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Technology, Gender and Organizations: A Systematic Mapping Study

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ABSTRACT In this article, we employed a systematic mapping methodology to examine the existing literature at the intersection of technology, gender and organizations. While much has been written about gender in organizations, the research has not consistently considered that modern organizations are increasingly technology-driven – in technology may lie an underexplored lever that could help expand our understanding of gender issues at the workplace. By analyzing a final sample of 168 research papers, we found that two main forms of conceptualizing technology emerged: technology as culture and technology as tools. Papers in the first category are concerned with environments in which technology drives a large part of what is produced, and, therefore, heavily influences culture; authors employ this framing to study technology companies, roles, and entire economic sectors under a gender perspective. The second approach corresponds to the understanding of technology as tools that individuals can use to perform their tasks. A tool can be physical, based on software, or even combine hardware, software, procedures and people; authors employ this framing to study gendered use, or adoption, of technologies to work. We synthesized all the extracted data to obtain a mapping of the literature and conclude with suggestions for future research at the intersection of technology, gender and organizations.

INDEX TERMS Gender, organizations, systematic mapping, technology.

I. INTRODUCTION

The role of gender in work and organizations has long captured the attention of researchers. For example, they have documented how gender influences access to networks [1], representation in senior roles [2], career paths [3], occupational segregation [4], wages and compensation [5], among many others (for overviews see: [6], [7]). However, while much has been written about gender issues in organizations, the research has not consistently considered that modern organizations are increasingly technology-driven [8]–[10]. In technology may lie an underexplored lever that, if systematically incorporated into the analysis, could help expand our understanding of gender issues at the workplace. For example, technology may allow more varied and flexible forms of work that could support employees, particularly women who often bear most of the burden of caregiving [11]–[14]; and the study of masculine stereotyped technologies and tech cultures might help to understand specific archetypes of ideal worker that may put other genders at disadvantage [15]–[17].

Today is a particularly appropriate moment to take stock of the research at the intersection of technology, gender and organizations given that the pandemic has forced millions to abruptly increase the amount of time they spend working through technology [18]. Moreover, scholars predict that the increase in remote work and virtual collaborations is here to stay permanently [8], [9]; thus, understanding the impacts of technology on gendered dynamics in organizations is of the utmost importance. Technology, gender and organization scholars alike should pay attention to the interactions among their topics of interest, if we are to understand the ways in which gender issues matter in the contemporary workplace.

Henceforth, the main purpose of this study was to systematically review the literature that covers the intersections

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among these three themes – technology, gender, and organizations – to: (1) elucidate main sub-themes that were being investigated, (2) identify predominant approaches to research in this multidisciplinary area, and (3) map out its trends and evolution. The ultimate goal of this mapping study is to, eventually, help spark more research that could benefit from an integrated treatment.

To carry out this systematic mapping study, we performed an initial search for scientific articles addressing the intersection of technology, gender and organizations in the Web of Science (WOS) database. In particular, we restricted to articles published in the last 10 years, that were written in English, and that were either published in journals or conference proceedings. As the intersection of interest was of multidisciplinary nature, the scientific outlets included in the search could belong to any science (e.g., computer science, industrial engineering) or social science (e.g., psychology, management). After a thorough screening process of several stages (including peer review and consensus building among the research team), we ended up with a final sample of 168 articles.

We deeply analyzed this corpus and extracted several categories of information from each reviewed article. This included the authors, year of publication, title, journal or conference title, research type, WOS category, research questions, methods, key results, among others.

Then we identified the main themes addressed in the sample papers, from which we developed an organizing emergent framework. We found that the papers in the sample could be categorized by the ways in which they treated technology. In particular, two main forms of conceptualizing technology emerged: technology as culture and technology as tools. Papers in the first category are concerned with environments in which technology drives a large part of what is produced, and, therefore, heavily influences culture. Authors employ this framing of ''techno-driven culture'' to study technology companies, specific technology roles within organizations, and technology sectors under a gender perspective; for example, to investigate how different genders fair in technology companies regarding pay, recruitment, and promotions. The second approach corresponds to the understanding of technology as tools that individuals can use to perform some activity. A technological tool can be physical, based on software, or even combine hardware, software, procedures and people (as in an information system). Papers that explore technology as tools focus on how individuals use, or adopt, technology to work, under a gender perspective; for example, how men and women might use ICTs differently to cope with remote work arrangements. We also found that the organizational aspects considered in the sample papers ranged from career path issues (e.g., promotions) to work arrangements (e.g., work-life balance) and to features of the organizational environment (e.g., workforce diversity). All these organizational aspects were studied considering gendered dynamics and technology in some form (e.g., gender diversity in tech companies).

Finally, we summarized and analyzed all the extracted and emerging information from the 168 sample papers to obtain a mapping of the literature at the intersection of technology, gender, and organizations. The reminder of the article presents this mapping and is organized as follows. Section II explains the purpose and usefulness of carrying out a systematic mapping to take stock of our topics of interest. Section III gives details on the process we followed to perform this particular mapping study. Section IV presents the main results of the study and the framework we developed to organize the literature. Finally, in Section IV we discuss the main findings of the study, and outline implications for future research.

II. A MAPPING OF TECHNOLOGY, GENDER AND ORGANIZATION

Scholars of gender issues at the workplace have traditionally explored the experience that is based on a person's membership in the social group or category of males and females [7], [19], though contemporary organizational research is increasingly incorporating the exploration of non-binary gender identities [20], [21]. Extensive research explores how gender inequality persists in organizations, which is important given that paid labor is the major means by which individuals gain access to material resources, authority and social status [7], [11]. Another important aspect that has come to the fore recently, is that the organizations, where these gender dynamics take place, are increasingly technology-driven [8]; a phenomenon that has accelerated pace with the pandemic and that is arguably here to stay permanently. Herein lies the usefulness of mapping out the research that considers these three aspects jointly. However, we are not aware of any systematic mappings on the topic of technology, gender, and organization. When searching academic resources such as Web of Science (WOS) and top journals in the fields of interest, we found related reviews but they all focus on one or two of the aforementioned themes, not on the intersection of all three.

Some reviews consider the role of technology and organizations, but omit gender. For example, Wang *et al.* [22] reviewed 83 empirical works about the impact of the use of information and communication technologies on the job performance and well-being of workers, and Cascio and Montealegre [23] addressed the issue of technology in organizations, but neither considered gender. Other reviews consider gender and organizations, but omit the role of technology, such as Bishu and Alkadry's review [24] of research on the wage gender gap in organizations and Lyness and Grotto's review [6] on the gender gap in leadership. Finally, still other reviews consider gender and technology, but not in the context of organizations, such as a review by Bray [25] that touches on the issue of gender and technology from an anthropological point of view, but generally overlooks organizational contexts.

Given that workers experience all three in the course of their careers and while completing job tasks, it is important to consider the simultaneous experience of technology, gender

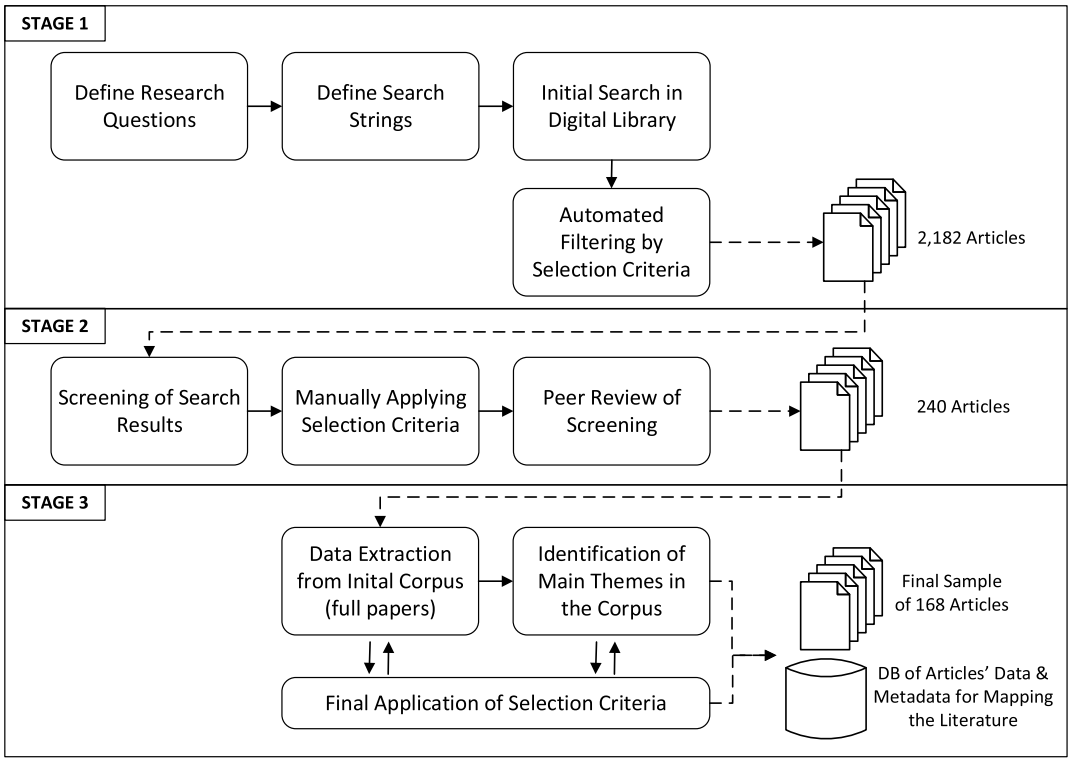

FIGURE 1. The systematic mapping process.

and organizations. This is the gap we try to address with this systematic mapping study. This methodology has become increasingly popular in many scholarly fields, ranging from engineering to social science [26], [27]. A systematic mapping study aims at revealing the structure of the research that has been published in a given field, by organizing the types of studies, publication trends over time, and themes that have been covered [28]. Crucial objectives of a systematic mapping study are to: broadly organize an area of research, assess its state of development and vibrancy, and identify possible sub-areas where further research would be beneficial [29].

A systematic mapping differs from a systematic literature review in that mapping studies tend to have broader research questions, which tends to yield a large number of studies [30]. Some advantages of systematic mappings are that, firstly, they tend to provide a comprehensive overview of the field and make it easier for researchers to make sense of large literatures; secondly, they can help identify groups of research studies that are suitable for a more focused review; and, thirdly, they may also indicate points where more primary studies are needed [31].

The systematic mapping methodology is characterized for following certain steps that allow the rigorous inspection of the area of interest. These steps usually include: defining research questions (research scope), conducting a search for research studies, screening papers according to predefined inclusion/exclusion criteria and relevance to the research questions, extracting data from the final sample of papers, and mapping the studies (e.g., grouped them, identify time trends, etc.). The methodology that we employed in this work followed this approach.

III. MAPPING METHODOLOGY

The process we employed to conduct the systematic mapping is depicted in Fig. 1. It follows standard guidelines for formalizing this type of research in engineering and the social sciences [26], [27], [30], [31]; thus, it included activities ranging from: formally defining research questions, to predefining search strings for automated search, and to having peer review incorporated in the screening process. As Fig. 1 shows, activities were grouped into stages, each producing a result that was subsequently refined, until obtaining a final sample of papers and its associated mapping data. Below we provide detail about how each part of the process was carried out.

