographic distribution across nine editions. Our findings reveal that WASHES has published 100 papers to date, with the social perspective being the most frequently addressed. The workshop has fostered a diverse network of over 300 researchers from 70 institutions across 19 Brazilian states and 4 countries. Our contribution includes a synthesis of WASHES research, analyzing publication distribution by year, citation patterns, and language preferences. We also map the thematic evolution of WASHES and identify emerging research trends over time. Finally, we highlight the most prolific authors and institutions contributing to WASHES.

1. Introduction

The influence of software extends beyond technical aspects, shaping human interactions, social dynamics, and economic structures. In this regard, Software Engineering (SE) research has increasingly incorporated these dimensions, leading to the development of venues dedicated to examining software through interdisciplinary perspectives [Hyrynsalmi et al. 2025]. This shift has driven a growing body of work on understanding how human, social, and economic aspects affect SE processes and outcomes [Lenberg et al. 2015, Boehm 2002].

To promote this agenda, the Workshop on Social, Human, and Economic Aspects of Software Engineering (WASHES) was established as an interdisciplinary platform for research that intersects SE with these broader dimensions. In summary, WASHES provides an environment for the Brazilian community to discuss these aspects and their associated challenges, which can impact the development and use of software while also

encouraging collaborations with the industry. Since its inception in 2016, WASHES has facilitated discussions on various topics, including collaboration [Santos et al. 2024], diversity [Motta et al. 2022], ethical concerns [Valderramas 2020], and economic aspects [Araújo et al. 2024b]. In 2025, WASHES will mark ten years of contributions, serving as an important scientific Brazilian venue for examining challenges and shaping future research directions around social, human, and economics aspects of software.

Despite the increasing interest in these topics, a comprehensive assessment of the research contributions made by WASHES over its ten-year history is still lacking. Without such an analysis, it remains unclear which themes have gained prominence and what impact these studies had on the WASHES community. Given this opportunity, this study aims to present a scope review of research published in WASHES over the past decade. A scoping review is particularly suited for this investigation as it allows for a broad and systematic mapping of the research contributions in WASHES, capturing the diversity of topics and evolving trends over the last ten years. Unlike systematic literature reviews, which focus on in-depth and critical appraisals, scope reviews provide an overview of the research landscape [Smith and Duncan 2022].

Therefore, our objective is to examine how WASHES has evolved over the past decade. To this end, we provide an overview of the studies, including the number of publications each year, the distribution of publications by language, and a detailed analysis of the evolution of topics in different time periods. Furthermore, we identified the most cited papers to highlight influential contributions. Our study also offers insights into the most prolific authors, the institutions with the highest number of published papers, and the geographical distribution of research across Brazilian states. By synthesizing these aspects, our analysis delivers a comprehensive overview of WASHES' impact.

The contributions of this work are threefold: (1) it offers a systematic synthesis of the body of work presented at WASHES; (2) it maps the evolution of discussions in the workshop, highlighting emerging trends and shifts in focus areas; and (3) it analyzes the research network behind WASHES, identifying the most influential authors and institutions, as well as revealing the geographic distribution of contributions.

The remainder of this paper is structured as follows. Section 2 overviews the history behind WASHES. Section 3 details the research design. Section 4 discusses our findings. Section 5 outlines the study's threats to validity. Finally, Section 6 presents the final remarks of this study.

2. WASHES: A Decade of Growth and Impact

The history of the WASHES started in 2016, marking the beginning of a journey for the exploration of how SE intersects with broader human, societal, and economic issues. The inaugural edition of WASHES took place in Maceió, AL, co-located with XV Brazilian Symposium on Software Quality (SBQS 2016), and featured 15 papers. This first edition was organized by Sabrina Marczak, Igor Steinmacher, Davi Viana, and Rodrigo Santos, who curated the program and ensured a smooth introduction to the event.

