



## Comparative Genre Analysis of Interactional Metadiscourse Markers in Research Article Abstracts of Medical Law and IT Law

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### Keywords

1. Medical Law
3. IT Law

2. Genre Analysis
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### Abstract:

With the assistance of studies in genre analysis of writing in both professional and academic settings, features of different disciplines have been highlighted. However, hybrid disciplines received scant attention. The present study aimed at investigating the use of interactional metadiscourse markers (MMs) in two legal hybrid disciplines: medical law and IT law. Two tools were adopted to collect data: corpora consisting of 150 research article (RA) abstracts selected randomly from two high- impact factor journals and structured open-ended email interview with seven well-known scholars. For the analysis, Hyland's (2005) model of interpersonal MMs and thematic analysis were used. The results indicated that writers in medical law and IT law followed the steps of hard disciplines writers by preferring an objective writing style driven by data rather than by personal interpretations. In the light of these results, ESP instructors and curriculum designers can help writers in the said fields follow the conventions of hybrid disciplines. It is recommended that future studies be conducted to unveil the writing styles of more hybrid disciplines.

## تحليل مقارنة لنوع علامات الخطاب التواصلية داخل الخطاب في ملخصات المقالات البحثية في مجالي القانون الطبي وقانون تقنية المعلومات

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### الكلمات المفتاحية

- <sup>1.</sup> القانون الطبي
- <sup>2.</sup> تحليل النوع
- <sup>4.</sup> ملخصات المقالات البحثية
- <sup>5.</sup> قانون تقنية المعلومات

### الملخص:

ركزت دراسات تحليل الخطاب في السياقات الأكاديمية والمهنية على خصائص الكتابة في مختلف التخصصات؛ لكن التخصصات المختلطة لم تحظ بما يكفي من الدراسة والبحث. ولذلك، هدفت الدراسة الحالية إلى التعرف على استخدام علامات الخطاب التواصلية داخل الخطاب في اثنتين من التخصصات القانونية المختلطة، هما: القانون الطبي وقانون تقنية المعلومات. ولتحقيق ذلك استخدمت الدراسة أداتين لجمع المعلومات، هما: مجموعة من النصوص يبلغ عددها 150 ملخص لمقالات دراسات بحثية تم اختيارها من مجلتين ذواتي تأثير عالٍ في ذلك المجال. كما تم إجراء مقابلات ذات أسئلة مفتوحة عبر البريد الإلكتروني مع سبعة من الباحثين البارزين في مجال الدراسات اللغوية وتحليل الخطاب. وأستخدم نموذج هايلاند (2005م) الخاص بأدوات الخطاب الشخصي داخل الخطاب، بينما خلّلت نتائج المقابلات مع الباحثين بالتحليل الموضوعي. أظهرت النتائج بأن الكُتّاب في مجالي القانون الطبي وقانون تقنية المعلومات اتبعوا الخطوات التي يتبعها الكُتّاب في العلوم البحتة والمعتمدة على تفضيل الكتابة الموضوعية المرتكزة على البيانات بدلاً من الانطباعات الشخصية. وفي ضوء هذه النتائج يمكن لمعلمي اللغة الانجليزية لأغراض متخصصة ومصممي المناهج ان يقدموا المساعدة للكُتّاب من خلال الكتابة باستخدام الأساليب المتبعة في التخصصات المختلطة. وأوصت الدراسة بإجراء المزيد من الدراسات بهدف الكشف عن أساليب الكتابة في المزيد من التخصصات المختلطة.

## Introduction

Efforts exerted by scholars to delve deeply into genre analysis have been useful and have significantly impacted the teaching of English for Specific Purposes (ESP). Bhatia (1997) and Hyland (2000) stress the importance of genre analysis, indicating that the more writers are exposed to particular genre conventions, the more information they have about this genre and the better writers they become. Hyland (2018) states that what teachers do to assist students in writing is that they identify genres by focusing on their structures and features. According to Kay and Dudley-Evans (1998), what makes 'genre' a very powerful pedagogic tool is the description it provides the students with about the structure, social setting, and purpose of a specific discourse. As a result, genre analysis has been applied by a substantial number of scholars for the sake of exploring academic writing on the micro level (Wu, 2020).

Among all academic genres, there has been a consensus among scholars (Doro, 2013; Drid, 2020; Hyland, 2002; Lores, 2004; Martin-Martin, 2005) about an abstract's vital importance for both readers and authors. Hyland (2002) states that the abstract is at which the readers decide to read research article (RA) or not being what they first lay eyes on. It is a well-written structure and well-delivered message that tempts more and more readers, regardless of whether they are specialists or learners, into reading its RA. For Drid (2020), the clear structure and special grammatical characteristics of these RA abstracts are what enable the readers to simply comprehend the whole article. In addition, RA abstracts are what give credence to authors in the academic community (Lores, 2004). Martin-Martin (2005) indicates that abstracts offer writers the opportunity to prove to their discourse community that they have all the skills required to write in a specific discipline. "Writing clear and informative abstracts is a must for the survival and promotion in any academic discourse community." (Doro, 2013, p. 119) This crucial role played by abstracts emphasises the need for providing ESP authors

and learners with deeper understanding and wider awareness of how well-structured abstracts are written.

However, some new challenges have emerged. There has been a change in the way research has been written with the emergence of the term "hybrid disciplines" (Czarniawsk 2007). This change has been generated from mixing some disciplines that have become blurred. Rizvi (2012) indicates that nearly all topics have attracted the attention of different disciplines. According to Czarniawsk (2007), the outcome of this has been the emergence of what they called creole researchers. Mansilla and Duraing (2007) demonstrated that interdisciplinary understanding is the ability to effectively use a combination of information extracted from two or more disciplines for the sake of successfully explaining what cannot be illustrated by relying on one isolated discipline. In response to this, the horizons of many disciplines have been broadened to address any inquiries about any new topics. As a result, some difficulties would be posed for ESP learners and authors who need competence to use the writing conventions of RA abstracts in the new hybrid disciplines.

## Statement of the problem and the questions of the study:

The present study investigates the use of interactional metadiscourse markers (MMs) in research article (RA) abstracts of hybrid disciplines. It aims to address the gap in understanding RA abstracts of legal hybrid disciplines and this is due to the increasing integration of law with other disciplines. Moreover, scant attention has been drawn to explore hybrid disciplines being many researchers in favour of conducting studies only on pure disciplines.

The present study aims at answering the following questions:

1. What are the frequencies of interactional metadiscourse markers (MMs) used in legal research article (RA) abstracts in medical law and IT law?
2. What are the similarities and differences between legal research article (RA) abstracts in medical law and IT law in terms

of interactional metadiscourse markers (MMs)?

3. Do medical law and IT law research article (RA) abstracts show statistically significant differences with reference to interactional metadiscourse markers (MMs)?

### Objectives of the study

The study aimed at:

1. Investigating the frequencies of interactional metadiscourse markers (MMs) used in legal research article (RA) abstracts within the fields of medical law and IT law.
2. Comparing the similarities and differences in the use of interactional metadiscourse markers (MMs) in legal research article (RA) abstracts between medical law and IT law.
3. Exploring if there are statistically significant differences in the use of interactional metadiscourse markers (MMs) between medical law and IT law research article (RA) abstracts.

### Significance of the study

The present study would not only make a decent contribution to unveiling some of the unknown features of legal hybrid disciplines, namely medicine law and IT law, but it would also draw the attention of ESP researchers, authors, and curriculum designers to the urgency of conducting more research in hybrid disciplines. Many researchers focus on individual disciplines, while others are interested in comparing disciplines. However, familiarity with different disciplines has become imperative. At present, it is really hard to be called an expert in the absence of knowledge about different disciplines. Therefore, research on hybrid disciplines such as the present study would spark researchers and authors' curiosity to answer more questions about the RA abstracts of hybrid disciplines.

### Literature review

Genre has a long history. It was assumed that it was used before Aristotle (Devitt, 1996). On close inspection, it was exploited as a literary theory used to classify literary works. By doing so, tragedy and epic were recognised as two literary genres in the works of Aristotle and

Horace (Nwogu, 1990). Being a good tool of classification, genre assisted in distinguishing between the different types of literary works, which led to organising the teaching and learning materials in English sections. (Giltrow, 2002) Traditionally, the basis for categorising texts into genres was the recognition of specific genre characteristics or the representation of a genre in a specific literary work, which was utilised to draw lines between genres (Devitt, 2004). According to Nwogu (1990), it is notable that studies in ESP and EST have been affected by the literary genre theory developed by Wellek and Warrant (1973).