A. RESEARCH QUESTIONS

The overall goal of this study was to systematically map the literature that covers the intersections among technology, gender and organization. Ultimately, we aim to organize the literature around these three themes to aid research that could benefit from an integrated treatment. This is especially relevant nowadays that there is great interest for research on gender issues at work, and that organizations are increasingly becoming technology driven. In particular, we focused on the following set of research questions:

- **RQ1:** *What are the main outlets where research in the area of technology, gender and organization is being published? And how can they be characterized?*
  By answering this question, we expect to discover if there are predominant journals or conferences where the issues of technology, gender and organization are discussed. The answer is not evident, because of the multidisciplinary nature of the intersection of themes we are mapping.
- **RQ2:** *What is the geographical origin of works in the area of technology, gender and organization?*
  Here, we want to find out in which parts of world this intersection is being more intensely researched. This is particularly important, given that this is an applied area of research, often involving actual organizations and people in their interactions through technology.
- **RQ3:** *Is there a relevant time trend in the research on technology, gender and organization?*
  Here, we intent to find out whether research at this intersection is growing or decreasing, as an indicator of interest by scholars.
- **RQ4:** *What are the main research approaches that are being employed in the area of technology, gender and organization?*
  By answering this question, we expect to uncover which kind of approaches researchers have found useful to address questions in this area (quantitative, qualitative or conceptual).
- **RQ5:** *What are the main topics that are investigated in the research in the area of technology, gender and organization?*
  By answering this question, we expect to identify the main sub-themes within technology, gender, and organization that are most frequently investigated when carrying out research at the intersection.

B. SELECTION CRITERIA

In order to select studies relevant for answering our research questions, we defined the following inclusion criteria:

- Papers that treated technology, gender, and organization, all three of them, as part of the central themes of the study.
- Papers published in peer-reviewed scientific journals or conference proceedings.
- Papers published between 2011 and 2021.
- Papers written in English.

And we excluded papers that meet any of the following:

- Research not structured as full-blown research articles (e.g., poster papers, extended abstracts, books, dissertations, and others).
- Papers without full text available in electronic form.
- Studies that did not treat technology, gender, or organization as a central theme (e.g., papers that only considered gender as a control variable, without theorizing, connecting to related literature nor elaborating on the gender results, were not selected as part of the sample).

As shown in Fig. 1, these criteria were applied by configuring filters in the digital library we used during Stage 1; then it was manually applied as part of the screening of papers in Stage 2; and, finally, it was iteratively considered while extracting data and analyzing papers in Stage 3.

C. SEARCH STRATEGY AND DATA SOURCES

After defining research questions and selection criteria, we proceeded to define a specific search string to be employed in a digital library. As usual in reviews, we wanted to initially collect papers that included our concepts of interest in their abstract, title or keywords. We achieved this by employing the search string shown in Fig. 2.

(TI=technology OR AB=technology OR AK=technology) **AND**
(TI=gender OR AB=gender OR AK=gender) **AND**
((TI=organization OR AB=organization OR AK=organization)
OR (TI=work OR AB=work OR AK=work))

FIGURE 2. Search string. Note: TI = title, AB = abstract, AK = author keywords.

The query searches for articles that contain ''technology'' in either their title, abstract or author keywords.[1] To get selected, an article should also contain – in the title, abstract or keywords – the word ''gender,'' and either ''organization'' or ''work.'' We used two options for the last concept because what we intent to uncover is the relationship of technology and gender at the workplace, or in work-related situations. Authors often indicate that by using the concept of organization or work. We ran this search in the Web of Science (WOS) database, and used its built-in capabilities for lemmatization and stemming.[2] This way, the search also considered several commonly used variants of the words ''technology'' (e.g., ''technological''), gender (e.g., ''gendered''), organization (e.g., ''organizing''), ''work'' (e.g., ''workplace''), in addition to their plural forms (e.g., ''organizations''), and alternative spellings (e.g., ''organisation'').

We selected the WOS digital library for performing the search, because it is one of the most well-established, reliable, and heavily used sources of academic articles in the scientific community [32], [33]. Currently, WOS indexes articles in all science and social science fields, in an ample number of formats (including journal articles and conference proceedings), and either published independently by scholarly associations or by any of the major scientific publishers (including Elsevier, Springer, IEEE, ACM, Sage, etc.). Thus, this database is particularly well-suited for a multidisciplinary search such as ours.

We ran the query indicated in Fig. 2 in the WOS digital library. We used the advanced search facility it provides in order to consider variants of the search terms, and to filter results according to the selection criteria

[1] These are the keywords entered directly by the authors for each paper, not other keywords that are often associated to papers but which are automatically generated by digital libraries.

[2] http://webofscience.help.clarivate.com/en-us/Content/search-rules.htm

(described in Section III-B). In particular, we used filters to only retrieve research papers in English, published in the 2011-2021 period, and from journals and conferences proceedings. We achieve the latter by configuring the search to focus on the following WOS indexes: Social Sciences Citation Index (SSCI), Science Citation Index Expanded (SCIE), Emerging Sources Citation Index (ESCI), Conference Proceedings Citation Index – Social Science and Humanities (CPCI-SSH), and Conference Proceedings Citation Index – Science (CPCI-S). SCCI and SCIE group more established journals, for which WOS also estimates an Impact Factor (based on citation counts). ESCI indexes journals that are at a more nascent stage of development. And CPCI-S and CPCI-SSH index conference proceedings in the sciences and social sciences. The search yielded a total of 2,182 articles – initial candidates to be included in our final sample (see Fig. 1).

Afterwards, we organized a screening process and peer review sessions to manually inspect the original set of articles retrieved from the digital library (see Stage 2 in Fig.1). Each paper was initially screened by two researchers. By reading title, abstract and keywords, each screener had to assess whether the paper met the selection criteria and propose to include or reject the paper or pass on making a decision. If both screeners agreed on accepting or rejecting, then a third would peer review the decision. If (i) screeners did not agree, or (ii) at least of them passed on making a decision, or iii) the peer reviewer disagreed with the screeners, then the paper was discussed by the entire research team in a consensus meeting; this usually entailed reading the entire paper to gather more information. In particular, this process allowed us to more thoroughly exclude papers that mentioned our three themes of interest (technology, gender, and organization) but that did not engage with them in practice. Finally, this stage of the mapping process yielded a refined set of 240 articles.

D. DATA EXTRACTION AND IDENTIFICATION OF EMERGING THEMES

The third, and final, stage of the mapping process (see Fig. 1) involved thoroughly reading and analyzing every paper (from the resulting set of stage 2) in its entirety. We collected several kinds of data and consolidated them in a database to enable further analysis of the literature. First, we collected metadata from the papers readily available from the digital library (e.g., year of publication, source title, WOS index). Second, we created metadata by assigning the papers to categories we created for organizing them (e.g., empirical-quantitative, theoretical). Third, we extracted and synthesized content information from the papers (e.g., research questions, key findings). Fourth, we applied a framework to organize the ways in which different gender issues manifested in different aspects of technology and organization. This framework emerged as a result of the study; we provide detail about it in the Results sections.

Below we describe each data item we used to extract information from the papers.

1) AUTOMATICALLY EXTRACTED DATA

The following data were directly obtained from the digital library record of each paper.

- Authors: full names of all authors.
- Year: year in which the article was published.
- Article title: full title of the paper.
- Document type: whether the paper is a journal article or a proceedings paper.
- Source title: name of journal where published (if a journal article).
- Conference title: name of the conference where published (if a proceedings paper).
- WOS index: the indexes where the outlet publishing the paper is classified. As explained in Section III-C, the options are: SSCI, SCIE, ESCI, CPCI-SSH, and CPCI-S.
- WOS category: the categories within each index where the outlet that published the paper was classified (e.g., ''Applied Psychology'' within SSCI, ''Computer Science, Information Systems'' within SCI).

2) MANUALLY EXTRACTED DATA

The following information (excepting the first item) was extracted by directly inspecting the content of each paper:

- Best WOS quartile: the best quartile of the journal that published the paper. Journals indexed in a SSCI or SCIE category are ranked into quartiles based on Impact Factor. A journal can be included into multiple categories, and it will be assigned a quartile in each of those. In this item, we only recorded the best one. Quartiles (which are based on impact factors) are often considered as a proxy of the quality of a journal [32], [33].
- Region: the region of the world where the work was conducted. We used a UN-based categorization to assign papers to the following regions: North America, Europe, Oceania, Latin America and the Caribbean, Africa, Eastern Asia, South Asia, Southeast Asia, the Middle East, Antarctica, and Multi-region, which was used when studies covered more than one region.
- Research questions: the central questions around which the paper revolves.
- Methods: a description of the empirical strategy employed (papers could also be non-empirical).
- Key results: a description of the main findings and conclusions reported in the paper.
- Relevance of results: a synthesis of the implications of the findings.
- Article type: whether the article is empirical (quantitative or qualitative), theoretical, a review, or a position paper. This categorical definition was mainly inferred from inspecting the Methods item.

3) EMERGENT THEMES

A crucial goal of our study was to identify categories that represented the main themes being addressed by the researchers at the intersection of technology, gender, and organization. To uncover those categories within our sample of papers, we followed the steps of an inductive approach [34]. Initially, four members of our research team independently coded important themes that appeared repeatedly on the papers. Subsequently, through an iterative process of consensus building regarding the emerging themes, we developed an overall organizing framework of categories within technology, gender, and organization that comprehensively reflected the main themes. Finally, by using this framework we added three more data items to the record of each paper, namely: treatment of technology, focus within technology, focus within organization. We present this framework in the Results section.

Along with the above, in this second stage we eliminated another set of papers from our sample, to reach a final count of 168 papers (see Fig. 1). This time each new elimination was approved in a consensus meeting. The main reason for exclusion was that, by deeply analyzing each manuscript, we identified some that did not consistently ponder either of our themes of interest so as to warrant a meaningful and valuable extraction of data. The complete list of papers in our sample can be found in Appendix A.

IV. RESULTS

In this section we present the results of our systematic mapping study. In Section IV-A we describe the overarching organizing framework that emerged from the qualitative analysis of the sample papers. And in Section IV-B we employ this framework, and several statistics, to answer our research questions (stated in Section III-A).

A. QUALITATIVE ANALYSIS – EMERGENT FRAMEWORK

Fig. 3 depicts the framework we developed for organizing the literature at the intersection of gender, technology and organization. We selected all papers in our sample to explore the role of technology in gender and organizing (e.g., [35]). This means they have a focus on understanding the impacts of how technology shapes gendered experiences at work. For example, a concern we identified in the sample was on understanding how salaries (an organizational dimension) were affected by the gender of individuals (gender perspective) in the high-tech sector (technology conceptualized as culture); and another concern was on how work-life balance (organizational dimension) was improved or worsened due to the adoption of mobile technology (technology conceptualized as tools) depending on the gender of individuals (gender perspective).[3]

Every paper in the sample, tackles at least one of the ''Organization'' topics depicted in Fig. 3, and at least one of the topics in ''Technology as Culture'' or ''Technology as Tools'' (no paper treated both conceptualizations of technology simultaneously). In sum, the framework integrates all the technology and organization topics that we found on the sample papers, which were, in every case, studied with a gender perspective. We give details on each component of the framework below.

