How Diverse Are Our Conference Review Boards?

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ABSTRACT

The diversity of review boards is crucial in improving the overall review quality at academic venues. In this report, we examine the review board characteristics of four major data management conferences across four *diversity dimensions* and over time. Our analysis shows that smaller venues have made significant strides in diversifying their review boards, whereas larger venues encounter difficulties in achieving similar diversity due to overrepresentation in certain dimensions. We emphasize the importance of intensifying efforts to create more diverse and balanced review boards and advocate for the development of tools to support this process.

1. INTRODUCTION

Diversity is widely recognized as a critical factor that plays a significant role for success in many scientific disciplines [13, 15]. It has been reported that groups with diverse members often outperform homogenous groups [13] leading to more impactful work [12, 15]. We expect this to also be true in data management research given its increasing global reach. The data management community, now more than ever, includes people from diverse backgrounds as evident from the geographic diversity of authors in our major venues such as SIGMOD and VLDB. Significant developments have been made possible by individuals from diverse backgrounds as can be seen in the diversity of recipients of major awards in the data management community (*e.g.,* [3–6]) and in general in the computing community (*e.g.,* [1]). For these reasons, the *Diversity, Equity and Inclusion (DEI)* initiative [2] was formed in 2020 to actively promote diversity and inclusion within the data management community [7–9].

Given the benefits of diversity in science, it is desirable for review boards at our major conferences to include experts from varied backgrounds. Such diversity enhances the review process by offering unique perspectives and experiences, while also reducing the risks of groupthink [14] and conformity that are common in homogeneous groups [16]. Thus, a diverse group of experts in a review board has the potential to enhance the overall review quality of a venue, which has a direct impact on the science that emerges from a community. Recently, EDBT 2023 PC chairs reported correlation between the diversity of their review board and the quality of the review process [11].

In this report, we take a concrete step towards analyzing diversity of the review boards of four major data management venues (*i.e.,* SIGMOD, VLDB, EDBT, and ICDE). We focus on the diversity dimensions that can be gleaned from diverse public data sources, *i.e., institutional*, *location*, *country of tertiary/secondary education (COE)*, and *experience*. We conduct a three-year longitudinal study (2023-2025) of the review boards. Note that the formation of the review boards of these venues during this period overlaps with the DEI initiative.

Our study found that while some venues have made progress in promoting diversity on their review boards, this progress is uneven across venues and dimensions. Smaller venues like EDBT have successfully diversified their review boards, while larger venues face challenges in achieving similar diversity. In particular, certain larger venues, such as SIGMOD 2025 and ICDE, show overrepresentation in specific dimensions, failing to reflect the growing diversity of the community or the DEI initiative. We conclude by emphasizing the need for continued efforts to create diverse review boards and the development of data-driven tools to assist program committee (PC) chairs in achieving this goal.

The paper is organized as follows: Section 2 outlines the venues in the study. Section 3 presents the *diversity dimensions* analyzed. Section 4 presents a longitudinal analysis of these dimensions across the venues. Finally, Section 5 concludes with future directions for diverse review board formation.

2. DATASET

The study focuses on the review boards of four

Table 1: The number of reviewers (PC) and meta-reviewers (in brackets) in major data management venues.

Venue	Year		
	2023	2024	2025
SIGMOD	217 [31]	224 [32]	276 [42]
VLDB	216 [35]	206 [38]	314 [50]
EDBT	88 [13]	93 [15]	107 [17]
ICDE	144 [43]	175 [39]	307 [61]

major data management venues–SIGMOD, VLDB, EDBT, and ICDE–from the last three editions (2023-2025). The research has two main objectives: (1) to examine recent trends in the diversity of review boards through a three-year longitudinal study, and (2) to assess the impact of the DEI initiative on the formation of diverse review boards in these venues. The DEI initiative began in 2020 [9], with community awareness in 2021, and the first DEI report was published in June 2022 [9], which coincided with the formation of the review boards for the 2023 conferences. Each of these venues had DEI chairs to promote DEI activities and policies.

The lists of members (meta-reviewers and reviewers (PC)) were received from the PC chairs of respective venues. Table 1 reports the statistics. Since review boards can be dynamic, with members added or removed throughout the review process, the analysis focuses on the aggregated review boards after the final submission cycle for all venues. Observe that review board sizes have generally increased monotonically across all venues over the past three years.