In modern times, genre, to a great extent, has seemed to address many demands of modern life. In other words, genre has interestingly been considered a panacea for the hardship associated with accomplishing some tasks. According to Devitt (2004), genres enable people to successfully communicate by indicating how they can be assimilated into any group. Moreover, through genre, communicative competence can be acquired, offering people the opportunity to overcome some communication difficulties posed by new technologies. This is attributed to the core of the genre: shared meaning and knowledge (Bazerman, et al., 2009). What is more, films, music, and computer games, along with all forms of specialised and daily speech and writing, use genres. (Hyland, 2002) On these grounds, it can be demonstrated that the remarkable potential of a genre has made it an essential part of all aspects of people's lives and a promising framework for applied linguistics. With regard to the approaches to genre analysis, there are three approaches: New Rhetoric, Systemic Functional Linguistics, and English for Specific Purposes (ESP). According to Swales (2009), these approaches were first mentioned by Hyon (1996) in an article entitled 'Genre in Three Traditions: Implications for ESL' in which she explicates that these approaches are a response to the demand for using genre to improve second language teaching. Hyland (2002) demonstrates that "genre has been approached and conceptualised differently by scholars of various traditions." (p.16)

Among these approaches, the ESP approach to genre analysis is certainly a very effective pedagogy in writing. First, it contributes to the creation of well-designed educational materials based on the needs of non-native speakers of English to equip them with the skills needed to meet the demands of their either academic or professional purposes (Hyon, 1996). In addition, it can facilitate the process of both teaching and learning writing; most likely, its analysis is lucid. According to Swales (1990), students should be familiar with how to use the rhetorical conventions along with their structure and linguistic features that adhere to a genre-based approach. This is the case with ESP. Such knowledge, along with the frameworks it offers, is the ground on which teaching writing is constructed (Bruce, 2008). Concerned with the social impact of a genre, Hyland developed a model in 2005, which can be employed to analyse MMs in academic RA and RA abstracts.

Unlike the analysis of RA language features that can only show a researcher's skill in using the language, MMs remarkably offer a decent opportunity for writers not only to persuade their readers of their points of view but also to assist them in arousing these readers' interest in the findings of their studies. The analysis of metadiscourse markers (MMs) can indicate the extent to which a researcher exploited their RA to disseminate messages and provoke serious discussion.

As was previously mentioned, RA abstracts enable writers to convince their readers of the importance of an RA so they will have the curiosity to read it. Achieving this would require much skill; therefore, much research was carried out using MM analysis to examine the use of MMs in RA abstracts.

Driven by the inquiry of whether soft disciplines RA abstracts would have similar use of interpersonal MMs or not, some studies (Ashofteh et al., 2020; Li and Pramoolsook, 2015; Livytska, 2019; Ruonan and Al-Shaibani, 2022) were carried out. Ashofteh et al. (2020) attempted to investigate how interactional MMs were used in applied linguistics RA abstracts when taken from different journals. To this end, 125 RA

abstracts selected from five journals were analysed using Hyland's classification for MMs. The findings demonstrated that in all corpora, hedges were the most frequently used by applied linguistics writers, which indicated, according to Ashofteh et al. (2020), that applied linguistics writers were tentative and willing to offer a chance for more argument. Regarding the other interactional MMs, hedges were followed by attitude markers, but in some moves, boosters followed. Self-mentions had the highest percentage of occurrence only in presenting research-purpose moves. Overall, no significant differences were found.

Undoubtedly, hedges play an important role in providing readers with valuable insight into how linguistic features are exploited by writers. Writers can utilise them to express their opinions objectively. This has urged some researchers (e.g. Li & Pramoolsook, 2015; Livytska, 2019) to explore hedge use in soft disciplines. These studies have focused on the potential intra-variations in applying hedges, considering the impact of a discipline. To elucidate this, providing more information about each one of them seems to be crucial, especially since they had contradictory findings.

First, Li and Pramoolsook (2015) examined the distinctions between the business management and marketing subdisciplines. Using Hyland's (2000) model and the Wordsmith tool, the hedges were analysed in 64 RA abstracts. The results showed that the two data sets included instances of all five types of hedges: modal, auxiliaries, epistemic lexical verbs, epistemic adverbs, epistemic adjectives, and epistemic nouns. Furthermore, as marketing writers have a tendency to persuade their customers, more hedges were employed in their abstracts. Marketing writers tended to use more "epistemic lexical verbs," whereas management writers tended to use more "epistemic nouns" and "epistemic adjectives." One could argue that a discipline's unique usage of hedges would distinguish it from others due to its nature. Nonetheless, no differences were found in Livytska's (2019) study that investigated the use of hedges in various soft disciplines related to applied linguistics. The



analysis of 20 research articles applying Hyland's (1996) taxonomy revealed that the most frequently used hedges in all corpora were reader-oriented hedges and lexical verbs followed by epistemic nouns and modal verbs, respectively.

In different genres, Smirnova and Strinyuk (2020) compared the hedges used in 62 articles written by experts and 58 research proposals written by Russian fourth-year management students. Only 10 hedges from Hyland's (1998) and Takimolo's (2015) lists were selected to analyse. The findings revealed that there were significant differences between the Russian novice writers and the professional writers in terms of hedge use. Russian students used fewer hedges than professional writers did. According to the researchers, the frequent use of the modal verbs 'may' and 'would' and the modal lexical verbs 'to suggest' indicated the limited academic writing skills of the students due to using these verbs that are mostly used in general English.

Gauging the potential impact of discipline on MMs was the objective of some studies (e.g. Manzoor et al., 2022; Obeng et al., 2023). Manzoor et al.'s (2022) study delved into the use of interpersonal MMs in 200 PhD abstracts: 100 abstracts written by engineering writers and 100 abstracts written by linguistics writers. Based on the MM analysis, it was indicated that applied linguistics writers used more interactive MMs than engineering writers, who favoured the interactional MMs. The Chi-test revealed that while applied linguistics writers used more attitude markers and boosters, engineering writers used more self-mentions and hedges. These differences between the two datasets were statistically significant. Certainly, the variations that emerged in the study of Manzoor et al. (2022) would be caused by the different disciplines that were investigated.

Obeng et al. (2023), on the other hand, analysed some interactional MMs in another genre. In their study, they investigated 60 academic conference abstracts to explore boosters and hedges. The application of Hyland's (2005) classification of MMs revealed that there were no significant differences between the use of boosters and hedges in the hard and soft

sciences. This suggests one of the following: either the impact of a discipline is strong in only some MMs or that the influence of discipline is waned by the influence of a genre.

### Scope and limitations

The present study was limited to the following:

1. Two legal hybrid disciplines were explored.
2. The corpora were selected from prestigious journals. 150 RA abstracts published in two high-impact factor journals during the period 2017 – 2023 were analysed.

### Method

With the goal of pursuing answers to a study's questions, the type of research design becomes of great concern. It should be borne in mind that the selection of research design hinges on its questions (Agrawal, 2022; Flum et al, 2012). The present study's questions are descriptive in nature. Bickman et al. (2009) have indicated that when a researcher is trying to answer a "what is" question, the use of descriptive methods is suitable. Thus, adopting the descriptive research design can provide an accurate picture of linguistic features (interactional MMs) of RA abstracts in medical law and IT law. That is because descriptive research frequently entails identifying the characteristics of two or more variables (Smith & Albaum, 2005).

#### a. Data collection

In the present study two tools were employed for collecting data: corpus and structured open-ended email interview.

#### 1. Corpus

A corpus aims at reflecting a language or part of a language (Biber et al., 1998). "A corpus is a collection of texts that has been built according to explicit design criteria and (often) for a specific purpose" (De Monnink, 2016, p. 39). In the current study, the corpora were collected based on Nwogu's (1997) three criteria: representativeness, reputation, and accessibility.

In an attempt to ensure corpus representativeness, the features of journals and type of sampling were pursued in the current study. Considering that the scope of some

journals is broader than the others, two journals were selected: "*Health and Justice*" and "*International Journal of Cyber Criminology*". These journals cover various topics related to medical law and IT law and publish informative RA abstracts. As for the sample, the probability sampling was adopted employing lottery method. "There are several different ways to draw a simple random sample. The most common way is the lottery method" (Singh & Masuku, 2014, p. 3).

The corpora in the present study consisted of 150 RA abstracts: 75 RA abstracts from each journal. To limit the data set, the RAs were selected from 2017 to 2023 publication dates. The words in the abstracts ranged from 100 to 300 words yielding approximately 31944 words. It should be noted that "*Health and Justice*" and "*International Journal of Cyber Criminology*" are highly ranked journals with a frequent publication rate in the hybrid disciplines (medical law and IT law). Based on Scopus Journal Rank (Scopus CiteScore Rank) in 2023, these two journals' impact factors were 2.75 and 1.08, respectively (Find overall ranking and impact score, 2023).

The ease of accessing the texts that form the corpus is referred to as accessibility (Nwogu, 1997). The corpora in the present study were electronically retrieved and downloaded from the archives of the selected journals and saved in a word file format to be analysed. "In choosing and evaluating a sampling frame, considerations of efficiency and cost effectiveness must be balanced against higher degrees of representativeness" (Sampson & McCarthy, 2005, p. 175).