1) TREATMENT OF TECHNOLOGY

Our analysis of the sample revealed that there were two general approaches to conceptualizing technology, namely: technology as a culture and technology as tools.

a: TECHNOLOGY AS CULTURE

In an organization or work environment, culture refers to the shared beliefs and behavioral patterns that are shaped by the values, attitudes and expectations of a given group of people [36]. Papers in this category are concerned with environments in which technology drives a large part of what is produced, or dealt with in some form while working, and, therefore, heavily influences culture. Authors employ this ''techno-driven culture'' framing to study technology companies, technology units or roles within organizations (not necessarily tech), and technology sectors (which group many organizations). Gender scholars have long argued that gendered cultures set the tone for what work behaviors and individual attributes are valued, as well as who is rewarded and promoted [15]–[17], [37]. As shown in Fig. 3, there are several categories within technology as culture. We briefly describe them below.

STEM refers to any services, products or professions within science, technology, engineering, or mathematics [38], [39]. In the sample papers, STEM was used in three different ways, to characterize: (i) industry *Sectors* (e.g., the pharmaceutical sector), (ii) individual *Companies* (e.g., a biotech), and (iii) *Academic* units within educational institutions (e.g., a school of engineering). Thus, it is a broad category, that could refer to organizations producing actual innovation, but also to basic research facilities or educational institutions.

HIGH-TECH is more specific than STEM and refers to services, products or professions that make use of advanced knowledge and technologies to deliver actual innovations, typically in hardware, software or robotics [40], [41]. High-tech was used to characterize techno-driven cultures at two levels: (i) a technology innovation region or *Sector* (e.g., Silicon Valley), and (ii) individual *Companies* (e.g., a tech company in Silicon Valley).

ICT is narrower than the two previous, and refers to services, products or professions related to the information and communication technologies, which enable people, organization, and systems to coordinate, communicate and collaborate [42], [43]. In the sample, it was used to characterize objects of study, and denote cultural particularities, at two levels: (i) industry *Sector* (e.g., the ''ICT sector'' in

[3]We provide detail on these concerns in the following subsections.

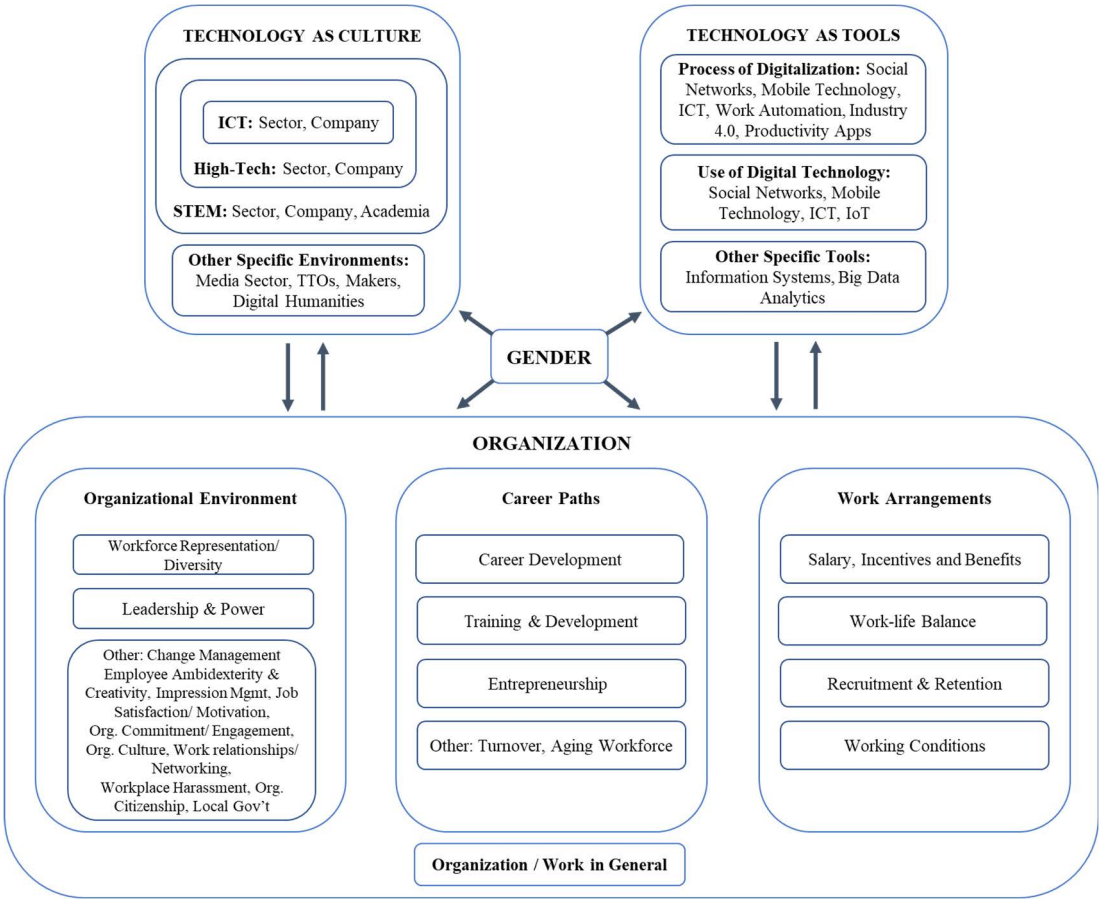

FIGURE 3. Emergent Framework: Technology and organization topics addressed under a gender perspective in the sample.

a given country), and (ii) an individual *Company* or sub-unit within a company (e.g., an IT unit).

It is important to note that the previously mentioned categories are conceptually nested. ICT is nested in High-Tech, and High-Tech is nested in STEM. However, we categorized each paper according to the term its authors used. For example, if they refer to their setting as ''the high-tech sector,'' then we categorized the paper as such, even if conceptually it could also be classified as STEM. This allows our mapping to maintain a clear connection with the terms as they are used in the literature.

Other specific environments that appeared on the papers were: (i) the *Social Networks/Media Sector*, which requires from people a constant use of technology to perform most tasks [44]; (ii) *University Technology Transfer Offices*, where individuals focus on making new technologies more accessible, useful, and appealing for the general public [45]; (iii) *Maker Spaces*, which are meant to provide people with an environment where they can freely combine technologies in a collaborative and creative atmosphere [46]; and (iv) the *Digital Humanities*, an academic field where scholars systematically use digital technologies within the humanities [47].

b: TECHNOLOGY AS TOOLS

The category of technology as tools corresponds to the understanding of technology as tools that individuals can use to perform some activity. A technological tool can be physical, based on software, or even combine hardware, software, and people (as in an information system), and it can also embed a method for performing a given task (as in productivity applications) [48]. For example, gender scholars note that the method of how work tasks are accomplished – whether through hardware, software or interpersonally – can also unequally impact men and women [49]–[52]. Below we describe the categories of technology as tools that were present in the sample (see Fig. 3).

An important distinction to make is the one between the *Process of Digitalization* and *Use of Digital Technology*. On the one hand, the Process of Digitalization refers to the process by which domains of work life are restructured around digital technologies and infrastructures [53]. Papers in this category focused on studying the change, from manual to digital, when adopting a technology. On the other hand, Use of Digital Technology refers to a focus on actual use of technology (papers in this category are not generally concerned

with the processes by which said technology came to be utilized). For example, a paper studying how adopting a social network app (such as WhatsApp) to coordinate work changes the way individuals from different genders interact, would be categorized under Process of Digitalization, whereas a paper that compares how men a women use a given social network (that was previously adopted) would be categorized under Use of Digital Technology. As seen in Fig. 3, papers in both categories study either adoption or use of Social Networks, Mobile Technology, and ICT, which we describe below.

The *Social Networks* category alludes to the adoption or use technologies such as the internet and various message systems that allow individuals to keep us in touch with one another, while at the same time providing information about who they are, with whom they communicate, what they think, and how they act [54]. *Mobile Technology* refers to the adoption or use of mobile phones, smartphones, or other portable devises that provide access to a range of services, including messaging services, social media, and other applications that have allowed people to participate in different spheres of life at roughly the same time, many times blurring the lines between them [55]. Similarly, to what we discussed in Section IV-A, here *ICT* refers to services and products that enable people, organization, and systems to coordinate, communicate and collaborate [42], [43]. Papers in this category study either adoption or use of ICTs for work in organizations under a gender perspective.

It is important to point out that there is an implicit nesting among these categories. Social Networks is nested in Mobile Technology, and in turn, Mobile Technology is nested in ICT. For instance, a social network app (e.g., WhatsApp), can be used through mobile phones, and can be employed by workers to coordinate within an organization, therefore it is an ICT. However, we categorized each paper according to the term its authors used. For example, if they refer to the technology they study as a ''social network,'' then we categorized the paper as such. This allows our mapping to maintain a clear connection with the terms as they are used in the literature.

Within Digitalization, there are three more categories that appeared in the papers. Firstly, *Work Automation*, which alludes to changes associated with the conversion of work processes to automatic rather than human operation or control, involving a deep reorganization during which both the human and machine functions are redefined [56]. Secondly, *Industry 4.0*, which implies considering the overall impact of adopting a range of technologies, including artificial intelligence, robotics, and others, into the value creation processes of organizations [57]–[59]. And, thirdly, *Productivity Apps*, which refers to the adoption of applications that are meant to improve the productivity of workers, such as word processors, shared online calendars, engineering diagraming software, among others. Additionally, within Use of Digital Technology, there is one extra category that appeared in the papers, namely *IoT apps*, which refers to the use of IoT (Internet of Things) products to control the physical operations of an organization remotely [60].

Lastly, other specific tools, that appeared on the papers were: (i) *Information Systems*, which are work systems (composed by hardware, software, and people) devoted to processing information in order to support decision-making in an organization [61]; and (ii) *Big Data Analytics*, which are tools and methods that allow to accumulate, manage, and analyze large volumes of structured and unstructured data [62].

2) TREATMENT OF ORGANIZATION

We found that the papers in the sample addressed a total of 22 different organizational issues. As indicated by the arrows in Fig. 3, all papers in the sample tackle at least one of the ''Organization'' topics, and one of either ''Technology as Culture'' or ''Technology as Tools.'' In addition, they all incorporate a gender perspective into the analysis. As shown in Fig. 3, the ''Organization'' categories we found can be grouped into three main macro-aspects. Some of the categories may also influence the other macro-aspects, for example, *Recruitment & Retention* was categorized under *Work Arrangements* because it is usually concerned with negotiating contractual obligations; however, it could be categorized under de macro-aspect *Career Paths*. We opted for including each category into the macro-aspect to which it appeared as most relevant in the sample papers (in cases when there were more than one option). We briefly describe each organization category below.

In *Organizational Environment*, we grouped the categories related to the general structures, processes, climate and culture of an organization or sector that are shaped by the context, goals and persons working in that given environment [63]. In particular, the following categories represent two of the most predominant themes across the papers in the sample. Firstly, *Workforce Representation/Diversity*, which refers to papers focused on underrepresentation based on gender, either to characterize such situation (e.g., factors that lead to women underrepresentation in technology organizations) or to study ways in which it can be ameliorated [64], [65]. And secondly, *Leadership & Power*, which refers to research focused on uncovering the logics of higher hierarchical positions, the power and influence exerted by those in leadership positions, and the interrelationships between leaders, followers and organizational contexts [66].