We *manually* retrieved the DBLP addresses of all review board members using Google search. Each review board member for a given venue is uniquely identified by their email address or *DBLP name* which is unique in DBLP[1].

3. CATEGORIES OF DIVERSITY

This article focuses on several dimensions of diversity that can be assessed using publicly available data on review board members. These include *institutional*, *location*, *country of tertiary/secondary education*, and *experience* diversities. Although *gender* and *racial* diversity are important, they are not analyzed due to the lack of publicly available data for many reviewers. Similarly, topics of expertise specified by review board members are not considered, as this information is not publicly accessible.

Institutional diversity focuses on profiling the different institutions that review board members are affiliated with. *Location diversity* refers to the diversity of the countries where review board members are based while serving for a venue. Since the country of origin might not be publicly available, the study uses *country of tertiary/secondary education (COE)* as a proxy, which indicates the country where a reviewer completed their high school or undergraduate education. This information is typically found on a reviewer's homepage or *LinkedIn* page and has been used in review board formation for EDBT 2023 [11].

Lastly, *experience diversity* captures the balance of senior and junior reviewers on a review board. A well-balanced board should have both experienced researchers and junior ones, allowing for expertise while providing opportunities for junior researchers to gain experience. However, there is no universally agreed-upon definition of a "senior" reviewer, as there are no consistent criteria to distinguish between senior and junior reviewers. To assess seniority in terms of research experience, we use *publication age* and *publication venue index* as a proxy for experience.

The *publication age* of a person p in the context of venue v, denoted by $age(p, v)$, is given as follows:

$$age(p, v) = sub\_year(v) - first\_year(p) \quad (1)$$

where $sub\_year(v)$ and $first\_year(p)$ denote the year of the first submission cycle of a venue v and the first year of publication of p, respectively. The larger the value of $age(p, v)$ the more senior p is w.r.t. the number of years of research experience.

The *publication venue index* of a person p w.r.t. venue v, denoted by $venue(p, v)$, is given as follows:

$$venue(p, v) = \sum_{v_i \in V} cnt(p, v_i) \quad (2)$$

where $v \in V$ and $cnt(p, v_i)$ denotes the total number of publications of p in venue v_i. For SIGMOD and VLDB, we choose $V = \{\text{SIGMOD}, \text{VLDB}\}$. For any other venue v (*i.e.,* $v \in \{\text{EDBT}, \text{ICDE}\}$), $V = \{v, \text{SIGMOD}, \text{VLDB}\}$, which includes publications in both the selected venue v and the top venues (SIGMOD, VLDB). The larger the value of $venue(p, v)$ the more publication experience p has w.r.t. v.

Note that both these measures can be computed automatically from DBLP.

4. ANALYSIS

This section analyzes trends related to the dimensions of diversity for reviewers and meta-reviewers at a venue. While meta-reviewers typically do not review submissions, they are included in the study due to their important role in PC formation, often recommending reviewers to the PC chairs. Diverse meta-reviewers can help create a more diverse set of reviewers. In the next section, we shall correlate

[1]In DBLP, homonyms are distinguished from one another by a unique numerical suffix to their name.

Table 2: Institutional diversity.

Venue	Year	IDR (Meta-reviewer)	Top Institution (% of meta-reviewers)	IDR (Reviewer)	Top Institution (% of reviewers)
SIGMOD	2023	0.93	university of waterloo (9.68%)	0.68	national university of singapore (3.23%)
	2024	0.91	microsoft (9.38%)	0.64	microsoft (7.15%)
	2025	0.76	northeastern university (7.14%)	0.63	microsoft (6.88%)
VLDB	2023	0.92	eth zurich, chinese university of hong kong, university of ioannina (5.71%)	0.65	microsoft (3.7%)
	2024	0.92	national university of singapore (5.26%)	0.65	microsoft (4.37%)
	2025	0.94	hong kong university of science and technology (6.0%)	0.61	microsoft (5.25%)
EDBT	2023	0.93	national university of singapore (15.38%)	0.84	microsoft (5.68%)
	2024	1.0	N.A.	0.94	university of calabria, hong kong university of science and technology (guangzhou), university of modena and reggio emilia, universita di bologna, universita degli studi di milano (2.15%)
	2025	0.88	university of waterloo (11.76%), university of ioannina (11.76%)	0.81	athena research center (4.67%)
ICDE	2023	0.88	national university of singapore (6.98%)	0.74	national university of singapore (4.17%)
	2024	0.93	hong kong university of science and technology (10.26%)	0.69	zhejiang university (4.0%)
	2025	0.85	hong kong university of science and technology (8.2%)	0.6	hong kong university of science and technology (3.52%)