## 2 Interview

To explore in-depth the perspectives and experiences of experts in a field, interviews would be the right choice. In the present study, the participants were selected randomly. Google Scholar was navigated to find scholars who have actively published RA in the domain of genre analysis and applied linguistics. Then, from a list of 70 alphabetically ordered names

of experts in the field of genre analysis and applied linguistics a list was built. Following systematic sampling, 35 scholars were chosen nine of whom responded to the email open-ended interview sent to them but two apologised. Therefore, the sample in the present study was 7 applied linguistics scholars interested in genre analysis. Regarding the interview, it was designed following an interview guide. Based on three main categories (hard and soft disciplines characteristics, comparison between hard and soft disciplines, and hybrid disciplines features), a group of nine open-ended questions was created in relation to interactional MMs.

## b. Data analysis

Microstructure features in a written product can be analysed on several levels, including linguistic elements at the word, sentence, and /or discourse. Microstructure analysis mainly focuses on how a writer conveys meaning at various levels and in the present study, interactional MMs were the target.

## 1. Corpus analysis

Corpus analysis, a widely used empirical research strategy within language research, was performed in the present study as a means of genre analysis. Flowerdew (2005) illustrates that "more integration of genre analysis and corpus-based investigations has been called for." (p.325) The authenticity of texts used in corpus analysis would provide great opportunity for exploring the similarities and differences between RA abstracts in medical law and IT law on the basis of disciplinary impact.

Smith (2017) states that researchers use textual analysis as a research approach for studying texts as they appear in different formats. For example, in a top-down approach, the analyst begins with a predetermined framework or theory and applies it to the text to uncover significant themes, patterns, or categories. Hyland's (2005) interpersonal MMs model was used to detect the similarities and differences between medical law and IT law RA abstracts

in terms of interactional MMs. Table (1) shows Hyland's (2005) interpersonal model of MMs.

**Table (1): Hyland's (2005) interpersonal model of MMs**

Category	Function	Examples
	Involve the reader in the text	Resources
Hedges	Withhold writer's full commitment to statements	may, might, could, would, perhaps, some, possible
Boosters	Emphasize force or writer's certainty	in fact, definitely
Attitude markers	Express writer's attitude including significance, obligation to proposition	Should, have to, agree, surprisingly
Self-mentions	Refer to author(s) explicitly	I, my, exclusive we, our
Engagement markers	Build relationship with reader explicitly	Imperatives (e.g., Please note that ...), You can see that ..., inclusive we

According to Jomaa (2020)"Hyland is considered the most prominent author in the field of disciplinary academic writing in general and metadiscourse in particular"(p. 189).

Interactional resources help manage writers' visibility by expressing doubt or certainty as well as attitudes towards propositions. In Hyland's (2005) model, there are five categories: hedges, boosters, attitude markers, self-mentions and engagement markers.

To identify the interactional MMs, there were two stages. In the first stage, AntConc (2019) software was applied. Posavec (2020) stated that AntConc is a program that provide fundamental corpus tools, which include concordance, collocations, and keywords, among other basic functions that allow a corpus to be searched. The Word List feature of AntConc generates a list of terms arranged according to their frequency. In the second stage, human judgement was required as this software does not provide pragmatic or semantic information of words and phrases which would lead to wrong identification of some interactional MMs' subcategories.

Percentage formula was used to calculate the frequency of interactional MMs' subcategories. However, there was need to calculate their frequency per 1000 words and their Z-score values to ensure making more meaningful comparison between the two corpora as both corpora have different sizes (medical law with 18297 words and IT law 13647 words). It worth noting that Z-scores were calculated using

SPSS version 26. To explore whether the differences between the interactional MMs in medical law and IT law were significant, the Chi-square test was employed.

## 2. Thematic analysis

For the sake of obtaining valuable insights on genre analysis, hard and soft, and hybrid disciplines, choosing an appropriate approach to scrutinise the interview transcripts was crucial. For this purpose, thematic analysis was chosen. It seemed as a step toward exploring the interview participants' perspectives in the present study on how writers in hard, soft, and hybrid disciplines communicate. To clarify, according to Knoblauch (2001), "themes are the 'nucleus' of the social reproduction of communication by paraphrasing what is relevant in social systems and society as a whole." (p.21)

To apply thematic analysis, there was a need for a framework to follow. In the present study, Braun and Clarke's (2006) was followed. It is a systematic process that consists of six phases: familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and writing reports. To ensure more efficient results, these phases were employed using NVivo 10 software, which facilitates the process of identifying the themes. This software was designed to facilitate and streamline Braun and Clarke's (2006) six-phases approach to thematic analysis by expediting the process of coding and identifying the themes.



### 3. Inter-rater reliability

The degree to which two or more raters agree is known as inter-rater reliability. As McHug (2012) stated inter-rater reliability is the evaluation of how often data collectors (raters) give the same score to the same variable. There is a need for more than one rater to eliminate the possibility for subjective bias that might be exhibited in this type of study. In the present study, the researcher (i.e., the first inter-rater) requested an experienced linguist with interest in genre analysis to serve as the second inter-rater. Both inter-raters separately coded the data. Then a statistical method called Cohen's Kappa (for two raters) was employed to measure inter-rater reliability. Table (2) illustrates Kappa value of inter-rater reliability for interactional MMs.

**Table (2): Kappa value of inter-rater reliability for interactional MMs**

Measure of Agreement Kappa	MDL	ITL
Value	.940	.937
Asymptotic Standard Error <sup>a</sup>	.019	.020
Approximate T <sup>b</sup>	27.293	26.153
Approximate Significance	.000	.000

Kappa value was .93 (.94 for medical law and .93. for IT law) which indicated strong agreement of raters.

## Results and discussion

### a. Results of corpus analysis

According to Hyland (2005), writers use interactional MMs to engage their audience. Employing these markers helps writers present their point of view. Moreover, acknowledging readers encourages their participation in discussions, guiding them towards interpretations. To answer the present study's first question that states: "What are the frequencies of interactional metadiscourse markers (MMs) used in legal research article (RA) abstracts in medical law and IT law?" The frequencies of interactional MMs were first investigated in the medical law corpus and subsequently in the IT law.

### 1. Interactional MMs in medical law RA abstracts

Table (3) displays the frequencies and percentages of their occurrence.

**Table (3): Frequencies and percentages of interactional MMs in medical law RA abstracts**

Interactional MMs	Frequency	%
Hedges	182	46.95%
Self-mentions	80	20.65%
Boosters	52	13.40%
Attitude markers	39	10%
Engagement markers	35	9%
<b>Total</b>	<b>388</b>	<b>100</b>

Hedges were ranked first, appearing 182 times with 46.95% of all the interactional MMs. They were followed by self-mentions, constituting for 80 (20.65%). The third most commonly used markers were boosters, as they occurred 52 times with 13.40% of all the interactional MMs. Both attitude markers and engagement markers were the least prevalent markers but still present, accounting for 39 instances (10%) and 35 instances (9%), respectively.

In the present study, hedges were classified into five categories: lexical verbs, modal auxiliaries, adjectives, adverbs, and phrases to highlight how writers of medical law RA abstracts employed them. See Table (4).

**Table (4): Frequencies and percentages of hedges subcategories in medical law RA abstracts**

Hedges	Frequency	%
1. Adverbs	67	37%
2. Modal auxiliaries	66	36%
3. Lexical verbs	37	20.32%
4. Adjectives	7	3.84%
5. Phrases	5	2.84%
<b>Total</b>	<b>182</b>	<b>100</b>

Two categories seemed to be the most commonly used by medical writers: adverbs and modal auxiliaries. Adverbs appeared 67 times, comprising 37% of all hedges used. Adverbs were closely followed by modal auxiliaries, which occurred 66 times, accounting for 36%. Adverbs and modal auxiliaries were followed by lexical verbs, which appeared 37 times (20.32%). The last

category of hedges, "phrases," rarely occurred, appearing 5 times (2.84%).

In an attempt to soften their claims, medical law writers often choose to demonstrate politeness and indirectness through the use of hedging. This approach allows them to indicate to their readers that opposing opinions are welcome. By doing so, they aim not only to engage their readers but also to display the humility highly valued by the discourse community. Excerpt 1 is a good example of how medical law writers employed hedges to present their findings.

#### Excerpt 1

The majority of youth who participated in the intervention rated the program topics (77.9%) and activities (72%) as appropriate for their age, **would** recommend it to their peers (73.6%), and **would** use the skills learnt in the future (85.4%). (ML49)

Besides presenting the results of their studies, medical law writers employed hedges to cautiously deduce conclusions. See Excerpt 2.