The second edition of WASHES, held in Salvador, BA, in 2017, was co-located with the XVII International Conference on Software Reuse (ICSR 2017) and featured 4 published papers. The program committee was led by Rodrigo Santos, Eldânae Teixeira,

Emilia Mendes, and John McGregor. In 2018, WASHES found its home in Natal, RN, during the XXXVIII Congress of the Brazilian Computer Society (CSBC 2018), where 11 papers were published in its third edition. The program committee for this edition was organized by Igor Scaliante Wiese and Davi Viana. The fourth edition, held in Belém, PA, in 2019, during CSBC 2019, also included 11 published papers. The program committee for this edition was led by Rodrigo Santos and Valdemar Graciano Neto.

The year 2020 was an impactful moment in WASHES history. Due to the COVID-19 global pandemic, the workshop was conducted remotely for the first time, yet this did not lessen its impact. With 14 papers published, WASHES 2020 was co-located with CSBC 2020. This fifth edition was organized by Igor Steinmacher and Awdren Fontão. In 2021, the workshop continued its remote format, gathering 7 published papers. The sixth edition event, led by Awdren Fontão and Flávio Horita, continued to foster the dialogue on how software shapes societal transformation. The seventh edition of WASHES took place in Niterói, RJ, in 2022, co-located with CSBC 2022. With 7 published papers, the program committee was coordinated by Flávio Horita and Emanuel Coutinho. WASHES continued to build momentum in 2023, with its eighth edition held in João Pessoa, PB (CSBC 2023). This edition featured 12 published papers and the program committee was led by Emanuel Coutinho and Anna Beatriz dos Santos Marques. The ninth edition of WASHES took place in 2024 in Brasília, DF, with 21 papers published. Co-located with CSBC 2024, the event was organized by Anna Beatriz dos Santos Marques and Allysson Allex Araújo. Looking ahead, the tenth edition will be held in 2025, co-located with CSBC 2025, in Maceió, AL, with the program committee led by Allysson Allex Araújo and Luciana Zaina.

Over the years, WASHES has expanded both its scope and geographical reach across Brazil, reflecting the importance of addressing the social, human, and economic aspects of SE. The workshop's varied locations (from Maceió and Salvador to Natal, Belém, Niterói, Brasília, and beyond) unravel its wide influence and dedication to fostering inclusive regional engagement. Moreover, the partnership with CSBC has been particularly instrumental in amplifying the workshop's impact within the broader Brazilian Computer Science community. Co-locating with CSBC has provided WASHES with the opportunity to leverage the event's established reputation and attract a more diverse audience. Lastly, the continued success and growth of WASHES would not have been possible without the strong commitment of its program committees and co-chairs.

3. Research Design

This scoping review follows the methodological guidelines proposed by Peters *et al.* (2020). In particular, scoping reviews are promising for exploring the breadth of available literature, synthesizing knowledge, identifying gaps, and guiding future research directions [Munn et al. 2018]. Given the decade-long history of WASHES, this approach enables an examination of how the event has evolved and how its academic impact has unfolded over time. In this regard, we established four key aspects to be discussed: the overall characteristics of published studies, the evolution of research topics, the most active contributors, and the institutional and geographical distribution of publications. To achieve this aim, we established four Research Questions (RQ) that guided our study:

- **RQ1: What is the distribution of published studies in WASHES by year, number of citations, and language?**

Rationale: This question aims to provide an overview of the workshop's publication landscape, including the number of studies published per year and the distribution of languages in which they were written. In addition, we identify the most cited papers and categorize publications based on their thematic axes (social, human, or economic aspects of software engineering).

- **RQ2: What thematic axes and topics have been most frequently addressed over time in WASHES?**
  Rationale: This question aims to observe the coverage of the social, human, and economic thematic axes of the workshop on the published studies. Furthermore, using word clouds generated from paper titles, keywords, and abstracts at three-year intervals, we map recurring themes, emerging trends, and the evolution of research interests in the WASHES community.

- **RQ3: Who are the most active contributors to WASHES?**
  Rationale: This question identifies the most prolific authors in WASHES, highlighting those who have published the most papers over the years. By analyzing the most active authors, we gain insights into the researchers driving discussions in the workshop.

- **RQ4: Which institutions have contributed the most to WASHES, and how is research geographically distributed?**
  Rationale: This question explores institutional participation in WASHES by identifying the institutions with the highest number of published papers. We also analyze the geographical distribution of contributions across Brazilian states, providing an understanding of the workshop's reach and institutional engagement.