Table 3: Location and COE diversity of the review boards.

Venue	Year	Meta-reviewer		Reviewer	
		LDR	CI	LDR	CI
SIGMOD	2023	0.39	0.52	0.11	0.17
	2024	0.31	0.41	0.13	0.15
	2025	0.17	0.38	0.09	0.12
VLDB	2023	0.34	0.37	0.13	0.13
	2024	0.34	0.32	0.11	0.13
	2025	0.32	0.36	0.09	0.11
EDBT	2023	0.69	0.69	0.25	0.22
	2024	0.8	0.53	0.19	0.18
	2025	0.65	0.53	0.17	0.24
ICDE	2023	0.30	0.30	0.15	0.17
	2024	0.33	0.28	0.14	0.15
	2025	0.25	0.28	0.11	0.10

these insights with the recent efforts of the DEI initiative, as outlined in the three annual reports [7–9]. Note that in all figures related to location and COE diversity, the focus is not on clearly displaying individual locations or COEs, but rather on visually emphasizing the skewness of the distributions.

4.1 Institutional Diversity

Since review board members of most venues are affiliated with over 100 institutions, we compute the *institutional diversity ratio (IDR)* rather than using a histogram to analyze institutional diversity. Specifically, it is defined as follows:

$$IDR(v) = \frac{|I_v|}{|R_v|} \tag{3}$$

where R_v is the set of reviewers or meta-reviewers of a venue v and I_v is the set of institutions they are affiliated with. For simplicity, we assume each member $r \in R_v$ is associated with only one institution. Observe that $0 < IDR(v) \leq 1$. A higher $IDR(v)$ value indicates greater institutional diversity in the venue.

Table 2 presents the results of institutional diversity of the four venues. We observe several interesting trends. First, we observe decreasing trend in institutional diversity with time for reviewers (*i.e.,* IDR is decreasing for almost all venues with time). In particular, IDR is lowest for ICDE 2025 (0.6). Similarly, except for VLDB, we generally see decreasing value of IDR for meta-reviewers. An exception is EDBT 2024 which has a perfect IDR value for meta-reviewers (*i.e.,* all meta-reviewers are from distinct institutions) and a high IDR of the PC. Second, we report the institution(s) that most number of (meta)reviewers are associated with in a review board (*i.e., Top Institution* column in Table 2). Interestingly, in ICDE the top institution is dominated by three asian universities. In contrast, the PC of SIGMOD and VLDB is dominated by a non-academic institution (*Microsoft*).

4.2 Location Diversity

Next, we compute the location diversity of the four venues. Since the sizes of the review boards of these venues can vary greatly, we compute the *location diversity ratio (LDR)* as defined as follows:

$$LDR(v) = \frac{|L_v|}{|R_v|} \tag{4}$$

where R_v is the set of reviewers (or meta-reviewers) of a venue v and L_v is the set of locations associated with R_v[2]. Observe that $0 \leq LDR(v) \leq 1$. The higher the value of $LDR(v)$ of a venue the more diverse R_v is w.r.t. locations.

Table 3 presents the LDR values for the venues, ranging from 0.09 to 0.25 for reviewers. EDBT 2023 is the most diverse, while SIGMOD 2025 and VLDB 2025 are the least diverse. All venues, except SIGMOD 2024, show a decline in location diversity over

[2]The individual's location is determined using the institutional domain in their email address; if this fails, the location is manually obtained from their homepage or *LinkedIn* profile.