#### Excerpt 2

Policies that expand healthcare access are also **likely** to benefit formerly incarcerated women, given the challenges they experience seeking community-based care. (ML50)

It is noteworthy that the results in the present study were in line with the results of Suntara's (2018) study. In their study, hedges were the most commonly used in presenting the results and conclusions in the abstracts of a hard discipline (food technology). The results were also consistent with those of Saz-Rubio's (2019) study. They indicated that among all hedges employed in the abstracts of food science and technology, those used to present the findings were the most prevalent, accounting for 56%. Another study found similar findings to those of the current study. By comparing the use of hedges in soft and hard disciplines, Obeng et al. (2023) demonstrated that the frequency of the occurrence of hedges in the hard disciplines exceeded that in soft disciplines, accounting for 69 and 58, respectively.

Overall, based on medical law writers' use of hedges in the present study, it can be said that they demonstrate both disciplinary and academic professionalism. Hedging appears to

enable writers to effectively communicate their findings and maintain academic integrity by showcasing scholarly caution, which regards study findings and conclusions as contributions to ongoing debate rather than definitive answers. As Hyland (2005b) stated that hedges help present findings as opinions rather than absolute facts.

For writers to remind readers of their presence, self-mentions are employed (Ho, 2024). According to Hyland (1999), self-mentions have three main functions: "to organise their arguments, to introduce their research activities, and to show their positions." (P.118) Table (5) shows the frequencies and percentages of their occurrence and the purposes they were used for.

**Table (5): Frequencies and percentages of self-mentions subcategories in medical law RA abstracts**

self-mention subcategories' uses	Frequency	%
1. Describing methodology	49	61.3%
2. Stating research purpose	19	23.75%
3. Reporting findings	7	8.7%
4. Interpreting findings	2	2.5%
5. Presenting recommendations	2	2.5%
6. Providing research background	1	1.25%
<b>Total</b>	<b>80</b>	<b>100</b>

Among the various uses of self-mentions, "describing methodology" was in the lead, accounting for 61.3% of all self-mentions. "Stating research purpose" ranked second, appearing 19 times (23.75%). The third most frequent was "reporting findings." Less prevalent self-mentioned purposes included "presenting recommendations" (2.5%) and "providing research background" (1.5%).

In accordance with Tessuteo's (2013) findings in legal RA abstracts, the medical law writers in the present study focused more on research activities and procedures. To clarify, they employed "we," "our," and "us" mainly for describing methodology, which can be attributed to different reasons. First, it demonstrates medical law writers' goal to ensure transparency. They draw attention to the

research process and their role in it. The detailed description of the procedure applied to conduct their studies would enable other researchers to understand the findings and even replicate them for the validation of results and conclusions. Furthermore, placing a great significance in describing methodology indicates the reliability and rigour of results as scientific and appropriate methods were applied to conduct their studies. They would, in this way, gain the acknowledgement of broader academic and professional communities. See Excerpt 3.

#### Excerpt 3

**We** used multivariate logistic regression to investigate the associations between drug use in prison and demographics, previous drug use, mental health, and criminal activity. (ML30)  
They also used self-mentions to define the objectives of their studies, which helps to indicate the collaborative nature of work in studies and to maintain the convention of academic writing. See Excerpt 4.

#### Excerpt 4

**Our** objective was to better understand the experience of the COVID-19 pandemic and its collateral consequences for those on community supervision (e.g., probation, parole). (ML68)

The less frequent occurrences of the other uses, namely "reporting findings," "interpreting findings," and "providing research background," of self-mentions reflect that they are less central to the writers' direct involvement in the research. They show how the findings are not influenced by the personal engagement or writers; rather, they focus on conveying results and implications.

By far, the self-mention "we" exceeds the occurrences of other self-references. This can be primarily attributed to the hybrid nature of medical law RA, which requires collaboration between experts in medicine and law. Tessute (2012) has demonstrated that in legal RA and abstracts, writers needed "to draw on other disciplinary processes and procedures... which then allowed the writers to engage in an evolving area of collaborative knowledge and expertise" (p. 168). In the present study, nearly all medical law RA abstracts (74 out of 75)

were co-authored, reflecting the collective effort and shared responsibility of the writers. Moreover, the use of "we" serves a discursive function. According to Tessute (2012), "we" can function as a persuasive tool that would offer legal writers the opportunity to build a strong bond with readers by creating a conversational tone. As a result, the abstracts' readability increases. This practice can be similarly observed in scientific, namely medical RA abstracts, where "we" would serve the same communicative purpose.

According to Ho (2024), writers use boosters to align readers with their point of view and to counter opposing arguments. They achieve this by highlighting their authority and expressing their confidence in their discussion, which helps build their credibility. The results illustrated how boosters were utilised to establish credibility in the medical law RA abstracts.

**Table (6): Frequencies and percentages of boosters in medical law RA abstracts**

Booster subcategories in medical law corpus	Frequency	%
known	14	26.92%
found	8	15.38%
showed	7	13.46%
demonstrate	3	5.76%
never	3	5.76%
demonstrated	2	3.84%
find	2	3.84%
show	2	3.84%
shown	2	3.84%
actually	1	1.92%
clearly	1	1.92%
demonstrates	1	1.92%
establish	1	1.92%
established	1	1.92%
shows	1	1.92%
thought	1	1.92%
believe	1	1.92%
clear	1	1.92%
<b>Total</b>	<b>52</b>	<b>100</b>

As it can be seen in Table (6), "known" was the most frequently occurring, accounting for 14 times (26.92% of all boosters). Next on the list was "found," which appeared 8 times (15.38%). "Found" was closely followed by "showed" with 7 occurrences (13.46). Other boosters such

as "demonstrate" and "never" each occurred 3 times (5.76%). "demonstrated," "shown," and "find" each occurred twice with 3.84%. Boosters like "actually," "clearly," "demonstrates," "establish," "established," "shows," "thought," "believe," and "clear" were the less commonly used, each appearing once (1.92%).

These results offer some valuable insights into how medical law writers present their points of view. To start with, the connotations of "known." Remarkably, it was employed to perform two functions. First, it sheds light on the gap in the existing knowledge and underscores the urgent need for further investigation. By doing so, the rewriters manage to denote the importance of their study. Consider Excerpt 5.

#### Excerpt 5

Incarcerated women have a higher prevalence of health problems than the general population; however, little is **known** about their perspectives on the healthcare they receive. (ML50)

As for the booster "found," it was employed to indicate that writers reported trustworthy results based on empirical studies and supported by evidence. Using "found" suggests that these results are of great benefit as they were unknown previously. It also reflects the writers' reluctance to present the results with interpretations as a clear indication of their commitment to objectivity. This is illustrated in Excerpt 6.

#### Excerpt 6

TBI and PTSD were **found** to predict violent offending but not general criminal behavior. (ML52)

In general, medical writers relied on boosters to counter any arguments against their findings and to ensure the certainty of their outcomes. Adopting an approach that emphasises evidence-based results in medical law RA abstracts makes it similar, to a large extent, to hard disciplines. In hard disciplines, the writers' assurance comes from concrete experiments, leaving no room for doubt about their findings. Attitude markers are employed to express a writer's stances towards the content they

discuss. In medical law RA abstracts, the analysis revealed interesting results. See Table (7).

**Table (7): Frequencies and percentages of attitude marker in medical law RA abstracts**

Attitude marker subcategories	Frequency	%
important	13	33.3%
appropriate	10	25.64%
even	10	25.64%
agreed	1	2.56%
dramatic	1	2.56%
essential	1	2.56%
importantly	1	2.56%
preferred	1	2.56%
remarkably	1	2.56%
<b>Total</b>	<b>39</b>	<b>100</b>

As illustrated in Table (7), three attitude markers were most prevalent in medical law RA abstracts. Leading the list was "important," occurring 13 times (33.3% of all attitude markers). It was closely followed by "appropriate" and "even," each appearing 10 times (25.64%). Less frequently used, at 2.56% of all attitude markers, were "agreed," "dramatic," "essential," "importantly," "preferred," and "remarkably," each appearing only once in medical law RA abstracts.

It can be said that the main goals of employing attitude markers in medical law RA abstracts were more evaluative than affective. They were primarily used to stress the importance of the findings and underscore the contributions of studies. They were also employed to indicate writers' surprise at some findings. The writers avoided explicitly expressing their opinions about the subject; rather, they attempted objectively to build their point of view based on their findings. To clarify, by employing "important, medical law writers underscore and emphasise their studies' findings. See Excerpt 10.

#### Excerpt 7

On average, JJ employees rated substance use prevention as highly **important** (mean = 45.9, out of 50). JJ employees generally agreed that preventing substance use was part of their agency's responsibility (mean = 3.8 on scale ranging from 1 to 5). (ML12)



In addition, to implicitly highlight the limitations of existing methods or approaches to solving a problem, they tended to use "appropriate" moderately in their abstracts. Excerpt 8 is a good example.