To ensure a comprehensive dataset, we included all studies published in the WASHES proceedings without imposing exclusion criteria. The initial dataset was retrieved from dataWASHES [Araújo et al. 2024a], which contained publications up to 2023. To ensure full coverage, we manually retrieved the papers from WASHES 2024 through the SBC OpenLibrary. This search, conducted on February 11, 2025, resulted in a final dataset comprising 100 studies. For efficient organization and analysis, we structured the collected data within a Google Sheets file, systematically documenting the key attributes of each study. The dataset included information on the workshop edition, year of publication, study title, authors, institutional affiliations, and corresponding Brazilian states. We also recorded each paper's abstract, resumo (Portuguese abstract), keywords, study category (full, short, poster, etc.), and the respective download link.

Our analysis approach combined quantitative and qualitative methods. The quantitative analysis included statistical descriptive assessments of publication trends, citation metrics, and geographic distribution (RQ1, RQ3, and RQ4). To this end, we used Jupyter Notebook[1], and graphs were generated with Canva[2]. To investigate the explored research themes (RQ2), we conducted a qualitative analysis of each publication, categorizing them into six thematic axes aligned with the scope of WASHES: Social, Human, Economic, Social and Human, Social and Economic, or Human and Economic. Rather than applying rigid definitions, we adopted a flexible interpretative approach guided by the workshop's thematic scope. When a study clearly aligned with a single axis, it was classified accordingly. In cases of substantive thematic overlap, we assigned an intersectional category. For

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[1] https://jupyter.org
[2] https://www.canva.com

instance, the paper "Impact of Remote Work on Software Teams: A Qualitative Study" [Menolli et al. 2023] addresses both social and human aspects of remote work and was thus categorized as Social and Human. The analysis was conducted in pairs: one author performed the initial classification, and the other reviewed it. Disagreements were resolved through discussion, ensuring consistency across the dataset. Furthermore, to examine the evolution of research topics, we conducted a keyword-based analysis from the titles, abstracts, and keywords of the publications, categorizing dominant topics across different periods (i.e., early, middle, and recent years of WASHES). This analysis was validated through an iterative coding process, ensuring reliability in the classification of research trends. We generate word clouds using the NLTK[3] and WordCloud[4] libraries. Lastly, to enhance the transparency and reproducibility of our study, all supporting data are openly available through a Zenodo repository [Gomes et al. 2024].

4. Results and Analysis

4.1. RQ1: What is the distribution of published studies in WASHES by year, number of citations, and language?

In Figure 1(a), we present the **number of studies published yearly** in the WASHES event. Since 2016, an average of 11 studies have been published annually at the WASHES. In total, 100 papers were published in the workshop. In 2016, the workshop published 15 papers, and the modalities of publication were short papers, with 6 publications, posters, with 3 publications, and full papers, in which 6 publications were made. In 2017, the workshop published 4 papers, 3 being full papers and 1 being a short paper. In 2018, only full papers were published, resulting in 10 publications. Also, in 2019, 10 papers were published, 8 full papers, and 2 short papers. In 2020, 14 papers were published, 11 full papers and 3 short papers. In 2021, a total of 7 papers were published, 4 full papers and 3 short ones. In 2022, 7 papers were published, 5 full papers and 2 short ones. In 2023, 12 full papers were published, and in 2024, 21 papers were published, 13 of which were full papers, 2 of which were short papers, and 6 of which were published in a new category called I Fórum dos Grandes Desafios em Aspectos Sociais, Humanos e Econômicos de Software (GranDASHES-BR). Notably, 2024 witnessed a substantial increase in publications, marking it the highest in the event's history.

Furthermore, to assess the scholarly impact of the studies presented at WASHES, we analyzed **citation data** from Google Scholar to identify the most influential contributions. Figure 1(a) illustrates the temporal variation in citation frequency. The citation counts for the workshop studies have exhibited substantial variability over the years. In particular, 2020 stands out as the year in which publications received the highest number of citations (46). The average median citation count per year is 24.