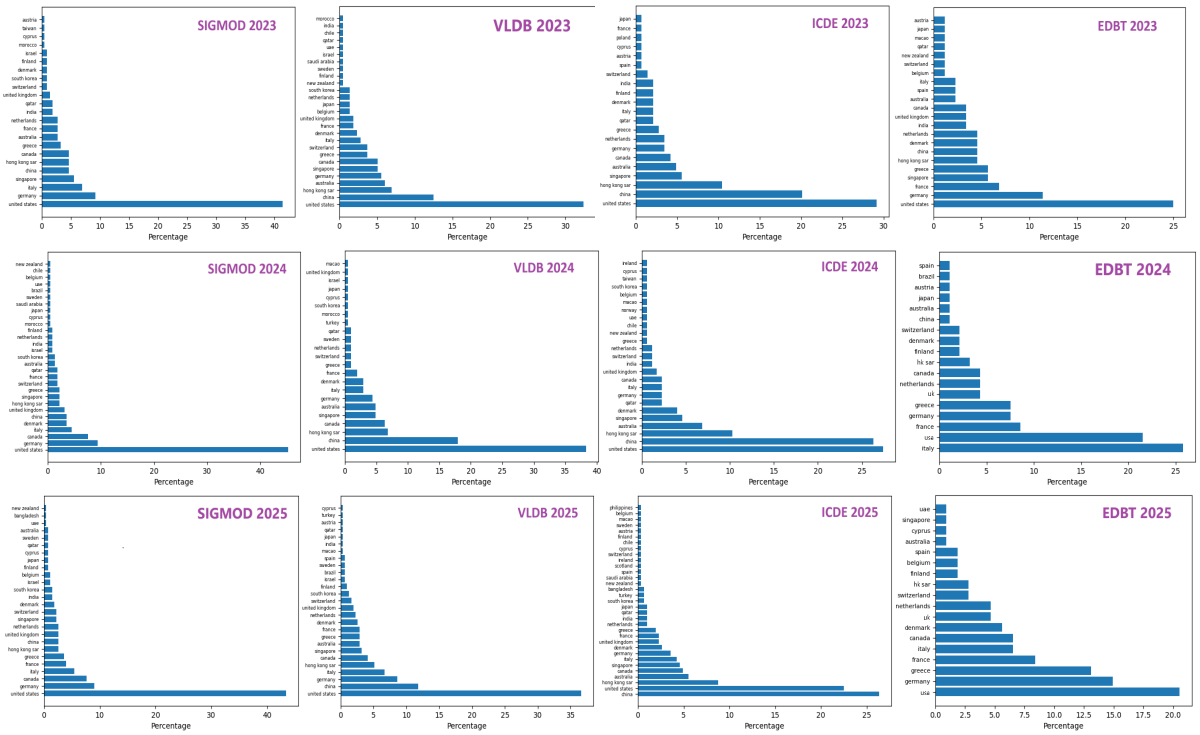

Figure 1: Location distribution of reviewers in SIGMOD, VLDB, ICDE, and EDBT.

Table 4: Top continents of reviewers. The percentage of reviewers is shown in brackets.

Venue	Year		
	2023	2024	2025
SIGMOD	N. America [46.08]	N. America [52.68]	N. America [51.09]
VLDB	N. America [37.5]	N. America [44.66]	N. America [41.36]
EDBT	Europe [44.32]	Europe [66.67]	Europe [66.36]
ICDE	Asia [41.67]	Asia [46.86]	Asia [46.15]

time. For meta-reviewers, LDR values range from 0.17 to 0.8, with SIGMOD showing a decreasing trend, while EDBT has maintained high location diversity over the past three years. In summary, EDBT stands out for having superior location diversity for both reviewers and meta-reviewers over the last three years.

The distributions of location diversity for reviewers are shown in Figure 1. We can observe the following key trends. First, the location of reviewers is primarily dominated by *United States*. For all the three editions of SIGMOD and VLDB 2023, the location distribution is highly skewed, with the difference between the top-2 locations is more than 30%. In contrast, for ICDE and EDBT, the location diversity is more balanced, with the top location varies between 20.6% to 29.2% of the PC. Second, the trend of the top location remains relatively stable for SIGMOD and VLDB, but not for ICDE and EDBT. Notably, EDBT shows a less skewed distribution over time, even as its PC size increases.

