Servicio de Publicaciones y Difusión Científica
Universidad de Las Palmas de Gran Canaria

Deontic modality in tourism scientific writing

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ABSTRACT

This article focuses on deontic modal verbs found in a corpus of tourism research papers. The originality of this study lies mainly in the selection of two fundamental sections of the research article for its reception and impact as a scientific contribution, namely the introduction and the conclusion. As already expressed in Álvarez-Gil and Domínguez-Morales (2018) and Álvarez-Gil (2022), the research article in tourism is by far one of the least explored. The methodology involves the use of corpus linguistics tools. Since context is central to the identification of modal meanings, part of the analysis of the texts also requires manual analyses. The findings of this study suggest that there is certainly variation not only in terms of the forms used in each of the introductions and conclusions, but also in terms of senses identified. Deontic modality in the corpus analysed is attested to express prediction, organisation of the contents in the article, as well as to express authority. Another evident meaning of the deontic modals is to indicate advice which is beneficial for the tourist industry.

Keywords: modality; deontic modality; tourism; research articles; genre.

RESUMEN

Este artículo se centra en los verbos modales deónticos que aparecen en un corpus de artículos de investigación sobre turismo. La originalidad de este estudio radica principalmente en la selección de dos secciones fundamentales del artículo de investigación

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para su recepción e impacto como contribución científica, a saber, la introducción y la conclusión. Como ya se expresó en Álvarez-Gil y Domínguez-Morales (2018; 2021) y Álvarez-Gil (en prensa), el artículo de investigación en turismo es, con mucho, uno de los menos explorados. La metodología implica el uso de herramientas de lingüística de corpus. Dado que el contexto es fundamental para la identificación de los significados modales, parte del análisis de los textos requiere también la realización de análisis directo. Los resultados de este estudio sugieren que ciertamente existe variación no sólo en cuanto a las formas utilizadas en cada una de las introducciones y conclusiones, sino también en cuanto a los sentidos identificados. La modalidad deóntica en el corpus analizado se atestigua para expresar predicción, organización de los contenidos en el artículo, así como para expresar autoridad. Otro sentido evidente de los modales deónticos es el de indicar consejos que puedan resultar beneficiosos para el sector turístico.

Palabras clave: modalidad; modalidad deóntica; turismo; artículos de investigación; género.

1. **Introduction**

This article analyses and provides an interpretation of the deontic modal verbs obtained by means of computerised consultation of a corpus of introductions and conclusions of scientific articles in the tourism register. For this purpose, a semantic classification of modality will be presented, mainly following Palmer (1990, 2001), van der Auwera and Plungian (1998) and Nuyts (2001), among others. The study of modal verbs, and modality in general, in specialised texts is not really a new one, as demonstrated by the existing literature, which also includes studies on early English (cf. Giltrow 2005; Efstathiadi 2010; Cheng & Cheng 2014; Alonso-Almeida 2014, 2015a, 2015b, 2015c, 2015d; Alonso-Almeida & Carrió-Pastor 2017; Alonso-Almeida & Álvarez-Gil, 2021; Ge 2015; Carrió-Pastor 2017, 2019; Álvarez-Gil 2018; Alonso-Almeida & Álvarez-Gil 2019; Alonso-Almeida 2021). The novelty of this study lies mainly in the selection of two fundamental sections of the research article for its reception and impact as a scientific contribution, namely the introduction and the conclusion, in tourism texts. As already expressed in Álvarez-Gil and Domínguez-Morales (2018) and Álvarez-Gil (2022), the research article in tourism is by far one of the least explored.

The methodology involves the use of corpus linguistics tools that allow the management of the texts and their consulting, as well as the extraction of specific examples that illustrate the forms, semantic categories and functions found in the texts under study. However, since context is central to the identification of modal meanings, part of the analysis of the texts requires direct visual examination of each individual case, as the same modal form can indicate different modal senses. The analysis and discussion of the data draws on studies in functional linguistics which allow us to account for uses and functions.

The findings of this study suggest that there is certainly variation not only in terms of the forms used in each of the introductions and conclusions, but also in terms of senses identified. Deontic modality in the corpus analysed is attested to express prediction, organisation of the contents in the article, as well as to express authority. Another evident meaning of the deontic modals is to indicate advice which is beneficial for the entrepreneurial fabric of tourism, and which arises as a result of empirical research.

This article is organised as follows. Section 2 presents my working definition of modality and deontic modality. The next section presents the method of analysis along with a description of the corpus collected for this research. Section 4 includes the results of the corpus enquiries and the discussion of these findings. The last section offers the conclusions drawn from the present study.