Other topics that appeared in the papers, and that we grouped in *Organizational Environment*, are: (i) *Change Management*, referred to studying the capabilities of organizations to absorb change [67]. (ii) *Employee Ambidexterity & Creativity*, which refers to researching the abilities of individuals within an organization to think creatively and contribute with innovative ideas and solutions to their organizations. (iii) *Impression Management*, which refers to studying the display of behaviors, on the part of organization members, with the aim of modifying one's self-image in the eyes of others in order to obtain their social, moral or financial

support [68]. (iv) *Job Satisfaction/Motivation*, which, in the sample papers, mainly refereed to studying employee factors on a personal level (e.g., affect, attitudes toward one's job), and the consequences that these factors have at an organizational level (e.g., on productivity) [69]. And, (v) *Organizational commitment/Engagement*, which involved studying the psychological bond that employees have with their employing organization, by investigating aspects such as affective dependence, organizational identification, and level of involvement with the organization [70], [71].

A final group of topics that appeared in the papers are the following: (vi) *Organizational Culture*, which is analogous to the notion of Technology as Culture that we discussed in Section IV-A-1, however here is referred to culture in more general terms, without being specific to technology [72]. (vii) *Work relationships/Networking*, which involves delving into the contact networks of employees, and the study of how those connections and relationships facilitate access to organizational resources, higher positions in the hierarchy, enhance efficiency of collaboration, among others [73], (viii) *Workplace Harassment*, which refers to studying different types of harassment that can occur at the workplace, such as: sexual, emotional, physical, based on race or ethnicity, among others; and also, on investigating the consequences of harassment, for both individuals and their organizations [74]. (ix) *Organizational Citizenship Behavior*, which refers to studying individuals' voluntary, extra-role attitudes toward their organizations, and their associated effects [75]. And (x) *Local Government Improvement*, which focuses on analyzing organizational realities in the specific domain of local governments (e.g., fewer resources, weaker capacity to attract talent, close contact with citizens) to assess options for improvement that can be provided by technology.

In *Career Paths*, we grouped categories related to the work experiences, transitions, and events that can impact over an individual's life career [76]. These are: (i) *Career Development*, which refers to activities performed by individuals and their organizations to enable progression within an organization (e.g., through the organizational hierarchy); it is also concerned with uncovering roadblocks to that progression [77]. (ii) *Training and Development*, which refers to research on the training activities that improve the career of workers in relation to their personal development within their organizations [78]. (iii) *Entrepreneurship*, which refers to research on how new business opportunities are pursued, either inside organizations (intrapreneurship), or by creating new organizations [79], [80]. And the last two categories are (iv) *Turnover and Aging Workforce*, the former refers to studies addressing the causes and consequences of workers leaving their organizations, and the latter to research on workers at, or beyond, retirement age, and on how they deal with new technologies and forms of organizing.

In *Work Arrangements*, we grouped categories that are related to a substantial degree with contractual relationships, and negotiation, between workers and employers [81]. These are: (i) *Salary, Incentives and Benefits*, which refers to papers focusing on the compensation mechanisms, either monetary or social, that motivate employees. (ii) *Work-life Balance*, which refers to research that analyzes how workers and organizations strive to strike a sustainable balance between work and private life [82] and may include providing the option of flexible work arrangements. (iii) *Recruitment & Retention*, which involved studying selection processes, negotiations for retention, among others; it also includes research about those responsible for defining selection criteria and evaluating merit and competencies of candidates [83]. And (iv) *Working Conditions*, which involves studying aspects of the work environment, such as dirt/dust, inadequate ventilation, noise, extreme temperatures, fumes, confined spaces, adverse climate, among others, and to what extent those contribute to job dissatisfaction [83].

Lastly, we also considered a category we labeled as *Organizations/Work in General*. This category refers to papers that

TABLE 1. Articles published in journals.

Source Title	N	Article ID
Gender, Work & Organization	6	P43, P97, P109, P140, P141, P158
Gender & Society	4	P3, P54, P73, P105
New Technology, Work & Employment	4	P48, P53, P161, P165
Frontiers in Psychology	3	P79, P106. P108
Gender in Management	3	P95, P113, P139
Information Systems J.	3	P22, P81, P82
J. of Higher Education	3	P116, P119, P145
PLoS One	3	P63, P75, P138
American Sociological Review	2	P24, P129
Education Sciences	2	P9, P39
Gender, Technology & Development	2	P15, P103
IEEE-RITA Revista Iberoamericana Tecs. del Aprendizaje	2	P20, P59
Labour & Industry: J. Social & Economic Relations of Work	2	P68, P77
New Media & Society	2	P89, P168
Qualitative Report	2	P36, P37
Social Studies of Science	2	P104, P145
Sociological Research Online	2	P29, P44
Studies in Higher Education	2	P126, P149
Sustainability	2	P23, P31
Work Employment & Society	2	P6, P65
American Economic Review	1	P152
Entrepreneurship Theory & Practice	1	P142
European J. of Women's Studies	1	P157
Information Systems Research	1	P34
J. of Applied Psychology	1	P12
J. of Gender Studies	1	P74
J. of Occupational & Organizational Psychology	1	P45
J. of the Association for Information systems	1	P66
PNAS	1	P52
Small Business Economics	1	P42

Notes: there were 143 articles published in 110 journals. The table shows 30 journals, including all the ones with two or more papers, and some with one paper. The complete list containing the 110 journals is available from the authors.

TABLE 2. Articles published in conferences.

Conference title	N	Article ID
1st Int'l Workshop on Gender Equality in Software Engineering, IEEE/ACM GE 2018	2	P83, P94
2nd Int'l Conf. on Gender Research, ICGR 2019	2	P58, P62
12th Int'l Conf. on Theory & Practice of Electronic Governance, ICEGOV 2019	1	P67
19th Int'l Scientific Conf. on Hradec Economic Days	1	P17
23rd Int'l Conf on Information & Software Technologies, ICIST 2017	1	P111
34th Annual Conf. on Human Factors in Computing Systems, CHI 2016	1	P121
36th Int'l Sci. Conf. on Economic & Social Development, Building Resilient Society, ESD 2018	1	P91
3rd Int'l Conf. on Learning & Collaboration Technologies, LCT 2016	1	P120
3rd Int'l Conf. on Recent Advances in Information Technology, RAIT 2016	1	P124
3rd Int'l Eng. & Technology Educ. Conf. & 7th Balkan Region Conf. on Eng. & Business Educ.	1	P137
49th Annual Hawaii Int'l Conf. on System Sciences, HICSS 2016	1	P127
52nd Annual Conf. on Computers & People Research, ACM SIGMIS CPR 2014	1	P147
5th Annual Int'l Games & Innovation Conf., IEEE IGIC 2013	1	P160
6th Int'l Digital Human Modeling Symposium, DHM 2020	1	P47
7th Int'l Conf. of Management & Industrial Engineering, ICMIE 2015	1	P143
8th Int'l Conf. on Information & Communication Technologies & Development, ICTD 2016	1	P130
9th Int'l Conf. on Innovation & Management	1	P162
ASEE Annual Conf., 2014	1	P154
Information & Communication Technologies in Tourism 2019	1	P61
Int'l Conf. on Engineering, Technology & Innovation, IEEE ICE/ITMC 2019	1	P70
Int'l Conf. on Engineering, Technology & Innovation, IEEE ICE/ITMC 2018	1	P93
Int'l Conf. on Gender Research, ICGR 2018	1	P88
IST - Africa week Conf.	1	P132

Note: there were 25 articles published in 23 conference proceedings and edited books.

TABLE 3. WOS index distribution.

WOS Index	N	Article ID	%
SSCI	93	P3, P6, P10, P12, P18, P19, P21, P22, P24, P25, P27, P28, P29, P32, P33, P34, P38, P40, P41, P42, P43, P44, P45, P48, P49, P50, P53, P54, P55, P56, P60, P63, P64, P65, P72, P73, P74, P75, P79, P80, P81, P82, P85, P87, P89, P90, P92, P95, P97, P102, P104, P105, P106, P107, P108, P109, P112, P113, P114, P115, P116, P117, P119, P120, P123. P125, P126, P128, P129, P131, P133, P138, P139, P140, P141, P142, P144, P145, P146, P148, P149, P150, P151, P152, P153, P157, P158, P159, P161, P164, P165, P167, P168	55.36
SCIE	3	P8, P26, P122	1.79
SSCI & SCIE	17	P4, P5, P11, P13, P23, P31, P52, P66, P69, P86, P101, P118, P136, P155, P156, P163, P166	10.11
ESCI	31	P1, P2, P7, P9, P14, P15, P16, P20, P30, P35, P36, P37, P39, P46, P51, P57, P59, P68, P71, P76, P77, P78, P84, P96, P98, P99, P100, P103, P110, P134, P135	18.45
CPCI-S	12	P67, P70, P88, P93, P111, P121, P124, P127, P132, P147, P154, P160	7.14
CPCI-SSH	7	P17, P58, P61, P62, P91, P137, P162	4.17
CPCI-S & CPCI-SSH	5	P47, P83, P94, P130, P143	2.98

Sample size = 168.

Notes: SSCI: Social Science Citation Index; SCIE: Science Citation Index Expanded; ESCI: Emerging Sources Citation Index; CPCI-S: Conference Proceedings Citation Index – Science; CPCI-SSH: Conference Proceedings Citation Index – Social Science & Humanities. Papers can appear in journals that are classified in more than one index (e.g., SSCI & SCIE)

were not constrained to any particular subject of organization. Instead of addressing any single subject in depth, this research took a broad and holistic perspective in order to identify relevant relationships among different aspects.

B. ANSWERS TO RESEARCH QUESTIONS

Below we present the results of our study and answer the research questions stated in Section III-A, related to mapping the research at the intersection of technology, gender, and organization.

RQ1: What are the main outlets where research in this area is being published? And how can they be characterized?

Our final sample was composed of 168 papers. Of those, 143 were published in journals (85%) and 25 in conferences proceedings or book chapters (15%). The journal articles of the sample appeared on a total of 110 scientific journals;

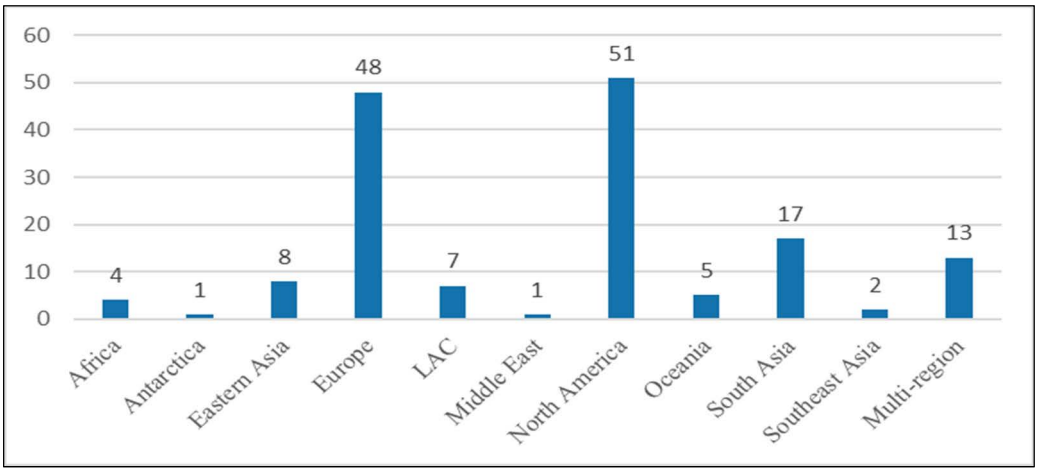

FIGURE 4. Geographic distribution of papers among regions. Note: a total of 157 papers reported location. Eleven papers did not report location (they were either review or position papers).