Table 4 presents the top continents of the reviewers. The majority of reviewers for SIGMOD and VLDB are from *North America*, while EDBT predominantly features reviewers from *Europe* and ICDE from *Asia*.

Figure 2 shows the distributions of meta-reviewers in representative venues. Similar to the PC distributions, the *United States* is the top location for meta-reviewers in SIGMOD, VLDB, and ICDE (2023 and 2024). However, for EDBT, the top locations vary by year, with the *United States*, *Italy*, and *Germany* leading in different years. The distribution is highly skewed for SIGMOD and VLDB, although VLDB shows increasing diversity in terms of the number of countries. In contrast, ICDE and EDBT have more balanced distributions. There is a downward trend in the skewness of location distribution for VLDB, while SIGMOD shows a steep upward trend. In SIGMOD 2023, the top location comprised 31.25% of meta-reviewers, but this increased to 80.95% in 2025, with the difference between the top two locations rising from 18.75% to 73.81%. As a result, SIGMOD 2025 is the least diverse in terms of meta-reviewer location.

4.3 COE Diversity

Next, we report our observations w.r.t. COE diversity. Note that for any venue, we are not able to find the COE information of at most 0.5% of the re-

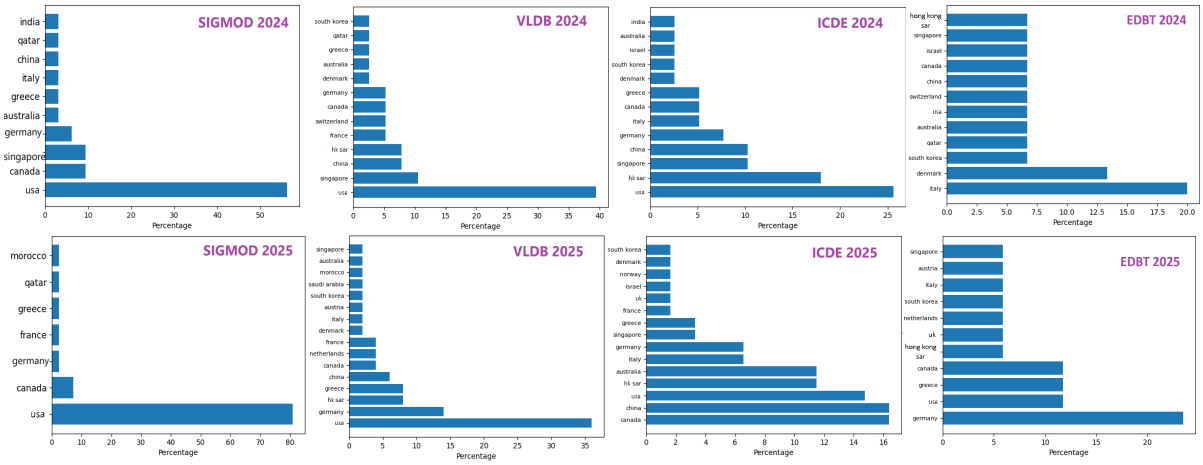

Figure 2: Location distribution of meta-reviewers in SIGMOD, VLDB, ICDE, and EDBT.

viewers. Since other reviewers likely cover the same COEs, their influence on overall trends is negligible.

We compute the *COE Index (CI)* by replacing L_v with C_v in Equation 4, where C_v represents the set of COEs associated with R_v. Table 3 shows that the CI for reviewers ranges from 0.1 to 0.24, with EDBT 2025 being the most diverse and ICDE 2025 the least. Notably, ICDE has shown a declining trend in COE diversity over the past three years. For meta-reviewers, the CI varies from 0.28 to 0.69, with EDBT leading in diversity. Similar to location diversity, SIGMOD exhibits a downward trend in COE diversity over the last three years.