2. **Deontic modality**

The concept of modality is variously defined in the scientific literature on the subject. Some examples of definitions of modality are listed below:

> **Palmer (2001: 1)**: Modality is concerned with the status of the proposition that describes the event.

> **Gotti y Dossena (2001: 10)**: In particular, modality enables the locutor to make important strategic choices over very subtle gradable scales for the conveyance of attitudinal aspects associated to one's degree of commitment to such issues as possibility, obligatoriness, ability and so on. Indeed, the concepts of 'necessity', 'possibility', 'probability' and 'impossibility' are at the core not only of linguistic studies but also of modal logic, and have been a topic of central interest and intense study since classical times...

> From a linguistic point of view, modality is a complex concept to categorise and qualify in its different forms. There are various ways in which a speaker may add an overlay of meaning to the neutral semantic value of the proposition. One of these is mood; indeed, as remarked by Palmer (1986: 21), "the distinction between mood and modality is [...] similar to that between tense and time", in so far as mood is a morphosyntactic category of verb forms, expressing the degree or kind of reality assigned to a sentence. Several moods are to be distinguished, the three basic types being indicative, imperative and subjunctive.

Narrog (2005: 186)/(2012: 6): Modality is a linguistic category referring to the factual status of a state of affairs. The expression of a state of affairs is modalized if it is marked for being undetermined with respect to its factual status, i.e. is neither positively nor negatively factual.

Portner (2009: 2): Modality is the linguistic phenomenon whereby grammar allows one to say things about, or on the basis of, situations which need not be real.

Saeed (2016: 134): Modality is a cover term for devices which allow speakers to express varying degrees of commitment to, or belief in, a proposition.

Rocci (2017: 3): Modality is the semantic category associated with the basic human cognitive ability of thinking that things might be otherwise, that is thinking of alternatives: situations other than what is the case. Modality refers generally to the linguistic means that allow "one to say things about, or on the basis of, situations which need not be real" (Portner 2009: 1, emphasis is ours).

Alonso-Almeida y Álvarez-Gil (2020: 62–63): Modality is the term used in linguistics to refer to the expression of a speaker's evaluation of an event in terms of such notions as probability, possibility, obligation, permission and necessity, among other more fine-grained attitudes towards the propositional content framed by the modal particle.

These definitions show the unequal view that exists among linguists who approach this concept. It is therefore a phenomenon that can represent different realities, but all approaches agree that modality serves to qualify the meaning of a linguistic event. One of the most interesting aspects is what is modalised. On the one hand, Palmer (2001) and Saeed (2016) speak of propositions while Portner (2009) and Rocci (2017) refer to *situations*, Alonso-Almeida and Álvarez-Gil (2020) call them *events*, and, finally, Narrog (2005, 2012) prefers to use the term *state of affair*. To put it simply, proposition refers to the true or false expression of meaning in the field of logic-semantics, while the term state of affair refers to a fact, which can be the result or consequence of human action. In this work, given that modality is studied in modal verbs, it seems appropriate to use the term proposition, since they respond to the same philosophical nature of language.

After this clarification and going back to the definitions of modality given above, it is worth highlighting in all of them their evaluative and qualifying use of the proposition which the modal particle accompanies in order to specify it. Thus, the speaker's perception according to that proposition is captured in that modal form to

express, for example, obligation or probability, as the case may be. This evaluative aspect of modality implies that its analysis can be framed within what are called perspective studies or, in English, stance, as noted in Alonso-Almeida (2015b: 2):

> Stance indeed refers to different phenomena in language, and so it is generally the umbrella term for notions, such as *epistemic stance* (Finegan 1989), commitment (Caffi 1999; Caffi 2007; Del Lungo Camiciotti 2008), mitigation (Martín-Martín 2008; Alonso-Almeida 2015a), reinforcement or strengthening (Brown 2011), intensification (González 2015), authority, involvement and hedging (Hyland 2005a; Hyland 1998), assessment (Goodwin 2006), modality and evidentiality (Chafe 1986; Chu et al. 2011; Fairclough 2004; Marín Arrese 2009; Carrió-Pastor 2012; Pic & Furmaniak 2012; Goodwin 2006), affect (Martin 2000; Martin & White 2005), and vagueness in language (Cutting 2007).

In some cases, such as Saeed (2016), the definition of modality includes the notion of the speaker's commitment to the truthfulness of the proposition expressed, which may include a certain degree of gradation, as noted in this reference. Gotti and Dossena's (2001) definition also specifies the difference between modality and mode, the latter being morphosyntactic and reflecting aspects of the reality referred to in the proposition.