TABLE 4. Best WOS quartile distribution.

WOS Quartile	N	Article ID	%
Q1	52	P3, P5, P6, P8, P11, P12, P19, P22, P24, P25, P33, P34, P42, P43, P45, P48, P52, P53, P54, P65, P66, P72, P73, P74, P81, P82, P86, P89, P92, P97, P104, P105, P109, P126, P128, P129, P131, P136, P140, P141, P142, P145, P149, P150, P152, P157, P158, P159, P161, P163, P165, P168	46.02
Q2	36	P4, P18, P23, P26, P29, P31. P32, P38, P44, P49, P50, P55, P56, P60, P63, P75, P79, P85, P95, P106, P108, P113, P114, P117, P118, P119, P125, P138, P139, P144, P146, P151, P153, P155, P156, P167	31.86
Q3	15	P13, P21. P40. P41, P64, P69, P80, P87, P90, P101, P107, P112, P116, P133, P148	13.27
Q4	10	P10, P27, P28, P102, P115, P120, P122, P123, P164, P166	8.85

Sample size = 113. Note: the table classifies papers according to the best quartile of their respective journals. Only journals indexed in SSCI and SCIE are ranked into quartiles based on WOS's impact factor. A journal can be included into multiple categories, and it will be assigned a quartile in each of those. The table shows the best quartile assigned to each journal.

TABLE 5. Overall treatment of technology in organization (as tool or culture).

Treatment of Technology	N	Article ID	%
Culture	125	P2, P3,P4, P5, P6, P8, P12, P13, P14, P15, P16, P17, P18, P21, P23, P24, P26, P28, P29, P30, P31, P32, P33, P34, P35, P36, P37, P38, P39, P43, P44, P45, P46, P47, P48, P49, P51, P52, P53, P54, P56 P57, P58, P59, P60, P61, P63, P65, P66, P70, P72, P73, P74, P75, P78, P79, P81, P83, P84, P85, P86, P87, P88, P89, P90, P91, P92, P93, P94, P96, P97, P98, P100, P102, P103, P104, P105, P106, P107, P109, P111, P112, P113, P114, P115, P116, P117, P118, P119, P122, P123, P124, P125, P126, P127, P129, P131, P132, P133, P135, P137, P138, P139, P142, P143, P145, P146, P147, P148, P149, P150, P152, P153, P154, P155, P156, P157, P159, P160, P161, P162, P164, P165, P166, P167	74
Tool	43	P1, P7, P9, P10, P11, P19, P20, P22, P25, P27, P40, P41, P42, P50, P55, P62, P64, P67, P68, P69, P71, P76, P77, P80, P82, P95, P99, P101, P108, P110, P120, P121, P128, P130, P134, P136, P140, P141, P144, P151, P158, P163, P168	26

Sample size = 168

Table 1 lists 30 of those journals, including all the ones that published two or more papers, and some with only one paper. (The complete list containing the 110 journals is available from the authors). The most relevant journal in the sample was Gender, Work and Organization with six publications. Next in terms of number of papers were: Gender & Society, and New Technology, Work & Employment (with 4 articles each); and Frontiers in Psychology, Gender in Management, Information Systems Journal, Journal of Higher Education and PLoS One (with 3 articles each). Table 1 also lists the articles of the corpus corresponding to each journal.

Table 2 lists all conferences where articles from the sample where published (either as proceedings or book chapters). The most relevant conferences were the 1st International Workshop on Gender Equality in Software Engineering, IEEE/ACM GE 2018 and 2nd International Conference on Gender Research, ICGR 2019 with two articles each. All the other conferences included only one article. Table 2 also lists the articles of the corpus corresponding to each conference publication. From Table 1 and Table 2, we can see that the intersection of technology, gender, and organization is, to a large extent, more frequently discussed in journal outlets than in conference proceedings. A possible explanation for this, is that the intersection is more intensively discussed in disciplines that have some relationship to the social sciences, where research is heavily oriented toward journal publication.

The WOS index classification of journals is portrayed in Table 3. The index with most papers is SSCI, accounting

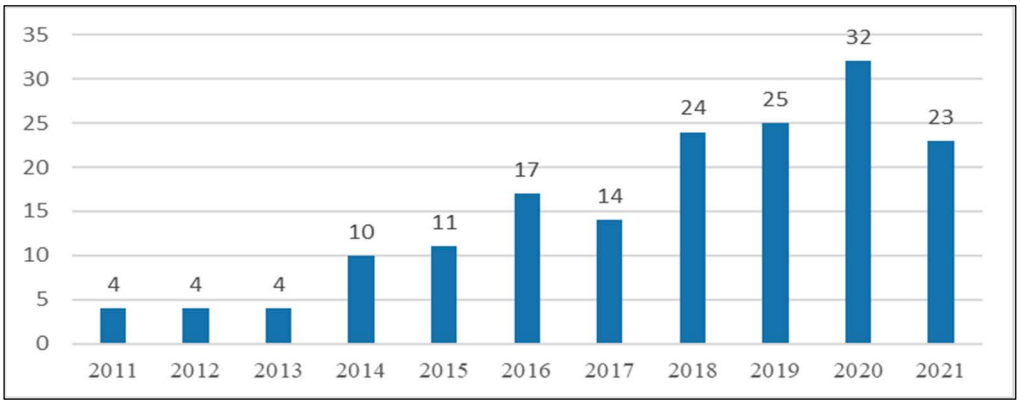

FIGURE 5. Yearly distribution of studied papers. Note: Sample size = 168. Notes: the search process for this study considered the period starting in 1/Jan/2011 and ending in 30/Sept/2021. Papers from the last quarter of 2021 were not included.

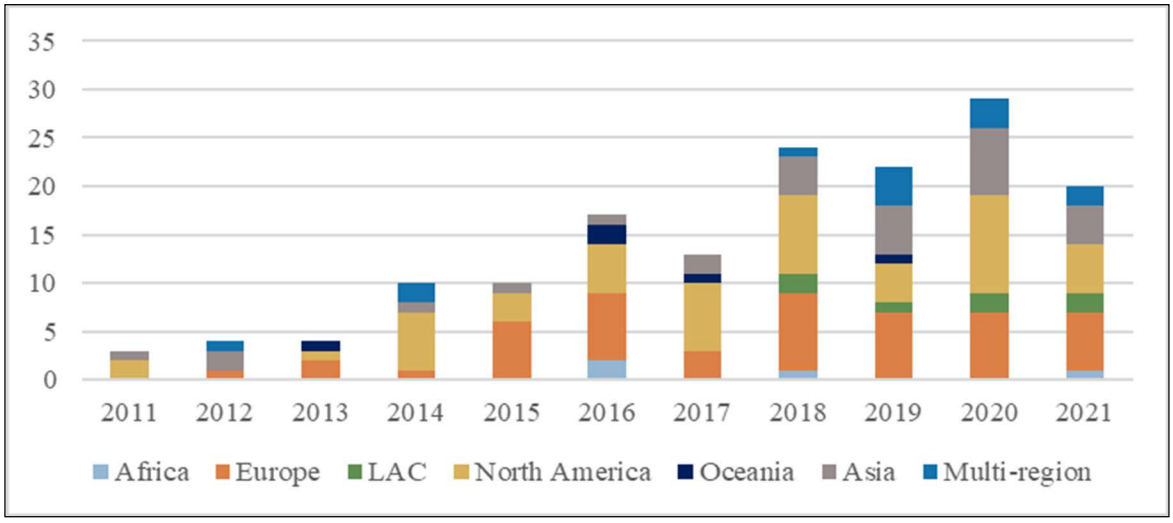

FIGURE 6. Geographical distribution of studied papers among years considered in the review. Note: a total of 157 papers reported location. Eleven papers did not report location (they were either review or position papers). Antarctica is not shown. And, Asia was consolidated into one region.

for a 55.36% of the articles considered in the review, which amounts to 65.47% when the articles classified in the SSCI and the SCIE are considered together.

This shows that the intersection of gender, technology and organization is being more intensely discussed in well-established journals. Next in terms of number of articles is ESCI (18.45%), which includes journals that are at a more nascent stage of development, and finally, the conference proceedings indexes (CPCI-S and CPCI-SSH) that together amounts to 14.29%.

The distribution of the studied journal articles among WOS quartiles can be found in Table 4. Most papers are in the top 2 quartiles (∼78%). This shows that most reviewed journal articles at our intersection of interest come from journals that are considered to have considerable impact in their respective fields of research.

RQ2: What is the geographical origin of works in this area?

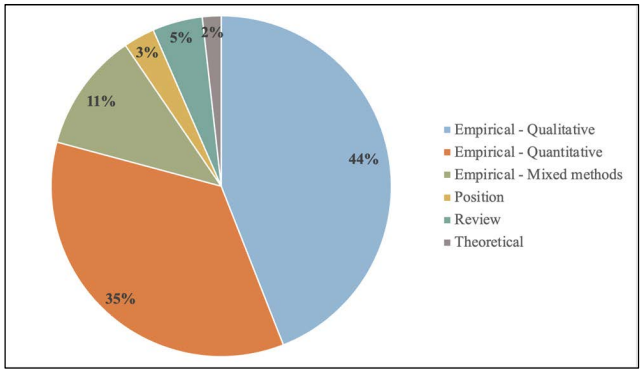

FIGURE 7. Research approach of studied papers. Note: Sample size = 168.

Fig. 4 shows the distribution of papers among geographical regions. Most research at the intersection of technology, gender, and organization was developed in North America (51 papers), closely followed by Europe (48 papers).

TABLE 6. Categories within technology of sample papers.

Treatment of Technology	Category within Technology		N	Article ID	%
Culture	ICT	Sector	37	P5, P15, P17, P29, P30, P33, P36, P37, P43, P48, P49, P51, P56, P59, P70, P81, P84, P91, P97, P98, P103, P105, P109, P115, P117, P124, P127, P131, P132, P137, P139, P142, P143, P148, P159, P161, P165	22.02
		Company	10	P24, P34, P54, P78, P85, P88, P95, P113, P152, P156	5.95
	High-Tech	Sector	7	P12, P28, P53, P61, P93, P94, P144	4.17
		Company	3	P73, P87, P129	1.79
	STEM	Sector	35	P2, P16, P26, P31, P38, P39, P45, P47, P60, P63, P74, P75, P79, P83, P86, P92, P100, P104, P106, P107, P111, P112, P114, P116, P118, P133, P135, P141, P146, P150, P155, P157, P162, P166, P167	20.83
		In Academia	15	P3, P4, P6, P8, P23, P32, P35, P57, P66, P123, P125, P138, P145, P149, P154	8.93
		Company	14	P9, P14, P21, P46, P52, P82, P90, P102, P122, P126, P147, P158, P160, P164	8.33
	Other Specific Environments	Social Networks/Media Sector	1	P89	0.60
		University Technology Transfer	1	P119	0.60
		Maker Culture	1	P96	0.60
		Digital Humanities	1	P65	0.60
Tools	Process of Digitalization	ICT	11	P10, P42, P55, P67, P68, P69, P76, P77, P130, P140, P163	6.55
		Mobile Technology	3	P19, P58, P101	1.79
		Social Networks	2	P18, P153	1.19
		Work Automation	5	P1, P25, P27, P71, P80	2.98
		Industry 4.0	4	P7, P62, P110, P136	2.38
		Productivity apps	1	P64	0.60
	Use of Digital Technology	ICT	9	P13, P20, P40, P44, P72, P99, P108, P134, P151	5.36
		Mobile Technology	2	P41, P168	1.19
		Social Networks	2	P11, P120	1.19
		IoT	1	P22	0.60
	Other Specific	Information Systems	2	P121, P128	1.19
	Tools	Big Data Analytics	1	P50	0.60

Note: Sample size = 168

South Asia was the third region with most publications (17), followed by multi-region (13) which counts papers describing studies carried out in more than one region.