Figure 3 shows the COE diversity distributions for reviewers (PC). We can observe the following key trends. First, except for EDBT, the COE of reviewers in SIGMOD, VLDB, and ICDE is dominated by *China* across all three years. The percentage of such reviewers varies widely, from 22.42% in SIGMOD 2024 to 59.43% in ICDE 2024. Second, COE diversity is significantly skewed for VLDB and ICDE, with the top-2 COEs in VLDB 2024 and ICDE differing in the narrow range of 44.18%–52%, showing a large gap between the top COE and the rest. In contrast, SIGMOD and EDBT have smaller differences, ranging from 8.97% (SIGMOD 2024) to 15.89% (EDBT 2025). Third, while the trend of the top COE remains relatively stable for SIGMOD and EDBT, VLDB and ICDE show an inverted V-shaped trend, with an upward trend from 2023 to 2024, followed by a downward trend in 2025. This trend is more pronounced for VLDB than for ICDE.

Interestingly, the COE distribution of meta-reviewers differs from that of reviewers. Unlike reviewers, no single COE dominates in SIGMOD, VLDB, and EDBT. However, VLDB 2024 and ICDE have similar distribution profiles, with *China* being the top COE across all three years and a significant gap between the top-2 COEs. Additionally, there is a general trend of reduced skewness in the COE distribution for the 2025 edition compared to the previous year.

Table 5: Publication age statistics.

Venue	Year	Reviewer			Meta-reviewer		
		Mean	Med.	S.D.	Mean	Med.	S.D.
SIGMOD	2023	16.95	17	7.53	21	21	5.13
	2024	17.54	17	7.99	23.56	23	7.34
	2025	17.93	17	8.39	22.83	22	7.69
VLDB	2023	14.97	14	7.35	21.71	21	5.69
	2024	15.22	14	7.13	24.24	23.5	7.29
	2025	16.66	16	7.7	21.96	21	7.9
EDBT	2023	15.82	15.5	6.95	22.46	20	9.03
	2024	20.3	20	7.72	24.33	24	7.04
	2025	20.38	20	7.36	27.41	27	6.06
ICDE	2023	14.55	14	7.12	24	23	7.33
	2024	16.62	15	8.51	22.77	22	6.63
	2025	14.25	13	7.71	21.85	20	8.13

4.4 Experience Diversity

Table 5 presents statistics on the publication age of reviewers and meta-reviewers. We observe several interesting trends. First, meta-reviewers consistently have higher publication age than reviewers across all venues, as expected, with the mean and median values closely aligned in most cases. Second, EDBT has a higher average publication age, while VLDB and ICDE have the least experienced review boards w.r.t. publication age over the past three years. Third, except for ICDE, the average publication age of reviewers has been increasing, showing greater experience. However, this trend does not apply to meta-reviewers. All venues, except for EDBT, show an inverted-V trend or decreasing trend in publication age for meta-reviewers (with ICDE showing a decreasing trend). In summary, while review board sizes have grown for all venues, EDBT is the only venue that has consistently seen growth in both board size and publication age.

Table 6 presents the average publication venue index for reviewers across the four venues. The values in brackets indicate the percentage of reviewers with $venue(p, v) = 0$. SIGMOD shows a decreasing