The way in which modality can be categorised varies according to the schools of thought and the critics who make these classifications. However, Lyons' (1977) semantic classification into epistemic modality and deontic modality seems to be among the most widely accepted and is maintained by Palmer (1986: 19). The same two-part classification is found in Biber et al. (1999: 485), but the categories are called intrinsic modality and extrinsic modality.

Palmer (2001) makes another classification that distinguishes between propositional modality and event modality. The former includes epistemic modality, and evidentiality, which refers to the source or mode of information. The latter phenomenon has been frequently studied in these last decades (cf. Chafe 1986; Willett 1988; Leavitt, Chafe & Nichols 1991; Lazard 2001; Plungian 2001; Viechnicki 2002; Boye & Harder 2009; Mushin 2013; Haßler 2011; Alonso-Almeida 2015a; Greco 2018) and which is analysed as a mechanism indicating the speaker's point of view with respect to the information offered. This type of modality will not exactly be the subject of study in this paper, although mention will be made below of a specific type of these mechanisms called inferential evidentiality which van der Auwera and Plungian (1998) identify as deontic necessity. Event modality expresses an attitude towards the information provided and is divided into deontic modality and dynamic modality which relate to meanings of obligation and ability, respectively, among

others. In this article, I focus on deontic modality alone, whose definition is given in the following lines.

Deontic modality relates to the "[...] necessity of acts in terms of which the speaker gives permission or lays an obligation for the performance of actions at some time in the future" (Hoye 1997: 43). The deontic modality is characterised by the obligation or necessity to carry out an action in accordance with a deontic force which may be internal or external to the speaker, as can be seen in the following examples:

(1) The results of the research help to provide a better understanding of the conditions needed to develop and manage sustainable tourism in post-conflict environments. In so doing, it **should** be possible to make better policy decisions, with particular reference to social and urban interventions on planning, design and entrepreneurship.

(2) There is a need for detailed and comprehensive legislation protecting the rights and needs of disabled tourists, particularly in view of Dubai's successful bid to host Expo 2020. This need **will**, no doubt, be fulfilled in light of the recent announcement that Dubai will enact its own disability law intended to make the emirate fully accessible to persons with disabilities.

(3) For golfers to 'enact' golf, in its current form, tied to designated playing fields (Ceron-Anaya, 2010), a material landscape **must** first be 'appropriated for one use and thus unavailable for others' (Klein, 1999: 214).

The use of *should* in example (1) reflects the authors' view of how things are necessarily deemed to be as expressed according to the evidence presented in the research that has been carried out. The strong effects that this modal can bring in terms of obligation are somewhat mitigated by the use of "be possible" after the modal verb. Similarly, in the case of will in (2), it indicates the speakers' firm position with respect to the propositional content, which is further reinforced by the adverbial "no doubt". In (3), the modal *must* clearly shows the sense of obligation regarding the performance of the action described in the proposition, which includes the adverbial *first*, stressing the need for this action to be done and for it to be done in the order indicated.

3. **Corpus and method**

The introductions and conclusions that serve as the basis for this doctoral thesis are based on a set of 160 research articles found in journals published between 2015 and 2018 with a score of more than nine points in the ICDS (Secondary Composite

Index Broadcasting) visibility index, which can be consulted in MIAR (http://miar.ub.edu). Such an index indicates that a journal with nine ICDS points or more is bound to appear as listed in several international databases. The relevance of this criterion for the selection of journal articles in our corpus is that it ensures, firstly, that the journal enjoys prestigious recognition and, secondly, that the journal is widely distributed in the scientific community for which its contents are intended. In principle, journals with this minimum level of ICDS classification are understood to have recognised research standards that ensure quality in editing and content.

In this study, the journals Journal of Travel Research, Journal of Vacation Marketing, Tourism Economics and Tourist Studies have been selected to extract the texts, as they meet this visibility criterion. Since the aim of the study is to analyse modal periphrases in English, this will be the language of the texts to be compiled. This does not mean that the authorship will come from a native speaker and, therefore, with English as L1. Generally, even if they use some geographical variety of English, there is a tendency for the criterion to be 'native' as opposed to 'non-native'. However, this differentiation is almost always justified by surnames because of a lack of real knowledge of the identity of the person who bears the surname. Thus, someone whose surname is Smith is assumed to be educated in English, even if that person has this surname by chance descent from a person of Anglo-Saxon origin, but this person, however, has been brought up in a country whose L1 is not English and his or her exclusive contact with this language is as an L2. On the other hand, no one can claim that a person whose surname is Fernandez did not grow up in Australia and is a second- or third-generation immigrant, so his or her L1 would be English. As highlighted in Tribble (2017: 34), a surname cannot really indicate whether or not English is a speaker's L1. He adds that what "can identify, however, are shared features of lexis, grammar, and discourse convention, which clearly show that the texts are grounded in specialist academic written genres".