Concerning **language**, the yearly breakdown of publications by language is illustrated in Figure 1(b). In the workshop, 78% of the accepted papers were written in Portuguese, while the remaining 22% were written in English. The majority of publications are in Portuguese, but the WASHES community has made an effort to internationalize the published studies. Since 2016, there has been at least one publication written in English each year.

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[3]https://www.nltk.org/
[4]https://amueller.github.io/word_cloud

(a) Publications & Number of Citations per Year   (b) Publications per Language
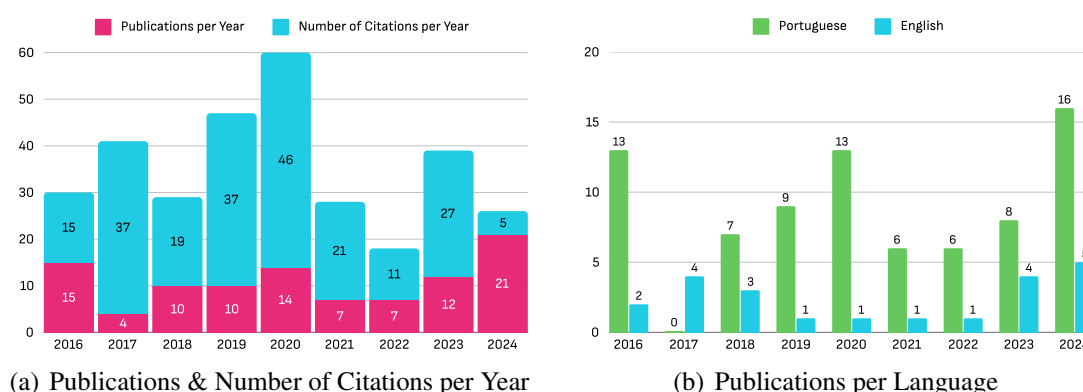
Figure 1. Studies distribution by year, number of citations, and language

Table 1 highlights the most cited studies, revealing a growing but still developing body of knowledge. There is a notable presence of studies in Portuguese (S2, S4, S5, S9, S10), indicating a regional scholarly impact. Thematically, the studies cover diverse topics, including developer experience (S1), soft skills (S2), accessibility (S6), and ethical design (S7). The inclusion of empirical studies and experience reports (S8, S10) also suggests a strong interest in applied research. Only the 2022 and 2024 editions do not have representation in the most cited papers.

4.2. RQ2: What thematic axes and topics have been most frequently addressed over time in WASHES?

Figure 2 presents the **distribution of papers across five thematic axes**. The thematic axes indicate that social aspects (27 papers) are the primary focus of discussion within the WASHES community, followed by human (21 papers) and economic aspects (20 papers). Among all the workshop publications, 50% addressed social aspects, 45% focused on human aspects, and 37% covered economic aspects of the software. This finding reflects a balanced distribution of publications across the proposed themes, while still emphasizing the prominence of social aspects.
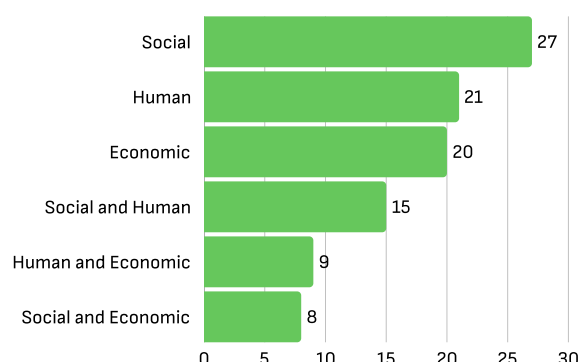
Figure 2. Number of Publications per Thematic Axis

Furthermore, to investigate **which topics were most discussed throughout the editions**, we generated word clouds for three moments in the event's history: 2016–2018, 2019–2021, and 2022–2024. For this analysis process, titles, keywords (when available),