#### Excerpt 8

These findings demonstrate the need for prison officials to identify individuals with a history of TBI and PTSD and to develop **appropriate** interventions that could be provided during incarceration to reduce the post-release likelihood of violence. (ML52)

The use of attitude markers seems to expose medical law resemblance with hard disciplines. First, the frequency of attitude markers' occurrence was the lowest in comparison to the other interactional MMs. According to Breeze (2012), "Hyland was able to demonstrate that writers in the "hard" sciences, such as physics and microbiology, use far fewer attitude markers than their colleagues in the social sciences." (p. 32) In addition, the absence of some subcategories of attitude markers such as "amazingly," "surprisingly," "unfortunately," etc. can be a clear indication of the objective tone of medical law RA abstracts. "Scientific writing differs from non-technical writing in that the former is objective in tone." (Moriarty, 1997, p. 27) Mainly, the attitude markers in medical law RA abstracts were employed to evaluate research results, direct the readers to the most valuable contributions in the study, and emphasise and draw attention to specific points.

Hyland (2005a) has demonstrated that the goals of academic writers should not be restricted to presenting themselves and their ideas. Considering their readers' presence is crucial too. In the present study, engagement markers were classified into two subcategories: reader mentions and directives, and this was based on their occurrence. The frequencies and percentages of employing these two subcategories in the medical law RA abstracts were presented in Table (8).

**Table (8): Frequencies and percentages of engagement markers in medical law RA abstracts**

Engagement marker subcategories	Frequency	%
1. Directives	28	80%
2. Reader mentions	7	20%
<b>Total</b>	<b>35</b>	<b>100</b>

As shown in Table (8), "directives" ranked first, appearing 28 times, which accounted for 80% of the total engagement markers. Regarding "reader mentions," they ranked second after "directives," occurring 7 times (20% of the total engagement markers). These results would demonstrate the significant attention paid by writers to establish author-reader interaction. To achieve this, writers employed directive forms to guide readers through the research implications and recommendations. According to Hyland (2002), writers use directives to prompt readers to take actions. It is noteworthy that medical law RA abstracts predominantly used obligation models with a noticeable absence of imperatives and predictive adjectives.

To further clarify the implications of using each obligation model, additional explanations were provided. The use of "should" signifies actional insights based on research findings. This suggests identifying a course of action, a conclusion, or a recommendation that should be followed or considered, guiding readers or stakeholders towards practical applications of research findings. Consider Excerpt 9.

#### Excerpt 9

Consequently, agency administrators implementing these types of interventions **should** consider small pilot studies and develop implementation strategies tailored to the local implementation context. (ML23)

The use of "should" can also serve as a persuasive tool, encouraging readers to adopt a particular viewpoint or consider specific actions to influence their perceptions of the research's significance. Excerpt 10 illustrates this.

#### Excerpt 10

Finally, ties to family members and other loved ones **should** be leveraged to help facilitate the achievement of optimal health outcomes among this population. (ML27)



Even though the occurrences of "reader mentions," namely inclusive "we," "our," and "us" were not high, their use highlights the attempt of some medical writers to build a sense of rapport with readers to make their abstracts more engaging. They employed these engagement markers to influence the readers and persuade them of the importance of the issue they discuss. See Excerpt 11.

#### Excerpt 11

**We** are currently witnessing an ongoing drug overdose death epidemic in many nations linked to the distribution of illegally manufactured potent synthetic opioids. (ML60)

HE and Abudulrahim (2019) have indicated that what strongly engages readers is the use of "reader mentions," represented by inclusive pronouns and possessive. According to them, these markers are a clear indication of writers' awareness of their readers' presence.

The qualitative analysis of IT RA abstracts highlighted how interactional MMs were employed. Table 9 illustrates the frequencies and percentages of their use.

#### 2. Interactional MMs in IT law RA abstracts

The qualitative analysis of IT RA abstracts highlighted how interactional MMs were employed. Table 9 illustrates the frequencies and percentages of their use.

**Table (9): Frequencies and percentages of interactional MMs in IT law RA abstracts**

Interactional MMs	Frequency	%
Hedges	95	47.5%
Boosters	49	24.5%
Engagement markers	24	12%
Self-mentions	18	9%
Attitude markers	14	7%
<b>Total</b>	<b>200</b>	<b>100</b>

As shown in Table (9), hedges emerged as the most frequently used category, appearing 95 times and constituting 47.5%. Boosters followed behind at 24.5% (49 instances). Engagement markers, observed 24 times, accounted for 12%, ranking third. The last two categories – self-mentions and attitude markers – constituted the smallest proportions at 9% (18 instances) and 7% (14 instances), respectively. To shed more light on their application a

detailed explanation, for each category is provided.

Considering the need for polite tone in academic writing, the use of hedges would be crucial. They provide writers with the opportunity to avoid overconfidence while presenting their claims. As previously mentioned, hedges were the most prevalent interactional MMs used in IT law RA abstracts. The frequencies and percentages of hedge subcategories are presented in Table (10).

**Table (10): Frequencies and percentages of hedges in IT law RA abstracts**

Hedge subcategories	Frequency	%
1. Lexical verbs	37	38.94%
2. Adverbs	28	29.47%
3. Modal auxiliaries	21	22.10%
4. Phrases	5	5.26%
5. Adjectives	4	4.23%
<b>Total</b>	<b>95</b>	<b>100</b>

Table (10) illustrates that hedges were expressed in various forms. The subcategory "lexical verbs" was in the lead with 37 occurrences, accounting for 38.94% of the total hedges used. The most frequent hedge in this subcategory was "suggests," occurring six times. "Suggests" was followed by "indicate," being observed five times. At 29.47% of total hedges employed, the subcategory "adverbs" was next after "lexical verbs," comprising 28 instances with "often" being the most prevalent. "Modal auxiliaries" ranked third, accounting for 22.10% (21 instances). "Modal auxiliaries" included some modals, among which "could" was the most commonly used, appearing 13 times. The least frequent subcategories were "phrases" and "adjectives," with 5.26% and 4.23%, respectively.

Investigating how the aforementioned hedges were used would highlight the purposes they served. To begin with, "suggest" implies tentative conclusions, demonstrating how writers are cautious in presenting their results. Excerpt 12 is a good example.

#### Excerpt 12

Parents' unwillingness to report the crime, as well as their acceptance of the proceeds, **suggests** that they do approve of cybercrime and thereby contribute to its increased rampancy. (ITL21)

On the other hand, the use of "often" helps to avoid overgeneralisation of a phenomenon. See Excerpt 13.

### Excerpt 13

In the current era, technology is developing very fast and **often** humans need to be protected from its uncontrollable use. (ITL75)

Remarkably, IT law writers, being fully aware of the role played by hedges in softening their claims, succeed in communicating their findings in an academic manner. It is noteworthy to compare their approach to using hedges with that of hard disciplines writers. According to Breeze (2012), "scientists apply objectifying discourses that obscure personal agency and take care to hedge where certainty is not acceptable" (p. 32). In other words, objectivity is the primary goal for writers in hard disciplines, and hedging is their tool to persuade their readers and discourse community, as assertiveness about their findings would be rejected. Humility, represented by the use of hedges, would be highly appreciated by readers and would help to persuade or at least engage them.

Regarding boosters, they can help writers convey their confidence, attempting to persuade readers of the validity of their studies. In the present study, the results revealed how IT law writers applied boosters in their RA abstracts.

**Table (11): Frequencies and percentages of boosters in IT law RA abstracts**

Booster subcategories in IT law corpus	Frequency	%
found	12	24.48%
show	6	12.32%
known	5	10.40%
demonstrated	4	8.16%
demonstrate	3	6.32%
demonstrates	3	6.32%
actually	2	4%
evident	2	4%
shown	2	4%
find	2	4%
proved	2	4%
establish	1	2%

established	1	2%
showed	1	2%
finds	1	2%
indeed	1	2%
know	1	2%
<b>Total</b>	<b>49</b>	<b>100</b>

Table (11) displays that the most commonly employed booster was "found," appearing 12 times and constituting 24.48% of the total occurrences. "Show" had the second highest percentage of occurrence (12.32%), being used 6 times. "found" was closely followed by "known," which was observed five times, comprising 10.40% of all boosters used in IT Law RA abstracts. The booster "demonstrated" occurred four times, representing 8.16%. The remaining boosters either occurred three times and accounted for 6.32% each, such as "demonstrate" and "demonstrates," or appeared twice or once. The boosters that were observed twice were "actually," "evident," "shown," "find," and "prove," and they accounted for 4%. "Establish," "established," "showed," "find," "indeed," and "known" occurred once and each represented 2% of the total occurrences.