RQ3: Is there a relevant time trend in the research in this area?

Fig. 5 shows the number of articles in the sample per year. There is a noticeable upward trend in publications at the intersection of technology, gender, and organization during the study period, starting with 4 articles per year in the first years (2011 to 2013) and ending with 23 to 32 in the last years (2018 to 2021). We must note that our search period ended in September 2021, therefore papers from the last quarter of 2021 were not included, this may explain the fall in the count of papers that year. Overall, results show an increasing interest by researchers to explore our intersection of interest.

Delving deeper in the analysis of geographic location, Fig. 6 plots the evolution in the number of articles per region across time (Asia is shown as one sole region and Antarctica is not shown). The figure shows that, overall, North America and Europe have been more consistent in time with the work on our themes of interest, Asia has emerged as a region with a substantial amount of published research (especially since 2018), and other regions of the world are also taking part although more sparsely so far. Fig. 6 helps answering both RQ2 (related to location) and RQ3 (related to time trends).

RQ4: What are the main research approaches that are being employed in this area?

Fig. 7 shows the distribution of the sample papers according to the type of research employed. Most of papers (90%) present empirical studies. A 44% of the sample papers was based on qualitative methods, a 35% was based on quantitative methods, and an 11% employed both types. Only 10% of the sample employed non-empirical methodologies (theoretical, position or review papers). Therefore, the most

TABLE 7. Categories within organization of sample papers.

Category within Organization		N	Article ID	%
Organizational Environment	Workforce Representation / Diversity	40	P1, P4, P8, P10, P21, P30, P31, P32, P43, P47, P57, P59, P62, P71, P75, P77, P79, P83, P87, P88, P92, P94, P96, P103, P105, P111, P115, P116, P117, P118, P119, P121, P122, P130, P136, P138, P139, P149, P155, P160	23.80
	Leadership & Power	20	P2, P5, P24, P28, P35, P39, P46, P54, P61, P63, P74, P78, P84, P90, P126, P131, P132, P133, P137, P165	11.90
	Change Management	3	P50, P69, P128	1.79
	Employee Ambidexterity & Creativity	3	P20, P22, P120	1.79
	Impression Management	3	P33, P45, P65	1.79
	Job Satisfaction / Motivation	3	P51, P127, P154	1.79
	Organizational Commitment / Engagement	3	P86, P123, P129	1.79
	Organizational Culture	3	P23, P29, P53	1.79
	Work relationships / Networking	3	P37, P145, P166	1.79
	Workplace Harassment	1	P19	0.60
	Organizational Citizenship Behaviors	1	P98	0.60
	Local Government Improvement	1	P67	0.60
Career Paths	Career Development	16	P6, P34, P36, P38, P44, P60, P70, P82, P100, P106, P125, P147, P150, P153, P158	9.52
	Training & Development	9	P9, P13, P40, P55, P58, P64, P101, P141, P163	5.36
	Entrepreneurship	7	P18, P42, P76, P97, P142, P144, P151	4.17
	Turnover	3	P16, P27, P80	1.79
	Aging Workforce	1	P140	0.60
Work Arrangements	Salary, Incentives & Benefits	15	P12, P17, P25, P48, P52, P85, P91, P112, P143, P146, P148, P152, P154, P161, P167	8.39
	Work-life balance	10	P49, P72, P95, P99, P107, P108, P109, P113, P134	5.95
	Recruitment & Retention	7	P81, P89, P93, P102, P104, P135, P156	4.17
	Working Conditions	4	P114, P124, P129, P162	2.38
Organization / Work in general		12	P7, P11, P14, P15, P26, P56, P66, P68, P73, P110, P157, P168	7.14

Sample size = 168

heavily used research approach at our intersection of interest was empirical-qualitative, closely followed by empirical-quantitative.

RQ5: What are the main topics that are investigated in the research in this area?

To answer RQ5 we employ the emergent framework we described in Section IV-A, which is also depicted in Fig. 3. Table 5 describes the treatment of technology in the sample papers. A 74% of papers treated technology as culture, whereas the other 26% conceptualized technology as a tool. Table 5 also indicates which papers are on either camp. There is a substantial amount of research on both camps, which means that both types of conceptualizations are of great interest for researchers.

Fig. 8 provides mode nuance into the ways in which technology as culture and tools are researched. For most research approaches, there are roughly three times more technology as culture studies than technology as tools (excepting mixed methods), presumably because there are roughly three times more of the culture than tools studies in the sample. This suggest there is no correlation between a specific research approach and a given conceptualization of technology.

Table 6 shows the category within technology of each sample paper (see Fig. 3 for an illustration of the entire framework of categories). The largest number of articles are in the category ICT/Sector with 22.02%, closely followed by STEM/Sector with 20.83%. Overall, Table 6 shows that most papers that frame technology as culture use the ICT, STEM and High-Tech conceptualizations. Other specific tech-driven cultures were considered but in only one paper each (e.g., university technology transfer offices). Regarding the technology as tools treatment, the category with most papers was Process of Digitalization/ICT with 6.55%, followed by Use of Digital Technology/ICT with 5.36%. This means that ICT was the most studied technology, both during its process of adoption and during regular use. Several other technological tools appeared in the papers, but were less frequently mentioned (e.g., productivity software, IoT-based tools, big data analytics apps).

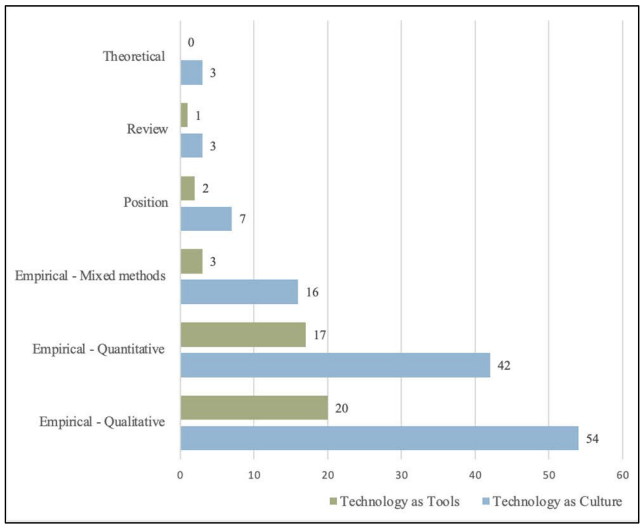

FIGURE 8. Research approaches and treatment of technology.

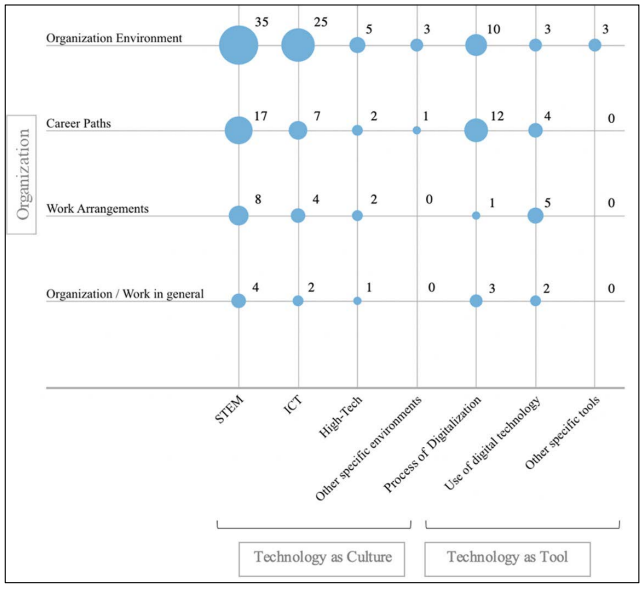

FIGURE 9. Intersections of research topics in the sample papers.

Table 7 shows the category within organization of each sample paper. The most frequent topic addressed in the papers was Workforce representation/Diversity with ∼24% of the papers. Next in terms of frequency were Leadership & Power (11.9%), Career Development (9.52%), and Salary, Incentives and Benefits (8.39%). This means the issues related to diversity, careers, and pay are among the most explored by researchers at the intersection of technology, gender, and organization. Many other work and organizational aspects appeared in the sample papers, although they were less frequently explored (e.g., organizational citizenship, workplace harassment, and aging of the workforce).

Finally, Fig. 9 plots intersections of organizational and technology themes. The intersection with the larger number of articles was Organizational Environment (see Fig. 3) and STEM of technology as culture, with 35 articles. This intersection includes papers that investigate, for example, workforce diversity, women's leadership, and gendered power dynamics in STEM organizations. Within the technology as tools conceptualization, the most frequent intersection was between Process of Digitalization and Career Paths, with 12 articles. This intersection includes papers addressing issues such as: how adopting ICT tools in organizations can impact the career opportunities of individuals of different genders, and/or enable access to new training options, among others. Most papers tend to be at the intersections of Organizational Environment and Career Paths (in the organization axis) with STEM, ICT and Process of Digitalization (in the technology axis).

V. DISCUSSION AND CONCLUSION

The main objective of this study was to explore how the research related to technology, gender and organizations has been developing, and the main conceptualizations and themes that are being considered. A major contribution of this review is that it offers an integrated treatment of the intersection among technology, gender and organization. In addition, our work identifies relevant sub-themes and research trends that scholars can explore in future research. In this section we discuss our findings and their implications, as well as their limitations and potential future lines of inquiry.

Our results show that most of the research covering the themes of technology, gender and organizations are being published in journals (the most relevant are Gender, Work & Organization, Gender & Society, and New Technology, Work & Employment); in contrast, these themes are relatively less present in conference proceedings. Notably, the journals are high-quality and most are ranked within the first two WOS quartiles, according to their impact factor.

Another aspect of relevance is that since 2011, the number of studies published in these topics has continually increased, and 2020 had the most publications of any year in our review (in 2021 the search only included papers published up to September). The interest in the intersection of technology, gender and organizations has been consistently increasing, resulting in more research. This has been particularly noticeable in North America, Europe and Asia, that are the regions with most publications during the years considered in this review. In addition, the predominant type of research approach that appeared in the sample was the empirical, being qualitative methods the most used, followed by quantitative, and then by mixed-methods.

Now focusing on the treatment given to technology in the studied articles, results show that the majority of the studies considered the technology as culture conceptualization in their formulations (74%); however, an important number considered technology as tools as well (26%). Among those that considered technology as culture, the most common topics studied were the ICT and STEM sectors. On the other hand, among those that considered technology as tools, ICT was the most studied technology, both during its process

of adoption and during regular use. Finally, the most prevalent organizational themes, tackled with a gender perspective, in the sample papers where workforce diversity, leadership and power, and career development. For guidance on the topics addressed by the sample papers see Tables 6 and 7, and Appendix A.

A. IMPLICATIONS FOR RESEARCH

There are different types of implications that arise from this systematic mapping review. First, our work has summarized the finding of 168 studies, allowing researchers interested in the topics of technology, gender, and organizations to have an overview of the research area that may serve as a starting point to the literature. Our work also points out those journals and conferences with the most impact in the areas of study, which might be a useful way to track where the most relevant research is being published.