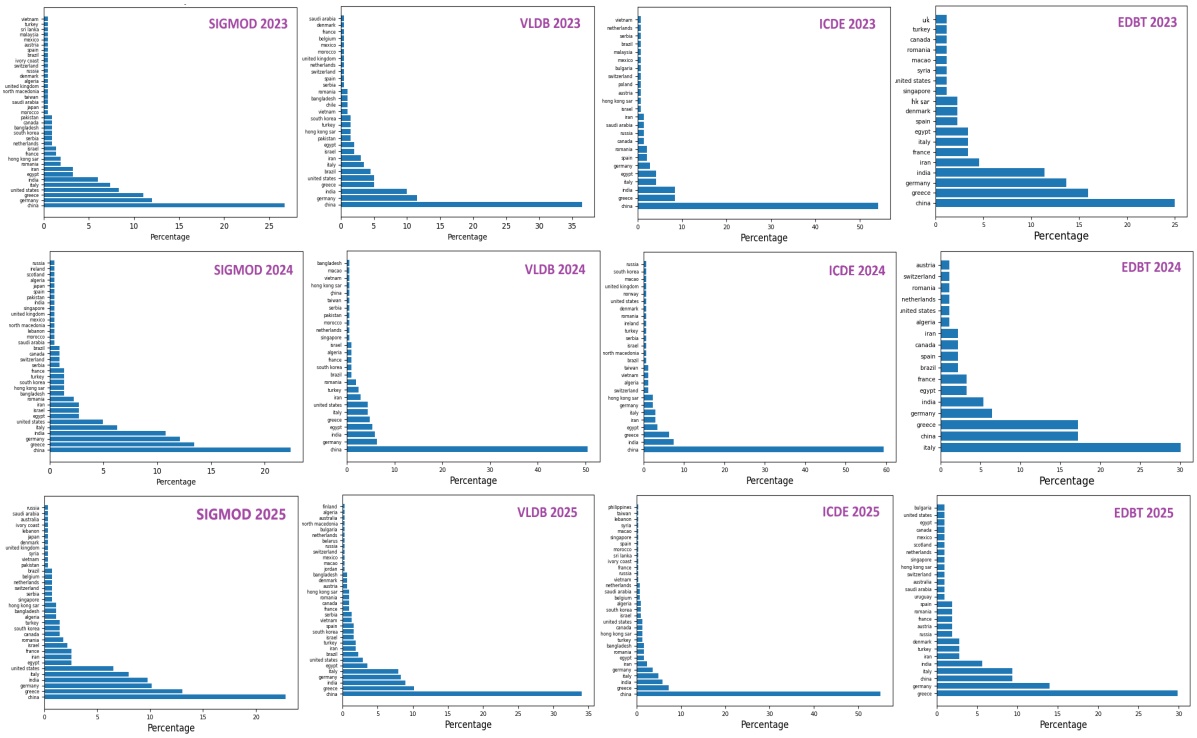

Figure 3: COE distribution of reviewers in SIGMOD, VLDB, ICDE, and EDBT.

trend in the average publication venue index, while the other venues exhibit V-shaped or inverted V-shaped trends. Nevertheless, SIGMOD (resp. ICDE) consistently has higher index compared to VLDB (resp. EDBT). Additionally, the percentage of reviewers with no relevant publications is low for all venues, except for EDBT 2024.

5. REFLECTION & CONCLUSIONS

The DEI initiative in data management initially focused on issues related to participants, authors, and speakers, as well as managing conflicts of interest (COI) for fairer reviewer assignments, as outlined in the 2021 and 2022 reports [8, 9]. The need for diversification of the review boards only surfaced in the most recent report [7]. This article examines the diversity of review boards at four major data management venues. While EDBT has demonstrated superior diversity across the majority of the dimensions of the review boards, larger venues have struggled to maintain this level of consistency. Specifically, there is a noticeable decline in institutional diversity for both reviewers and meta-reviewers across most venues. EDBT shows the most balanced distribution of location and COE diversity among reviewers, while other venues, especially SIGMOD, show significant skewness. Finally, EDBT has the most experienced review boards w.r.t. publication age, while VLDB and ICDE have the least

Table 6: Average publication venue index.

Venue	Year		
	2023	2024	2025
SIGMOD	13.47 [5.07]	13.1 [5.8]	11.93 [4.8]
VLDB	11.14 [4.35]	10.28 [6.09]	11.32 [4.78]
EDBT	11.31 [0]	9.97 [9.68]	14.02 [0.93]
ICDE	14.31 [3.47]	18.75 [2.29]	14.06 [5.21]

experienced, with ICDE showing a declining trend over time. Note that we intentionally avoided speculating on the reasons behind these trends, as the processes involved in forming review boards and the challenges faced are only known to the PC chairs.

The results indicate that review board diversity does not always reflect the growing diversity within the data management community. For instance, while the reviewer database of CLOSET [10] shows over 70 distinct COEs of reviewers in the past five years, less than half of these have been represented on review boards. This highlights the need for more targeted efforts to create diverse and balanced boards. Given the increasing size of review boards and high declination rates for PC invites [11], manually addressing it is difficult for PC chairs. Therefore, the development of *data-driven, PC chair-in-the-loop* tools is essential for efficiently forming diverse and balanced review boards. Lastly, a key goal of a diverse review board is to ensure that submissions are reviewed by diverse experts. Hence, future research will explore the impact of diverse review boards on diversity of reviewer assignments, though access to private assignment data remains a key obstacle.

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