Table 1. Top 10 most cited studies

ID	Study Title	Year	Citations
S1	Facing up the primary emotions in Mobile Software Ecosystems from Developer Experience	2017	20
S2	Análise de Soft Skills na Visão de Profissionais da Engenharia de Software	2019	13
S3	Designing for Reuse in an Industrial Internet of Things Monitoring Application	2017	9
S4	Fatores de Governança em Sistemas-de-Sistemas: Análise de uma Instituição Pública Brasileira	2020	9
S5	Investigando Colaboração em Ecossistemas	2021	9
S6	Acessibilidade para Pessoas Cegas: Avaliação de Compatibilidade do TalkBack com a ABNT NBR 17060	2023	9
S7	Ethical design of social simulations	2018	8
S8	Applying Software Craftsmanship Practices to a Scrum Project: an Experience Report	2016	7
S9	Compreendendo a Evasão em uma Década no Curso Sistemas de Informação à luz de fatores humanos e sociais	2019	7
S10	Uso da Netnografia para a Geração de Personas e Requisitos para Sistemas com foco em pessoas com Transtorno do Espectro Autista: Um Relato de Experiência	2020	7

and abstracts from the papers were used. Figure 3 presents the word clouds generated for each period. In summary, the themes discussed at the workshop evolved over the years. In the first three editions, the focus was on technical topics such as 'models', 'patterns', 'ecosystems', 'processes', and 'crowdsourcing' In the following three editions, while 'ecos' and 'processes' remained prominent, new themes like 'quality', 'social issues', 'management', and 'personas' emerged, signaling a certain shift towards human-centered and practical concerns. The introduction of the GranDASHES-BR submission type in 2024 led to a dominance of the term "challenge" ('desafio' in Brazilian Portuguese), but after removing this keyword, topics like 'experience', 'practices', 'professionals', 'communication', and 'team' became noticeable, reflecting a growing emphasis on real-world application, collaboration, and the human aspects of software engineering.

4.3. RQ3: Who are the most active contributors to WASHES?

Figure 4 illustrates the **distribution of authors who have contributed at least three publications** to the WASHES. The analysis reveals that the majority of contributors have published only once or twice in the proceedings. In total, 309 distinct authors have been identified, among whom 27 authors (8.7%) have published more than once.

Rodrigo Santos (UNIRIO) leads with 13 publications (13% of all WASHES publications), showing particular strength in Social dimensions (4). Emanuel Coutinho (UFC) follows with 11 publications and demonstrates the most balanced cross-dimensional approach. Among mid-tier contributors with 6 publications each, Allysson Araújo (UFCA) and Davi Viana (UFMA) exhibit complementary specializations. Allysson addressed pri-
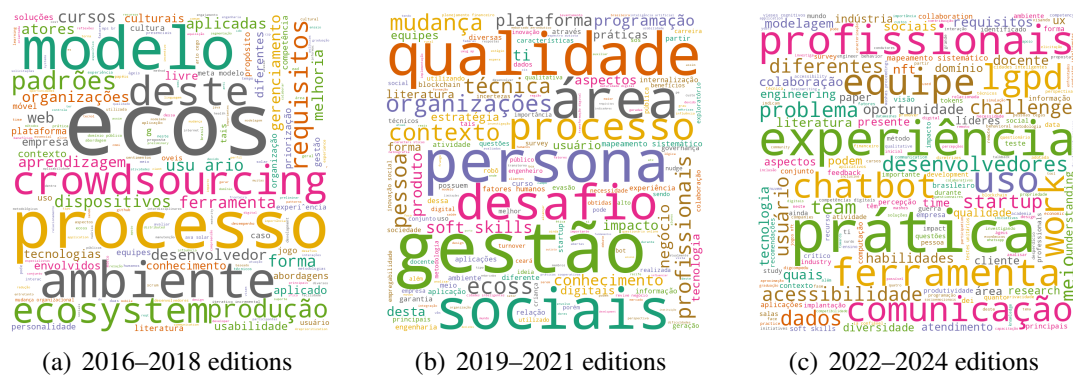
(a) 2016–2018 editions   (b) 2019–2021 editions   (c) 2022–2024 editions