Our study has also identified several themes of relevance around technology, gender, and organization. In particular, we found that papers in this literature employ two main forms of conceptualizing technology – as culture and as tool – and address a number of organizational aspects under a gender perspective, such as representation in the workforce, career development, salary and benefits, among others. Furthermore, several under-researched topics were also mapped in this study (e.g., technology and workplace harassment) which investigators could use to identify areas in need of further research.

In terms of practical implications, the results of our study could be useful for organizations, specifically those involved in technology fields. The study organizes topics that are relevant for workers, specifically those that could be considered minorities. By considering this information, organizations could get ahead of possible problems associated with the gender factors that may come up in technological contexts and devise interventions to address them.

B. LIMITATIONS AND FUTURE RESEARCH

A limitation of the study is that we only considered articles from 2011 to 2021, which we did to focus the mapping on the most recent advances of the literature; still, important research may have been left out. However, our decision was somehow justified because in 2011, 2012 and 2013 relatively few studies were published in our topics of interest. It was not until 2014 that they started to become more prevalent. Another limitation is that we only considered papers written in English, mainly because there is consensus on this being the most relevant language of science, and because we lacked capacity for processing multi-language information. A final aspect to consider is related to possible inaccuracies in the process of paper selection and data extraction, inherent to any review study. We reduced this possibility by thoroughly employing a systematic mapping methodology (described in Section III) that included comprehensive peer review and consensus meetings, among other procedures.

There are at least three avenues that could be considered for future research. Firstly, as this mapping is meant to broadly organize the literature on technology, gender, and organizations, it can be considered a starting point. Future mappings could be aimed at delving deeper in some of the many sub-topics we have found that are being investigated at this intersection (see the emergent organizing framework in Fig. 3 for an overview of all topics). For example, a new systematic mapping could focus on the technology as culture variant, and consider a longer period of time, in order to track its complete evolution of how it has been used by researchers.

Second, our systematic mapping has highlighted how focus on existing research at the intersection of technology, gender and organizations has overwhelmingly been based on work experiences in North America and Europe. By oversampling on American and Western samples we miss opportunities to build theory from novel and diverse cultural contexts [84]. Scholars have argued that global empirical contexts offer opportunities for theory building [84] and testing assumptions that may not hold across all contexts and populations [85]. As such, our systematic mapping highlights the opportunity for future research on the intersection of gender, technology and organizations to take a truly global perspective.

Lastly, a future literature review to delve deeper into the contents of the corpus that we have identified (see the list in Appendix A) is in order. While our systematic mapping has illuminated the structure of this corpus, a new review could specialize in some of the components of our emergent framework. This way scholars can further explore (i) how technology can be a tool for addressing gender issues at the workplace and/or (ii) the specific tech cultures that may influence how different genders fair at work (Fig. 3).

APPENDIX A SELECTED PAPERS FOR REVIEW

Below we list the entire corpus of papers included in the review sample. Each of the 168 papers was assigned an ID, from P1 to P168. Papers were first ordered according to year of publication in descending order (from 2021 to 2011), and then, within each year, in alphabetical order using the first author's last name in ascending order (A to Z).

P1: Abrahamsson, L., & Johansson, J. J. (2021). Can new technology challenge macho-masculinities? The case of the mining industry. *Mineral Economics*, *34*(2), 263-275.

P2: Babalola, O. O., du Plessis, Y., & Babalola, S. S. (2021). Insight into the organizational culture and challenges faced by women STEM leaders in Africa. *Social Sciences*, *10*(3), 105.

P3: Bird, S. R., & Rhoton, L. A. (2021). Seeing isn't always believing: Gender, academic STEM, and women scientists' perceptions of career opportunities. *Gender & Society*, *35*(3), 422-448.

P4: Casad, B. J., Franks, J. E., Garasky, C. E., Kittleman, M. M., Roesler, A. C., Hall, D. Y., & Petzel, Z. W. (2021). Gender inequality in academia: Problems and solutions for women faculty in STEM. *Journal of Neuroscience Research*, *99*(1), 13-23.

P5: Dissanayake, I., Jeyaraj, A., & Nerur, S. P. (2021). The impact of structure and flux of corporate boards on organizational performance: A perspective from the information technology industry. *The Journal of Strategic Information Systems*, *30*(2), 101667.

P6: Fagan, C., & Teasdale, N. (2021). Women professors across STEMM and non-STEMM disciplines: Navigating gendered spaces and playing the academic game. *Work, Employment and Society*, *35*(4), 774-792.

P7: Feeney, M. K., & Fusi, F. (2021). A critical analysis of the study of gender and technology in government. *Information Polity*, *26*(2), 115-129.

P8: Gallindo, E. L., Cruz, H. A., & Moreira, M. W. (2021). Critical examination using business intelligence on the gender gap in information technology in Brazil. *Mathematics*, 9, 1824.

P9: Guillén-Gámez, F. D., Mayorga-Fernández, M. J., & Contreras-Rosado, J. A. (2021). Incidence of gender in the digital competence of higher education teachers in research work: Analysis with descriptive and comparative methods. *Education Sciences*, *11*(3), 98.

P10: Jain, R. (2021). Information and communication technology adoption and the demand for female labor: The case of Indian industry. *The BE Journal of Economic Analysis & Policy*, *21*(2), 695-722.

P11: Kashyap, R., & Verkroost, F. C. (2021). Analysing global professional gender gaps using LinkedIn advertising data. *EPJ Data Science*, *10*, 39.

P12: Klein, F., Hill, A., Hammond, R., & Stice-Lusvardi, R. (2021). The gender equity gap: A multistudy investigation of within-job inequality in equity-based awards. *Journal of Applied Psychology*, *106*(5), 734-753.

P13: Li, L., & Wang, X. (2021). Technostress inhibitors and creators and their impacts on university teachers' work performance in higher education. *Cognition, Technology & Work*, *23*(2), 315-330.

P14: Lovell, B. D. (2021). Sex and the Stars: The enduring structure of gender discrimination in the space industry. *Journal of Feminist Scholarship*, *18*(18), 61-77.

P15: Mennega, N., & De Villiers, C. (2021). A quarter century of gender and information systems research: The role of theory in investigating the gender imbalance. *Gender, Technology and Development*, *25*(1), 112-130.

P16: Minnotte, K. L., & Pedersen, D. E. (2021). Turnover intentions in the STEM Fields: The role of departmental factors. *Innovative Higher Education*, *46*(1), 77-93.

P17: Nedomova, L., Maryska, M., & Doucek, P. (2021). Gender pay gap in the Czech information and communication technology professionals. In *19th International Scientific Conference on Hradec Economic Days* (pp. 599–610).

P18: Olsson, A. K., & Bernhard, I. (2021). Keeping up the pace of digitalization in small businesses–Women entrepreneurs' knowledge and use of social media. *International Journal of Entrepreneurial Behavior & Research*, *27*(2), 378–396.

P19: Pei, X., Chib, A., & Ling, R. (2021). Covert resistance beyond #MeToo: Mobile practices of marginalized migrant women to negotiate sexual harassment in the workplace. *Information, Communication & Society*, 1-18.

P20: Prado, S. A., Rodríguez-Ruiz, B., & García-Sampedro, M. (2021). Working women and digital competence in the Spanish labor context. *IEEE Revista Iberoamericana de Tecnologias del Aprendizaje*, *16*(1), 61-69.

P21: Schillo, R. S., & Ebrahimi, H. (2021). Gender dimensions of digitalisation: A comparison of Venture Capital backed start-ups across fields. *Technology Analysis & Strategic Management*, 1-13.

P22: Shao, Z., Li, X., & Wang, Q. (2021). From ambidextrous learning to digital creativity: An integrative theoretical framework. *Information Systems Journal*, 32(3), 1–29.

P23: Vera-Gajardo, A. (2021). Belonging and masculinities: Proposal of a conceptual framework to study the reasons behind the gender gap in engineering. *Sustainability*, *13*(20), 11157.

P24: Correll, S. J., Weisshaar, K. R., Wynn, A. T., & Wehner, J. D. (2020). Inside the black box of organizational life: The gendered language of performance assessment. *American Sociological Review*, *85*(6), 1022-1050.

P25: Cortes, G. M., Oliveira, A., & Salomons, A. (2020). Do technological advances reduce the gender wage gap? *Oxford Review of Economic Policy*, *36*(4), 903-924.

P26: Denend, L., McCutcheon, S., Regan, M., Sainz, M., Yock, P., & Azagury, D. (2020). Analysis of gender perceptions in health technology: A call to action. *Annals of Biomedical Engineering*, *48*(5), 1573-1586.

P27: Dengler, K., & Tisch, A. (2020). Examining the relationship between digital transformation and work quality: Substitution potential and work exposure in gender-specific occupations. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, *72*(1), 427-453.

P28: Figueroa-Domecq, C., Palomo, J., Flecha-Barrio, M. D., & Segovia-Perez, M. (2020). Technology double gender gap in tourism business leadership. *Information Technology & Tourism*, *22*(1), 75-106.

P29: Hardey, M. (2020). Gender and technology culture: Points of contact in tech cities. *Sociological Research Online*, *25*(1), 101-118.

P30: Harvey, V., & Tremblay, D. G. (2020). Women in the IT sector: Queen bee and gender judo strategies. *Employee Responsibilities and Rights Journal*, *32*(4), 197-214.

P31: Hess, P. (2020). SDG 5 and the gender gap in standardization: Empirical evidence from Germany. *Sustainability*, *12*(20), 8699.

P32: Kamerlin, S. C. L., & Wittung-Stafshede, P. (2020). Female faculty: Why so few and why care?. *Chemistry-A European Journal*, *26*(38), 8319-8323.

P33: Kenny, E. J., & Donnelly, R. (2020). Navigating the gender structure in information technology: How does this affect the experiences and behaviours of women? *Human Relations*, *73*(3), 326-350.

P34: Langer, N., Gopal, R. D., & Bapna, R. (2020). Onward and upward? An empirical investigation of gender and promotions in Information Technology services. *Information Systems Research*, *31*(2), 383-398.

P35: Magliano, D. J., Macefield, V. G., Ellis, T. M., & Calkin, A. C. (2020). Addressing gender equity in senior leadership roles in translational science. *ACS Pharmacology & Translational Science*, *3*(4), 773-779.

P36: Maji, S., & Dixit, S. (2020). Gendered processes and women's stunted career growth: An exploratory study of female software engineers. *The Qualitative Report*, *25*(8), 3067-3084.

P37: Maji, S., & Dixit, S. (2020). Exploring self-silencing in workplace relationships: A qualitative study of female software engineers. *The Qualitative Report*, *25*(6), 1505-1525.

P38: Makarem, Y., & Wang, J. (2020). Career experiences of women in science, technology, engineering, and mathematics fields: A systematic literature review. *Human Resource Development Quarterly*, *31*(1), 91-111.

P39: McCullough, L. (2020). Barriers and assistance for female leaders in academic STEM in the US. *Education Sciences*, *10*(10), 264.

P40: Moura, I. V., de Almeida, L. B., da Silva, W. V., Veiga, C. P. D., & Costa, F. (2020). Predictor factors of intention to use technological resources: A multigroup study about the approach of Technology Acceptance Model. *Sage Open*, *10*(4).