Using these boosters in the IT law RA abstracts denotes the importance placed on the findings of the study rather than on personal interpretations. This can be evidenced by the frequent use of some boosters, such as "found" and "show." Likely, the main goal of IT writers is to emphasise and confirm the results. "Found" was used to indicate that the results were grounded in empirical evidence. Therefore, the factual results presented using the booster "found, demonstrated the objectivity adopted by IT law writers in presenting the results. This is illustrated in Excerpt 14.

### Excerpt 14

Interactions were **found** in several variables between victims' age and gender and offenders' age and gender. (ITL42)

Similarly, "show" emphasised the transparency in reporting results based on evidence, which reinforces the strength of the findings. See Excerpt 15.

**Excerpt 15**

The results of this study **show** that cyberbullying against women in Iraq is a result of illiteracy, a lack of resources, and the absence of contemporary criminal legislation. (ITL68)

Engaging readers in the writer's arguments requires employing different categories of engagement markers. The results revealed how IT law writers used these markers in the present study.

**Table (12): Frequencies and percentages of engagement markers in IT law RA abstracts**

Functions of engagement marker subcategories	Frequency	%
1. Directives	20	83.34%
2. Reader mentions	4	16.66%
<b>Total</b>	<b>24</b>	<b>100</b>

As Table (12) shows, there was a strong tendency to use "directives" over "reader mentions." At 83.34%, directives ranked first, constituting 20 occurrences. "Reader mentions" ranked second, appearing four times and accounting for 16.66%. It can be inferred that a moderate number of IT law writers prioritised communicating with their readers. The great attention they paid to guiding readers through "directives" demonstrates their interest in conveying their results explicitly. For these writers, adopting a clear and direct indication of essential actions and recommendations appears to be the most effective way of addressing their concerns. Moreover, the limited number of "reader mentions" suggests that their approach to engagement is not personal reference but rather clear guidance.

For the sake of highlighting the connotations of employing "directives," it is crucial to delve into their use in the IT law RA abstracts by referring to examples from the IT law corpus. To start with, "need to" demonstrates the urgency of immediate action in response to the study findings. Consider Excerpt 16.

**Excerpt 16**

Despite these regulatory initiatives, however, it was found that there is still a **need to** adopt a protection mechanism against cybercrimes that

are exceeding in number owing to the abuse of Internet and technology. (ITL60)

Another subcategory of directives "should" suggests recommendations for further action based on the study's findings. See Excerpt 17.

**Excerpt 17**

It was recommended that more effective and holistic cybercrime awareness campaigns targeted more on the women and the children, **should** be embarked upon by the stakeholders. (ITL35)

It can be said that IT law writers utilised engagement markers, namely "directives," to persuade their readers either by urging an action, emphasising the importance of issues, suggesting further steps, or guiding them on how to address real problems.

Another interactional MM is self-mentions. The classification of self-mentions based on their uses can aid in detecting whether they indicate the subjectivity or objectivity of IT law writers. Moreover, self-mentions signal the presence of the writer(s) and their research activities. When self-mentions serve to clarify the writer's role in research without expressing personal opinions, they would be considered tools for enhancing the objectivity of the writers. A close examination of the results from IT law RA abstracts revealed how this was achieved. See Table (13).

**Table (13): Frequencies and percentages of self-mentions in IT law RA abstracts**

Self-mentions subcategories' uses	Frequency	%
1. Describing methodology	6	33.4%
2. Stating research purpose	5	27.7%
3. Reporting findings	4	22.3%
4. Providing research background	2	11.1%
5. Interpreting findings	1	5.5%
<b>Total</b>	<b>18</b>	<b>100</b>

Table (13) illustrates that the self-mentions were primarily used for "describing methodology," which accounted for 33.4% (6 instances). At 27.7% of total occurrences (5

instances), "stating research purpose" ranked second. Following this, "reporting findings" was observed four times (22.3%). With a moderate appearance comprising 11.1%, "providing research background" was next. The least prevalent use was "interpreting findings," constituting 5.5%.

These results suggest that very few IT law writers preferred using self-mentions. This preference can be attributed to their strive for maintaining a very formal tone in their abstracts. The absence of self-mentions may help emphasise the research and its findings rather than the researchers themselves. Even those IT law writers who employed self-mentions, their use was limited to three self-mentions. They were primarily used to focus on the methodology, the objectives, and the findings of the study. This approach often enhances the objectivity and credibility of the study, adhering to the conventions of academic writing that emphasise the importance of content over the writer. In addition, by doing so, IT law writers follow in the footsteps of hard disciplines writers who adopt similar conventions. Excerpt 18 illustrates how "we" was employed to describe the methodology of a study.

#### Excerpt 18

**We** used Babel Street software (an open-source intelligence company) and data analytics to collect publicly available information from 27 platforms using 12 magazines as the keywords. (ITL38)

Drawing attention to the purpose of some studies was achieved by using "we." Consider Excerpt 19.

#### Excerpt 19

In this paper, **we** address the issue of cyber hate in two selected cases of social movements from Central Europe, namely Pegida from Germany and Initiatives against Islam from the Czech Republic. (ITL4)

Moreover, self-mentions helped highlight the findings of the studies with no personal interpretations. See Excerpt 20.

#### Excerpt 20

Our results demonstrate that tobacco traffickers are involved in polytrafficking and that some do generate important revenues from their online illicit activities. (ITL16)

When it comes to attitude markers, Hewings and Hewings (2006) stated that "attitude markers express the writer's attitude towards the content of the extraposed subject." (p.203) It should be noted that writers in different disciplines, namely hard and soft disciplines, tend to use attitude markers differently. As for the IT law writers in the present study, they tended to use fewer "attitude markers."

**Table (14): Frequencies and percentages of attitude markers in IT law RA abstracts**

Attitude marker subcategories	Frequency	%
important	7	50%
even	2	14.30%
appropriate	1	7.14%
appropriately	1	7.14%
essential	1	7.14%
expected	1	7.14%
unfortunately,	1	7.14%
<b>Total</b>	<b>14</b>	<b>100</b>

The subcategories of attitude markers used in IT law RA abstracts were differently distributed in spite of their small number. Table (14) illustrates that "important" ranked first, appearing seven times and accounting for 50% of the total occurrences of attitude markers. At 14.30%, "even" ranked second, occurring twice. The remaining attitude markers ("appropriate," "appropriately," "essential," "expected," and "unfortunately") each appeared once, comprising 7.14% each.

These results suggest that few IT law writers used the most prevalent marker, "important," to argue for the significance of the study, to highlight the significance of specific findings, or to evaluate the significance of the study. See Excerpt 21.

#### Excerpt 21

The study has theoretical and practical implications **important** for the prohibition of cybercrimes and cyberbullying against women in Iraq. (IT56)



Generally, these results regarding the use of attitude markers provide significant insights into IT law writers. First, there is a notable avoidance of focusing on personal interpretations of findings. Such a tendency reflects a high level of objectivity, which is a key feature of hard-discipline writing. Writers in these disciplines prioritise conveying information clearly and directly. This helps maintain a formal and impartial tone. In addition, the lower prevalence of attitude markers can indicate adherence to the standards of abstracts. The use of numerous attitude markers would result in an extended abstract. Being fully aware of this fact, IT law writers prefer to provide summaries of their studies that focus primarily on the main parts of their studies, such as the method, findings, and conclusions, without additional layers of evaluative language.

### 3. Similarities and differences between medical law and IT law RA abstract in respect to interactional MMs

To answer the present study's second question that states: "What are the similarities and differences between legal research article (RA) abstracts in medical law and IT law in terms of interactional metadiscourse markers (MMs)?" Comparing the five categories of interactional MMs in medical law and IT law could shed light on whether writers in the two disciplines adopted the same techniques to build rapport with their readers or each one of them had its own special way of doing so. Therefore, the comparison in the present study was performed by calculating the frequencies per 1000 words and Z-score values of each category and subcategory of interactional MMs in medical law and IT law RA abstracts to ensure accurate results of the comparison.

**Table (15): Similarities and differences between interactional MMs in medical law and IT law RA abstracts**

Interactional MMs	Medical law		IT law	
	Frequency per 1000 words	Z-score	Frequency per 1000 words	Z-score
Attitude markers	2.13	-.63319	1.02	-.77328
Boosters	2.84	-.41994	3.59	.26767
Self-mentions	4.37	.03937	1.31	-.65432
Engagement markers	1.91	-.69880	1.75	-.47587
Hedges	9.94	1.71256	6.96	1.63579

As Table (15) illustrates, both disciplines employed all interactional MMs to engage readers. Some similarities and differences between them can be observed. First, hedges were the most commonly used in both disciplines, in medical law at 9.94 frequency per 1000 words and in IT law at 6.96. Even though hedges Z-scores were positive in medical law (1.71256) and in IT law (1.63579), medical law RA abstracts used them more frequently than IT RA abstracts, suggesting a great emphasis on caution in findings. Considering that research results are contributions to ongoing debate rather than absolute facts (Hyland, 2005b), hedges seem to

be very essential for any study. Showing complete assertiveness about a study's results would not generally be welcomed by discourse communities or readers, who prefer writers to cautiously present their findings and conclusions. Therefore, many professional writers tend to employ hedges for this purpose. Moreover, genre (abstracts) could influence the use of interactional MMs. This was consistent with Bal-Gezegin and Bas's (2019) results which demonstrated that hedges appeared more in RA conclusion section than those in book reviews. Table (16) provides more detail on how hedges were used in medical law and IT law.