Even in the case of non-native speakers, most journals require the article to be edited by an L1 speaker before publication, and these articles can result in a mixture of idiolects in which it is not always possible to distinguish identity with certainty. On the other hand, discipline expertise seems to override the native/non-native distinction, as Römer's (2009: 99) findings suggest: "when we deal with advanced-level academic writing, we actually move beyond the native/non-native distinction and that, in this context, experience or expertise is a more important aspect to consider than nativeness". Thus, Mauranen (2018: 113, 116) says that, in fact, the notion of idiolect is more appropriate and reliable in text descriptions. In the light of the above, therefore, we have preferred to analyse the language without taking the origin of the speakers for granted.

That said, the composition of our corpus of introductions and conclusions would be as follows:

Years	Genre stage	Word count
2015	Introducción	100.363
2016		
2017	Conclusión	83.156
2018		

Table 1. Corpus size.

The introductions and conclusions of the articles included in our corpus have been converted into readable plain text for use with *CasualConc* (Imao 2020) tools for text retrieval. The set allows the search for modal forms according to the string can/ could/ would/ could/ should/ should/ would/ must according to each of the sections of the articles considered here. The number of words in the introductory material of the scientific articles is 20,904, and another set of 25,490 words corresponds to the concluding material of the scientific articles. To compare the results, the data have been normalised to 10,000 words.

The identification of the introduction and conclusion sections in the selected papers has been carried out using the information in Álvarez-Gil (2022), and most of the texts included the names of the sections, so the degree of reliability is high. In those cases where the term "conclusion" has been used in conjunction with "discussion", we have ensured that the contents included are exactly those corresponding to a conclusion.

As for the method, to obtain the data on deontic modals, the string *can/ could/ may/ might/ might/ must/ will/ would/ shall/ should/ should* has been introduced in CasualConc to obtain the concordances with these forms in the introductions and in the conclusions. The context is crucial for identifying the modal meanings and pragmatic function played by the verbs in each of the sections of the scientific article analysed in this study.

4. Results and discussion

The corpus analysis indicates the use of the modal verbs *can, could, may, must, may, might, will, would, shall* and *should* with the actual number of cases (NC) and relative frequency (RF) per 10,000 words as shown in the table below and visually in Figure 1; Table 2 includes the t-test data and the Cohen d effect size variable:

Modal verbs	INTRODUCTION		CONCLUSION	
	RF	NC	RF	NC
can	24.51	246	34.39	286
could	3.69	37	19.36	161
may	10.06	101	31.87	265
might	2.29	23	4.93	41
must	1.00	10	3.37	28
will	11.36	114	15.75	131
would	5.88	59	12.87	107
shall	0.40	4	0.24	2
should	3.59	36	18.52	154
Total	62.77	630	141.30	1175

Tabla 2. FR de las perífrasis modales en introducciones y conclusiones.

A total of 1805 modal periphrases were identified in the corpus of introductions and conclusions. The parametric analysis using a t-test=-8.93, with a probability ratio of p=0.01 and a degree of freedom of 211.73, indicates that there is a difference between the use of these modals in the two sections, as seen in Table 3.

Modal verbs	t-test	P	df	Cohen d
All core modals	-8,93	0,001	211,73	-1,109

Tabla 3. Todas las perífrasis: T-test y Cohen d.

Cohen's d variable is -1.109, indicating a large effect overall. Visually, these variations can be observed in Table 3, where it can be seen that the conclusions present a greater number of modal verbs in their relative frequencies, except in the case of *shall*, which occurs more frequently in the introductions than in the conclusions. Of all the modals identified in the introductions and conclusions, the number of those with a deontic nuance are given in the table below:

	can	could	must	will	shall	should
Introduction	1.10	0.00	1.00	10.46	0.40	3.49
Conclusion	0.72	0.48	3.37	15.75	0.24	18.40

Tabla 3. Frecuencias relativas de aparición de significados modales deónticos por sección en los artículos de turismo.

As indicated in Table 3, in the texts, deontic modality is expressed by means of the modal forms *can, must, will, shall* and *should* in the introductions, *can, could, could, must, will, shall* and *should* in the conclusions of the corpus. The following are examples with *will* taken from the corpus where notions of necessity and prediction or expectation can be inferred.