P41: Nagy, B. (2020). ''Mummy is in a call'': Digital technology and executive women's work–life balance. *Social Inclusion*, *8*(4), 72-80.

P42: Orser, B., Coleman, S., & Li, Y. (2020). Progress or pinkwashing: Who benefits from digital women-focused capital funds? *Small Business Economics*, *55*(2), 363-387.

P43: Petrucci, L. (2020). Theorizing postfeminist communities: How gender-inclusive meetups address gender inequity in high-tech industries. *Gender, Work & Organization*, *27*(4), 545-564.

P44: Ramos, A. M. (2020). Digital communication tools for fostering career advancement and sustaining interpersonal relationships. *Sociological Research Online*, *25*(2), 184-200.

P45: Ryan, A. M., King, D. D., Elizondo, F., & Wadlington, P. (2020). Social identity management strategies of women in STEM fields. *Journal of Occupational and Organizational Psychology*, *93*(2), 245-272.

P46: Sanchez-Cruz, E., Masinire, A., & Gerónimo-Vázquez, C. (2020). Gender justice paradox: Women in management positions in science and technological institutions in the central zone of Mexico. *South African Journal of Higher Education*, *34*(3), 281-296.

P47: Scataglini, S., & Perez Luque, E. (2020). Closing the gender gap in DHM. In *6th International Digital Human Modeling Symposium, DHM 2020* (pp. 408-418). IOS Press.

P48: Segovia-Pérez, M., Castro Núñez, R. B., Santero Sánchez, R., & Laguna Sánchez, P. (2020). Being a woman in an ICT job: An analysis of the gender pay gap and discrimination in Spain. *New Technology, Work and Employment*, *35*(1), 20-39.

P49: Shah, D., & Barker, M. (2020). Work-life interface: Experiences of Indian IT women repatriates. *The International Journal of Human Resource Management*, 1-34.

P50: Shahbaz, M., Gao, C., Zhai, L., Shahzad, F., & Arshad, M. R. (2020). Moderating effects of gender and resistance to change on the adoption of big data analytics in healthcare. *Complexity*, *2020*.

P51: Sinha, V., & Bhatt, S. (2020). Job satisfaction and motivation study of distinct gender perspective in IT Sector. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, *11*(4), 1-20.

P52: Sterling, A. D., Thompson, M. E., Wang, S., Kusimo, A., Gilmartin, S., & Sheppard, S. (2020). The confidence gap predicts the gender pay gap among STEM graduates. *Proceedings of the National Academy of Sciences*, *117*(48), 30303–30308.

P53: Wu, T. (2020). The labour of fun: Masculinities and the organisation of labour games in a modern workplace. *New Technology, Work and Employment*, *35*(3), 336-356.

P54: Wynn, A. T. (2020). Pathways toward change: Ideologies and gender equality in a Silicon Valley technology company. *Gender & society*, *34*(1), 106-130.

P55: Zyskowski, K. (2020). Aspiration as labour: Muslim women at a basic computer-training centre in Hyderabad. *South Asia: Journal of South Asian Studies*, *43*(4), 758-774.

P56: Atal, N., Berenguer, G., & Borwankar, S. (2019). Gender diversity issues in the IT industry: How can your sourcing group help? *Business Horizons*, *62*(5), 595-602.

P57: Bravo-Hermsdorff, G., Felso, V., Ray, E., Gunderson, L. M., Helander, M. E., Maria, J., & Niv, Y. (2019). Gender and collaboration patterns in a temporal scientific authorship network. *Applied Network Science*, *4*(1), 1-17.

P58: De Juan-Espinoza, S., Rosser-Limiñana, A., Paliszkiewicz, J., & Horn, J. (2019). Social technologies for empowerment and success: Beliefs and perceptions of Spanish women. In *Proceedings of the 2nd International Conference on Gender Research*, ICGR 2019 (pp. 165–172).

P59: Dos Santos, M. E. S., Rocha, T. S., Brasileiro, V. L. J., & de Souza, C. C. (2019). What computing Brazilian community is saying about gender gap. *IEEE Revista Iberoamericana de Tecnologias del Aprendizaje*, *14*(4), 162-167.

P60: Dutta, D. (2019). Communicating resilience in actual and imagined boundaries: Narrative plots and meanings of retention in organizations. *Journal of Applied Communication Research*, *47*(4), 401-419.

P61: Figueroa-Domecq, C., Palomo, J., Flecha-Barrio, M. D., & Segovia-Pérez, M. (2019). Double gender gap in tourism high-technology organisations: Results and corporate actions. In *Information and Communication Technologies in Tourism 2019* (pp. 383–395).

P62: Franken, S., & Wattenberg, M. (2019). Digital gender parity? Gender-specific attitudes and competencies of young professionals in Germany. In *Proceedings of the*

2nd International Conference on Gender Research, ICGR 2019 (pp. 253–260).

P63: García-González, J., Forcén, P., & Jimenez-Sanchez, M. (2019). Men and women differ in their perception of gender bias in research institutions. *PloS One*, *14*(12).

P64: Gardner, N. (2019). New divisions of digital labour in architecture. *Feminist Review*, *123*(1), 106-125.

P65: Griffin, G. (2019). Intersectionalized professional identities and gender in the digital humanities in the Nordic countries. *Work, Employment and Society*, *33*(6).

P66: Gupta, B., Loiacono, E. T., Dutchak, I. G., & Thatcher, J. B. (2019). A field-based view on gender in the information systems discipline: Preliminary evidence and an agenda for change. *Journal of the Association for Information Systems*, *20*(12), 2.

P67: Hazarika, M., & Chakraborty, J. (2019). Women in local e-governance: A case study of Assam. *Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance*, 457–460.

P68: Howcroft, D., & Rubery, J. (2019). 'Bias in, Bias out': gender equality and the future of work debate. *Labour & Industry: A journal of the social and economic relations of work*, *29*(2), 213-227.

P69: Hwang, H. G., Dutta, B., & Chang, H. C. (2019). The differing effect of gender and clinical specialty on physicians' intention to use electronic medical record. *Methods of Information in Medicine*, *58*(S 02).

P70: Hyrynsalmi, S., & Hyrynsalmi, S. (2019). What motivates adult age women to make a career change to the software industry? *2019 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)*, 1–8.

P71: Kim, T. E., Sharma, A., Gausdal, A. H., & Chae, C. J. (2019). Impact of automation technology on gender parity in maritime industry. *WMU Journal of Maritime Affairs*, *18*(4), 579-593.

P72: Ma, Y., & Turel, O. (2019). Information technology use in Chinese firms and work-family conflict: The moderating role of guanxi. *Telematics and Informatics*, *41*, 229-238.

P73: Mickey, E. L. (2019). When gendered logics collide: Going public and restructuring in a high-tech organization. *Gender & Society*, *33*(4), 509-533.

P74: Nash, M., & Moore, R. (2019). 'I was completely oblivious to gender': an exploration of how women in STEMM navigate leadership in a neoliberal, post-feminist context. *Journal of Gender Studies*, *28*(4), 449-461.

P75: Nash, M., Nielsen, H. E., Shaw, J., King, M., Lea, M. A., & Bax, N. (2019). ''Antarctica just has this hero factor…'': Gendered barriers to Australian Antarctic research and remote fieldwork. *PLoS One*, *14*(1).

P76: Orser, B., Riding, A., & Li, Y. (2019). Technology adoption and gender-inclusive entrepreneurship education and training. *International Journal of Gender and Entrepreneurship*, 11(3), 273-298.

P77: Peetz, D., & Murray, G. (2019). Women's employment, segregation and skills in the future of work. *Labour & Industry: A Journal of the Social and Economic Relations of Work*, *29*(1), 132-148.

P78: Reddy, R., Sharma, A. K., & Jha, M. (2019). Gendered labour process: Exploration in an information technology services organization in India. *International Journal of Sociology and Social Policy*, 39(9), 831-850.

P79: Van Veelen, R., Derks, B., & Endedijk, M. D. (2019). Double trouble: How being outnumbered and negatively stereotyped threatens career outcomes of women in STEM. *Frontiers in Psychology*, *10*, 150.

P80: Wright, T. (2019). The gendered impacts of technological change for public transport workers in the Global South. *Research in Transportation Business & Management*, *31*(3),100384.

P81: Annabi, H., & Lebovitz, S. (2018). Improving the retention of women in the IT workforce: An investigation of gender diversity interventions in the USA. *Information Systems Journal*, *28*(6), 1049-1081.

P82: Armstrong, D. J., Riemenschneider, C. K., & Giddens, L. G. (2018). The advancement and persistence of women in the information technology profession: An extension of Ahuja's gendered theory of IT career stages. *Information Systems Journal*, *28*(6), 1082-1124.

P83: Bennaceur, A., Cano, A., Georgieva, L., Kiran, M., Salama, M., & Yadav, P. (2018). Issues in gender diversity and equality in the UK. In *1st International Workshop on Gender Equality in Software Engineering, IEEE/ACM GE 2018* (pp. 5–9).

P84: Bhattacharya, S., Mohapatra, S., & Bhattacharya, S. (2018). Women advancing to leadership positions: a qualitative study of women leaders in IT and ITES sector in India. *South Asian Journal of Human Resources Management*, *5*(2), 150-172.

P85: Biron, M., & Hanuka, H. (2018). Non-cognitive antecedents of pay and pay expectations: Gender-based differences in a masculine work setting. *European Journal of Work and Organizational Psychology*, *27*(1), 100-111.

P86: Block, K., Hall, W. M., Schmader, T., Inness, M., & Croft, E. (2018). Should I stay or should I go? Women's implicit stereotypic associations predict their commitment and fit in STEM. *Social Psychology*, 49(4), 243–25.

P87: Brumley, K. M. (2018). ''It's more appropriate for men'': Management and worker perceptions of the gendered ideal worker. *Sociological Spectrum*, *38*(6), 406-421.

P88: Canali, C., Addabbo, T., & Sangiuliano Bao, M. (2018). A methodology for participatory gender audit in ICT/IST research institutions. *International Conference on Gender Research, ICGR 2018* (pp. 70–79).

P89: Duffy, B. E., & Schwartz, B. (2018). Digital ''women's work?'': Job recruitment ads and the feminization of social media employment. *New Media & Society*, *20*(8), 2972-2989.

P90: Dutta, D. (2018). Women's discourses of leadership in STEM organizations in Singapore: Negotiating sociocultural and organizational norms. *Management Communication Quarterly*, *32*(2), 233-249.

P91: Gomółka, A. (2018). Gender pay gap in the ICT sector in Poland in 2010- 2016. *36th International Scientific Conference on Economic and Social Development: Building Resilient Society* (pp. 813–822).

P92: Hall, W., Schmader, T., Aday, A., Inness, M., & Croft, E. (2018). Climate control: The relationship between social identity threat and cues to an identity-safe culture. *Journal of Personality and Social Psychology*, *115*(3), 446.

P93: Holtzblatt, K., & Marsden, N. (2018). Retaining women in technology uncovering and measuring key dimensions of daily work experiences. *2018 IEEE International Conference on Engineering, Technology and Innovation, ICE/ITMC* (pp. 1–8).

P94: Kohl, K., & Prikladnicki, R. (2018). Perceptions on diversity in Brazilian agile software development teams: A survey. In *1st International Workshop on Gender Equality in Software Engineering, IEEE/ACM GE 2018* (pp. 37–40).

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