**Table (16): Similarities and differences between hedges in medical law and IT law RA abstracts**

Hedges	Medical law		IT law	
	Frequency per 1000 words	Z-score	Frequency per 1000 words	Z-score
1. Lexical verbs	2.022	.01983	2.711	1.24958
2. Modal auxiliaries	3.607	.97812	1.538	.13884
3. Adjectives	0.382	-.97151	0.293	-1.04132
4. Adverbs	3.661	1.01116	2.051	.62479
5. Phrases	0.273	-1.03760	0.366	-.97189

Some similarities and differences emerged when the subcategories of hedges were compared. As for the similarities, both disciplines showed less interest in employing adjectives and phrases having low frequencies per 1000 words and negative Z-scores. The less use of these hedges can suggest the tendency of writers to employ straightforward and unembellished language. For the writers in both disciplines, it seems important to limit descriptive language and to avoid lengthy or complex constructions, showing full awareness of the conciseness of abstracts.

Regarding the differences, there was a preference of writers in medical law to use more adverbs (3.661 frequency per 1000 words and Z-score of 1.01116). On the other hand, writers in IT law used adverbs at 2.051 frequency per 1000 words and a Z-score of .62479. "Likely" and "often" can be good examples, which were the most prevalent adverbs in medical law corpus, reflecting how these adverbs assisted in softening claims in medical law both when presenting results and drawing conclusions.

In addition, in medical law, more modal auxiliaries (3.607 frequency per 1000 words \ Z-scores of .97812) were employed compared to their use in IT law (1.538 frequency per 1000 words \ Z-score of 1.538). A possible explanation for this high use of modal auxiliaries can be writers' attempts to acknowledge the possibility of having different opinions in other disciplines, especially that this discipline is hybrid. The nature of medical law can explain the high tendency of writers in medical law to cautiously present findings and draw conclusions. IT law, on the other hand, appears to adopt a different approach to cautiously discuss their findings. IT law

showed a greater interest in using 'lexical verbs' at 2.711 frequency per 1000 words compared to 2.22 in medical law. That is to say, writers in IT law probably relied more on action-orientated language, which seemed to help state their claims indirectly and politely following the academic conventions.

The results regarding hedges in the present study are in line with those of Ghia et al.'s (2022) study, who have demonstrated that Italian PhD students were not aware of the need for hedges in their theses abstracts which resulted in the high frequency of boosters. They recommended that more attention be required to be paid at universities to show the importance of hedging in academic writing. It can be said that the use of hedges in the present study's corpora suggests that writers in both disciplines welcome opposing opinions, recognising that different perspectives supported by evidence can exist across disciplines. With such an attitude, medical law and IT law writers appear to be professional writers with persuasive craftsmanship who manage to effectively communicate their findings through creating a friendly environment for discussion. Showing such humility through the massive use of hedges would offer these writers the opportunity to receive the appreciation of their target discourse community or communities, denoting both the maintenance of academic integrity and disciplinary professionalism. Hedges can enable writers to build strong rapport with their readers, and medical law writers and IT writers seem to succeed in achieving this by employing different subcategories of hedges.

The comparison between the use of another interactional MMs (self-mentions) in medical law and IT law abstracts revealed more insight

about these disciplines' RA abstracts. Even though the two disciplines employed self-mentions, they were employed more in medical law (4.37 frequency per 1000 words \ .03937 Z-score), ranking second after hedges, as Table 15 shows. In contrast, in IT law, much less interest was paid to them (1.31 frequency per 100 words \ -.65432). Before delving more into these results, it is important to note that self-mentions can indicate objectivity in research, depending on their intended purpose. Specifically, when these markers clarify a writer's role in the research without expressing personal opinions. In this case, they would serve as tools to enhance objectivity. Therefore,

**Table (17): Similarities and differences between self-mentions in medical law and IT law RA abstracts IT law**

Self-mentions	Medical law		IT law	
	Frequency per 1000 words	Z-score	Frequency per 1000 words	Z-score
1. Providing research background	0.05	-.65862	0.14	-.77159
2. Stating research purpose	0.33			.67514
3. Describing methodology	2.67			1.15738
4. Reporting findings	0.38	-.33821	0.29	.19290
5. Interpreting findings	0.10	-.60522	0.07	-1.25383
6. Presenting recommendations	0.10	-.60522	0	0

Notably, many writers in both disciplines used self-mentions to describe their methodologies. However, medical law abstracts (2.67) demonstrated a much higher self-mention frequency than IT law (0.43), highlighting a more rigorous approach to research processes in the former. In addition, each discipline focused on "stating research purpose," with positive Z-scores (medical law .30261, IT law .67514) though again the frequency varies. At 1.36 frequency per 1000 words, IT law outpaced medical law (0.33), indicating a more explicit articulation of objectives using self-mentions. When it comes to the other uses of self-mentions, both disciplines showed low frequencies per 1000 words and Z-scores, highlighting lesser focus on using self-mentions to provide research background, interpret findings, and present recommendations. Overall, the stronger emphasis that medical law placed on employing self-mentions to describe methodology can be

the use of self-mentions is not always restricted to expressing personal opinions. Probably, these markers have become a step toward achieving objectivity that is highly valued in hard disciplines in the present study. This was consistent with Manzoor et al.'s (2022) results. In their study, engineering writers preferred to use more self-mentions than their counterparts in applied linguistics, which demonstrated that self-mentions appeared to be commonly more frequent in hard disciplines.

To shed more light on how self-mentions were employed in the two disciplines, there was a need to compare their use. See Table (17).

an indication of its adherence to hard disciplines, while the focus of IT law on employing self-mentions to state research purpose could imply resemblance to soft disciplines.

Another interactional MM to consider is boosters. These markers appear to represent a remarkable similarity between medical law and IT law and indicate one of the characteristics that can be found in hard disciplines. Despite their potential connotations of exaggerating a study's significance, boosters were used across all corpora in the present study to enhance objectivity. To clarify, both medical law and IT law writers applied boosters to report trustworthy results based on empirical studies, not personal interpretations, as was previously demonstrated. This can be seen in the boosters they used, such as "found" and "show." It appears that the use of these markers helped writers in the two disciplines to reinforce the strength of evidence-proof results, which can

be an important indication of their commitment to objectivity, which is always valued in hard disciplines. However, it is noteworthy that boosters were more prevalent in the IT law corpus (3.59 frequency per 1000 words \.26767 Z-score), ranking second after hedges, while they appeared at 2.84 frequency per 1000 words with a negative Z-score (-.41994) in the medical law corpus. See Table 15. This suggests that IT law writers were more inclined to employ the boosters.

The efforts of writers in both disciplines to engage their readers can also be evident in their use of engagement markers. Although these markers were not commonly used, appearing at low frequencies per 1000 words and negative Z-scores in medical law and IT law RA abstracts, they may offer insights into how writers establish author-reader interaction. Table (18) illustrates how their subcategories were employed.

**Table (18): Similarities and differences between engagement markers in medical law and IT law RA abstracts**

Engagement markers	Medical law		IT law	
	Frequency per 1000 words	Z-score	Frequency per 1000 words	Z-score
1. Reader mentions	0.38	-.70711	0.29	-.70711
2. Directives	1.53	.70711	1.46	..70711

In comparing the subcategories of engagement markers, the writers seem similar in employing them, showing identical Z-scores, which were positive in directives (.70711) and negative in reader mentions (-.70711). With a closer examination of these results, it seems that some writers in medical law and IT law adopted a clear and direct demonstration of the need for immediate actions to be taken to solve real problems. Their recommendations were based on their empirical studies. Likely, it indicates the concern of these writers for urging practical applications of their research findings. For this, they used the directives more than the reader mentions, which were also used to enhance the rapport they built by the employment of the other interactional MMs. Considering the less attention paid by writers in both disciplines to engagement markers, it appears that they both lean more to hard disciplines. This result was consistent with Khedri and Kritsis's (2018) results, which demonstrated that engagement markers were not used in the RA introductions of chemistry while they were employed in RA introductions of applied linguistics.