Figure 3. Wordcloud per group of 3 editions

marily on Social aspects (3) while Viana concentrated on Human dimensions (3). The remaining contributors with 3 publications each show more specific profiles: Ivaldir de Farias Junior (UPE) concentrates on Economic (2) and Social and Human (1) dimensions; Rafael de Mello (UFRJ) distributes his contributions across intersection categories (Social and Human, Social and Economic, and Human and Economic); while Anna Beatriz Marques (UFC) focuses on Social (2) and Human (1) dimensions.
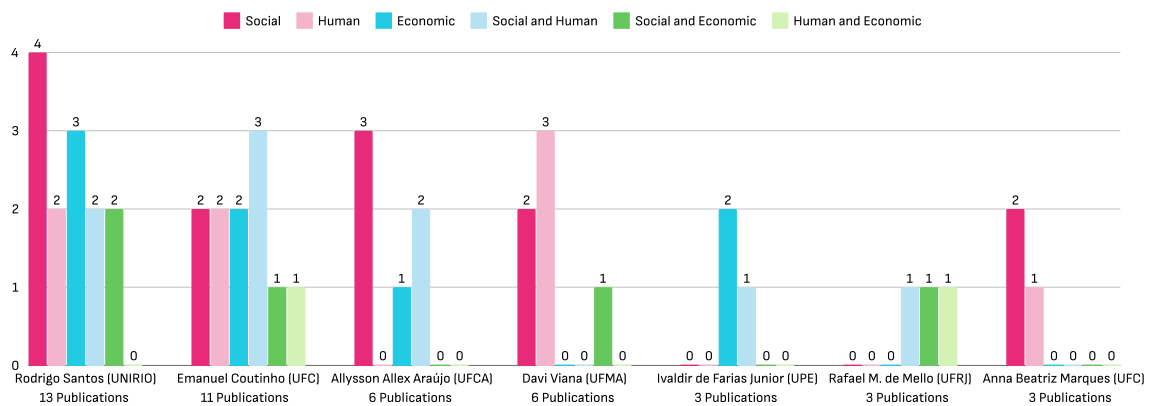

Figure 4. Authors with the most publications and corresponding thematic axis

4.4. RQ4: Which institutions have contributed the most to WASHES, and how is research geographically distributed?

WASHES has studies that involved more than 300 researchers and more than 70 distinct institutions from 4 countries and 19 Brazilian states. Figure 5(a) displays the **institutions with at least five publications** in the WASHES. Notably, the Federal University of Ceará (UFC) leads with 16 publications, followed by the Federal University of the State of Rio de Janeiro (UNIRIO) with 14 publications, and the Federal University of Rio de Janeiro (UFRJ) with 7 publications. In total, 73 institutions have published in the workshop.

In terms of **geographical distribution** (see Figure 5(b)), Ceará emerges as the most prolific Brazilian state with 31 published papers, followed by Rio de Janeiro with 24 publications and São Paulo with 20. Only seven Brazilian states, namely Alagoas, Espírito Santo, Maranhão, Rondônia, Roraima, Santa Catarina, and Sergipe, have not yet contributed to the workshop, underscoring its extensive national reach.

(a) Institutions with the most publications   (b) Number of publications per Brazilian State
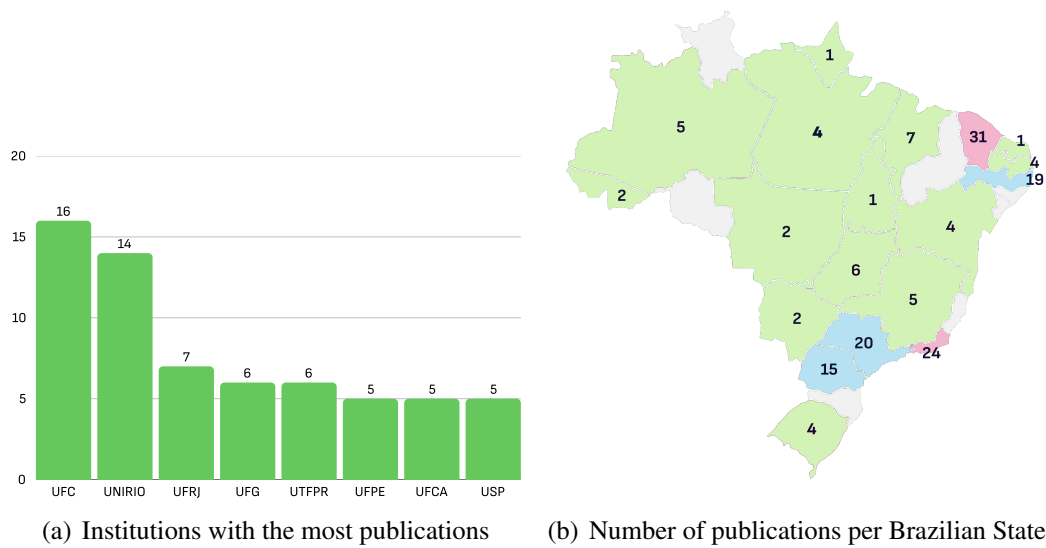
Figure 5. An Overview of the Perspective of Institutions and Brazilian States