Drawing on another similarity between the two disciplines, writers in both disciplines tended to use attitude markers less frequently at 2.13 frequency per 1000 words in medical law abstracts and at 1.02 in IT law abstracts. However, medical law abstracts had a less

negative Z-score (-.63319) compared to IT law (-.77328), suggesting slightly more positive engagement with subject matter in medical law. See Table 15. Remarkably, the attitude marker "important" was the most prevalent, appearing in 50% of the attitude markers in medical law and 33.3% in IT law. The goal of using attitude markers was evaluative rather than affective, likely reflecting the resemblance of these two disciplines to hard disciplines. While affective attitude markers are subjected and rooted in personal feelings and beliefs, evaluative opinions are based on systematic analysis and empirical studies. As a result, the latter aims to provide an objective assessment grounded in data. By using attitude markers in an evaluative manner, writers in these disciplines can ensure that their conclusions can be tested and verified. Thus, it can be said that attitude markers were employed to foster objectivity.

#### **4. Results of significance of the differences between medical and IT law RA abstracts**

To answer the present study's third question that states: "Do medical law and IT law research article (RA) abstracts show statistically significant differences with reference to interactional metadiscourse markers (MMs)?" Chi-square was applied to assess whether there were statistically significant differences between medical law and IT law in the use of interactional MMs.

**Table (19): Chi-square test results of interactional MMs in medical law and IT law RA abstracts**

MMs	Medical law and IT law		
	Chi-square value	df	P. Value
Interactional	7	4	P > 0.05

As Table (19) shows, the results revealed that there was no statistically significant difference between medical law and IT law RA abstracts in terms of using interactional MMs, as indicated by a Chi-square value of (7) and a P-value greater than 0.05. This suggests that the two disciplines utilised similar strategies in engaging readers and building rapport with them. The lack of significant difference in employing these markers might reflect the consensus of writers over following the conventions of academic writing. Likewise, in Obeng et al.'s (2023) study, there were no significant differences between the use of boosters and hedges in the academic conference abstracts of hard and soft disciplines, demonstrating that the impact of genre than that of discipline.

#### **b. Results of thematic analysis**

Thematic analysis resulted in the identification of eight general themes reflecting the perspectives of seven scholars on critical issues related to the present study's topic. The scholars' responses were categorised into codes with the assistance of Braun and Clarke's (2006) six steps and NVivo software. The first theme was clearly manifested in the responses of many participants. It stated "the role of genre analysis in enhancing and understanding communications across various contexts (professional and academic)." For some scholars, genre analysis was a step toward satisfying their thirst for knowledge, while for others it helped in their approach to teaching academic writing. This was in line with the results of some recent studies (e.g., Changpueng, 2017; Herman et al., 2020; Nagao, 2018; Sari, 2019), which have indicated the rewards of adopting the genre-based approach to teaching writing. The teaching design developed by Nagao (2018), which was

based on genre analysis, helped Chinese students majoring in agriculture to overcome the difficulties they faced in academic writing. They became able to write more argumentatively. In addition, 'the teaching and learning cycle' that is based on systematic functional genre and was adopted by Changpueng (2017), Herman et al. (2020), and Sari (2019) in their experimental studies showed how fruitful this genre-based approach was to develop students' writing skills. According to these studies, the strength of this approach lies in the tangibility of learning materials, the accessibility of writing frameworks, the response to students' needs, the assurance of the teacher's comprehensive support, the promotion of diversity, the construction of students' critical thinking, the enrichment of teachers' pedagogical knowledge, and the identification of ways to boost students' confidence.

The second theme was "the complexity faced when analysing hard and soft disciplines." According to most of the interview participants, the micro-examination applied by genre analysis would reveal interesting facts about genres, but at the same time, producing the aimed goal of this analysis might be hindered by some difficulties, namely the highly specialised language and conventions of hard and soft disciplines such as medicine and law. The third and fourth themes highlighted the features of RA abstracts in pure hard and soft disciplines. While the third theme focused on the features of hard disciplines RA abstracts, stating that they were "structured, clear, objective, and concise presentation of research content," the fourth theme indicated that soft disciplines RA abstracts had "flexible structure and interpretative analysis with narrative style and engaging language." The fifth theme defined a hybrid discipline as "integration of approaches, methodologies, and rhetorical and disciplinary conventions." In reflection on this term, the second participant stated: "In my point of view, concepts, methods, and frameworks from both hard and soft disciplines are integrated. This addresses complex problems that cannot be understood or resolved using a single discipline, so a hybrid discipline is required." This can reveal that hybrid



disciplines are the solution scholars resort to when investigating an issue from the perspective of only one pure discipline is not possible. Therefore, the integration of different methods and frameworks from different pure disciplines would offer innovative solutions for any complex issues and problems.

The last three themes revolved around the similarities and differences between RA abstracts in hybrid disciplines in addition to unveiling whose discipline features would predominate in a hybrid discipline. The sixth theme drew attention to "similar use of MMs to enhance research clarity, claim modulation, and reader engagement" in RA abstracts in hybrid disciplines. When it comes to the differences, the seventh theme indicated that "variation in discourse markers was based on disciplinary focus," which would emerge in the frequencies of employed interactional MMs. The last theme stated "dominance of MMs based on discipline influence and research focus," denoting that in a hard-soft hybrid discipline, the influence of one discipline could be stronger than the other.

### 3. Integration of results from genre analysis and thematic analysis

There seems to be alignment between the results of genre analysis of the results of both medical law and IT law abstracts and the results of thematic analysis. The predominance of some of these markers, namely hedges, can reflect the cautious tone adopted by the writers in medical law and IT law, which was echoed by the scholars' perspectives in the interview. They highlighted the significance of writing abstracts with respect to genre conventions in academic contexts. Both analyses likely provided complementary perspectives on the need for employing interactional metadiscourse markers to ensure that communication remains accessible for the target discourse community, especially that hedges can reveal the willingness to build rapport with readers.

In addition, both analyses drew attention to the integration of the scientific and interpretive styles of writing in hard disciplines. In light of scholars' acknowledgement of the tendency of hybrid disciplines to follow writing styles that blend the objective and subjective tones

adopted by hard and soft disciplines, the genre analysis in the present study reflected this in the use of some markers. A good example is the cautious yet confident use of boosters and attitude markers in medical law and IT law abstracts. Therefore, both sets of results—those of genre and interview analysis—appeared to cover the idea of blending writing styles in hard disciplines. It is noteworthy that both disciplines leaned more toward hard disciplines in terms of their use of interactional MMs.

### Conclusion

In an attempt to investigate the use of interactional MMs in two legal hybrid disciplines (medical law and IT law), the present study examined the frequencies of their occurrence. The similarities and differences between these two hybrid disciplines were also explored. It appears that the academic and professional tone was prioritised by the writers in both disciplines. Their emphasis on objectivity, highlighted by their use of different interactional MMs, reflects this objectivity. The writers in medical law and IT law cautiously presented their results. Through the frequent use of hedges in their abstracts, they professionally welcomed any opposing views, demonstrating humility and seeking the engagement of their readers. Similarly, in Ashofteh et al.'s (2020) study, the use of hedges by applied linguistics writers demonstrated their willingness to offer a chance for more argument showing their objective approach. In addition, even when these writers employed boosters, which usually denote subjectivity, they used some subcategories of boosters to emphasise the validation of their results that were obtained from empirical evidence focusing on data-driven rather than personal conclusions. In addition, their low use of attitude markers enhanced their reluctance to present their findings with excessive personal opinion, preferring a neutral and formal tone. Moreover, the tendency of these writers, especially, IT law writers, to employ directive engagement markers mirrored the action-orientated approach adopted by these writers to offer recommendations in their conclusions, which were based on their results.



Generally, in contrast to writers in soft disciplines who tend to use subjective interpretation in their discussion, medical law and IT law writers maintained a formal and objective tone, which aligns with hard disciplines' style that focuses on objectivity and evidence. Therefore, even though medical law RA abstracts incorporated some engagement markers, the overall tone and the use of interactional MMs suggests that both disciplines resemble hard disciplines more in their writing style. These results were in line with the results of Khedri and Kritsi's (2018) study. In their study, they compared the use of interactional MMs in applied linguistics, a soft discipline, and chemistry, a hard discipline. These studies revealed that even though these two disciplines employed self-mentions and endophoric markers differently, they showed similarities in their prioritising of hedges and boosters.

The findings of the present study can be used first by ESP instructors to enhance their pedagogical practices through fostering genre awareness, and providing scaffolding for interdisciplinary students. In addition, these findings would help curriculum designers consider incorporating specific writing skills in curricula taught for interdisciplinary students.

### Suggestions for further research:

Future research should explore:

1. the use of interactional MMs in other legal hybrid disciplines to reveal whether hard-discipline writing style dominates in hard-soft disciplines.
2. whether there are differences in the writing styles of scholars and novice writers in terms of their use of interactional MMs in RA abstracts in hybrid disciplines.

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