Moreover, five papers featured contributions from international authors, respectively published in 2017, 2018, and 2024. Of these, three involved authors were based in the United States: one from Northern Arizona University, four from Clemson University, and one from The Pennsylvania State University. These American-based authors contributed to the 2017, 2018, and 2024 editions. Additionally, a Canadian-based author from the University of Montreal contributed to the 2018 edition, while a German-based author from the University of Hohenheim was involved in the 2024 edition. This highlights the international presence of authors, with contributions spanning institutions in North America and Europe.

5. Threats to Validity

Our validity threats were based on the checklist proposed by Ampatzoglou et al. [Ampatzoglou et al. 2019]. The three categories of threats identified are presented below with their corresponding mitigation actions.

Study inclusion/exclusion bias: This study aims to provide an overview of WASHES publications, and therefore, all studies published in the event proceedings were selected without applying any inclusion or exclusion criteria. To ensure accurate data retrieval, an initial dataset was obtained from dataWASHES [Araújo et al. 2024a]. As the dataset did not cover the 2024 edition during the data collection period, additional data for this edition were manually retrieved from SBC OpenLibrary.

Researcher Bias and Repeatability: To address RQ1, RQ3, and RQ4, descriptive statistical analyses were conducted on publication trends and geographic distribution using established libraries and methods. For RQ2, a qualitative analysis was performed on each publication, categorizing them along five thematic axes aligned with the scope of WASHES ('Social', 'Human', 'Economic', 'Social' and 'Human', 'Social' and 'Economic', or 'Human and Economic'). The categorization was done in pairs to reduce interpretation bias, with the results double-checked. Specifically, one pair of authors analyzed the papers from 2016 to 2020, while another pair analyzed the papers from 2021

to 2024. This division allowed for a more thorough and consistent review. Divergent outcomes were discussed and resolved on a case-by-case basis to ensure alignment. While this process improved data accuracy, it is important to note that some papers were more difficult to classify than others, as they could not be directly linked to a specific axis. To enhance the reproducibility of our study, all supporting data are openly available through a Zenodo repository [Gomes et al. 2024].

Robustness of Classification: Our analysis of papers by thematic axes (RQ2) may be subject to inherent subjectivity, as the categorization is influenced by the authors' interpretations. To mitigate biases and enhance the reliability of the identified mappings, we employed an approach of dividing the papers into pairs of authors, with double-checking of results. This method helped to strengthen the consistency of the classifications.

6. Final Remarks

WASHES was created in 2016 as a platform for discussions on the social, human, and economic aspects of software engineering. In 2025, WASHES will celebrate ten years, establishing itself as an important scientific venue in Brazil. This study presented a scoping review of the WASHES proceedings, examining its evolution over the past decade.

Our analysis covered 100 studies published in the WASHES proceedings. In the last three years, particularly in 2024, there was a significant increase in the number of publications. While most papers remain in Portuguese, the proportion of English-language publications has also grown in the last two editions. In terms of thematic focus, social and human aspects gained prominence, both individually and in combination. The study also identified the most prolific authors, with 7 researchers contributing between 3 and 13 papers. The findings demonstrate the diverse nature of WASHES, with more than 300 researchers from 70 institutions across 19 Brazilian states. Ceará, Rio de Janeiro, and São Paulo were the most active states in terms of contributions.

Regarding the contributions, this study offered a scoping review of the research from the nine editions of WASHES. We provided an overview of the published studies, including the evolution of discussions around the workshop's thematic axes. Moreover, this paper analyzed the research network behind WASHES, identifying the most influential authors and institutions, and the geographical distribution of contributions. The findings suggest possible directions for the WASHES future development, such as the expansion of thematic tracks to reflect emerging areas of interest, the broadening of geographic participation with underrepresented regions, and a balanced approach to language use, where publication in English may support international visibility, while maintaining Portuguese as the primary language preserves accessibility and reinforces national engagement.

Future work could explore different avenues. First, investigating the impact of WASHES research on industry practices and software projects could offer insights into how the workshop's findings are applied outside academia. Another direction would be comparing WASHES with similar international conferences to identify regional differences in addressing social, human, and economic aspects of software engineering. Lastly, conducting a network analysis of authors and institutions could highlight collaboration patterns and interdisciplinary connections that shape the workshop's research agenda.

Acknowledgments

References

[Ampatzoglou et al. 2019] Ampatzoglou, A., Bibi, S., Avgeriou, P., Verbeek, M., and Chatzigeorgiou, A. (2019). Identifying, categorizing and mitigating threats to validity in software engineering secondary studies. *Information and Software Technology*, 106:201–230.

[Araújo et al. 2024a] Araújo, A. A., Farias, I., Gonçalves, V., Santos, R., Viana, D., and Steinmacher, I. (2024a). dataWASHES - Towards an Application Programming Interface of WASHES proceedings data. In *Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software*, pages 158–162. SBC.

[Araújo et al. 2024b] Araújo, A. A., Gonçalves, V., Farias, I., Santos, R., and Viana, D. (2024b). What has the washes community discussed about software economics in the last years? In *Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software (WASHES)*, pages 118–129. SBC.

[Boehm 2002] Boehm, B. W. (2002). *Software engineering economics*. Springer.

[Gomes et al. 2024] Gomes, O., Miranda, E., e Silva, G. B., and Araújo, A. A. (2024). Supporting dataset. Available at: https://doi.org/10.5281/zenodo.15051497.

[Hyrynsalmi et al. 2025] Hyrynsalmi, S. M., Liebel, G., Santos, R., and Baltes, S. (2025). Not real or too soft? On the challenges of publishing interdisciplinary software engineering research. *arXiv:2501.06523*.

[Lenberg et al. 2015] Lenberg, P., Feldt, R., and Wallgren, L. G. (2015). Behavioral software engineering: A definition and systematic literature review. *Journal of Systems and software*, 107:15–37.

[Menolli et al. 2023] Menolli, A., Coleti, T. A., and Morandini, M. (2023). Impact of remote work on software teams: A qualitative study. In *Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software (WASHES)*, pages 51–60. SBC.

[Motta et al. 2022] Motta, T. V. A., Braga, G., et al. (2022). Analise quali-quantitativa sobre a influência da diversidade na produtividade de equipes ágeis: um estudo na indústria. In *Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software (WASHES)*, pages 31–40. SBC.

[Munn et al. 2018] Munn, Z., Peters, M. D., Stern, C., Tufanaru, C., McArthur, A., and Aromataris, E. (2018). Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC medical research methodology*, 18:1–7.

[Peters et al. 2020] Peters, M., Marnie, C., Tricco, A., Pollock, D., Munn, Z., Alexander, L., Mcinerney, P., Godfrey, C., and Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JBI evidence implementation*, 19:3–10.

[Santos et al. 2024] Santos, A., da Silva, E., and Zaina, L. (2024). Kanban board guide for startups: introduzindo boas práticas para melhorar a experiência do desenvolvedor. In *Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software (WASHES)*, pages 23–34. SBC.

[Smith and Duncan 2022] Smith, S. A. and Duncan, A. A. (2022). Systematic and scoping reviews: A comparison and overview. In *Seminars in Vascular Surgery*, volume 35, pages 464–469. Elsevier.

[Valderramas 2020] Valderramas, E. (2020). A ética como um dos desafios da inteligência artificial. In *Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software (WASHES)*, pages 71–80. SBC.