(4) Doing this **will** allow for a more detailed comparison between different discourses on a particular issue, leading to a better understanding of the nuanced relations between different social agents.

(5) The complexity of the voluntourist event can be seen from multiple and unexpected perspectives and our contribution **will** (we hope) support future re/theorisation of an increasingly popular and commodified activity.

The following examples contain other forms of deontic modals such as *must*, *should* and *shall*, whose meanings are based on senses of necessity and obligation:

(6) For a relationship between the tourism destination and AR to truly exist, the incorporation of AR and a place **must** collectively affect a traveler (Introducción; TOU_0148).

(7) Performing arts managers **must** refine the service concept, the service marketing direction and the market positioning strategy as being essential components of the service product strategy for the performing arts. This service strategy **must** include focus on the peripheral aspects of the entire service experience (Conclusión; TOU_0082).

(8) Unfortunately, there is often a social expectation that people **should** stay connected to work after hours or on vacation, making it challenging for people to distance themselves from work demands and stress (Introducción; TOU_0158).

(9) This research agenda **should** be informed by primary data collected from hoteliers and peak industry bodies specifically for the purpose of developing robust future hotel employment scenarios and analysed using advanced foresight techniques in order to address the limitations of the current exploration (TOU_0091).

(10) In this article, we shall examine what kind of a gateway Iceland represents by focusing on how it is promoted as a tourism destination aimed at stopover visitors, continuously in play (Sheller and Urry, 2004), nevertheless designed and ordered to act as a gateway to 'elsewhere' (Coleman and Crang, 2002: 4; cf. Shields, 1989) (Introducción; TOU_0041).

Necessity is a key value of deontic modals in conclusions. Charlow (2016: 47ff.) mentions the traditional division of modals based on necessity into weak and strong necessity modals. The form *should* would be classified as a weak necessity modal and the modal form *must* would correspond to the group of strong necessity modals. The author claims, however, that there is no strong necessity modal, so she

resolves "to treat strong deontic necessity as a special case of weak deontic necessity" (Charlow 2016: 47).

Log-likelihood and log ratio values for the deontic modality senses are included in the introductions and conclusions in Table 4:

	can	**could***	**must***	**will***	**shall**	**should***
Log-likelihood	0.7	6.33	12.6	9.84	0.36	103.76
Log ratio	0.6	-3.27	-1.76	-0.59	0.73	-2.4

Tabla 4. Valores de log-likelihood y log ratio para medir el efecto de variación de presencia de perífrasis modales deónticas.

The data shown in Table 4 shows that *could*, *must*, *will* and *should* seem to be more likely to show variation in conclusions than in introductions. In this sense, the form *could* has a greater effect of this occurring, i.e. 3.27, which indicates that the probability of occurrence of this modal sense is six times greater in the case of conclusions. In the case of *should*, the log ratio indicates that this probability is almost four times and twice in the case of *must*, as opposed to *will* whose effect is really small. The same is true of *can* and *shall*, whose values reflect that there is variation in their use, although the effect is small, the probability of this happening not being twice as high. However, *shall* is more likely to appear in the introduction than in the conclusion.

Modals with deontic meaning are used to express prediction in introductions and conclusions, as seen in the examples below:

(11)   In drawing out the reciprocities between travel motivations and their subsequent manifestations, more light **will** be shed on backpackers' needs and sought benefits and the circumstances of their potential fulfilment. Both scholars and practitioners alike can benefit from an increased transparency that contributes to our insight into this visitor type. Results of the study **will** challenge previous interpretations of how travel motivations such as interests in foreign cultures and sociability are fulfilled through social behaviour and **will** simultaneously illustrate how social encounters can influence the perception of tourism products, attractions and services, thus offering a new perspective on the assigned importance of the social element in the context of visitor satisfaction (Introducción; TOU_0044).

(12)   Imposing a 10-year visa fee of $1000 for Chinese visitors is a risky approach if this scheme replaces the existing 3-year visa fee, as this increase **will** erode the demand from the largest market of the Australian inbound sector. It **will** effectively defeat the efforts that other reforms have made. The range of negative impacts is large for the tourism sector to overcome.

> This **will** raise a question as to whether or not the government is fully committed to the Potential target that both the government and the industry have set up. Changes to conditions of visa application such as administrative procedures, complexity of requirements and fees and charges could restrict or open up market access for foreign nationals (Liu and McKercher, 2014). Consequently, this **will** lower business confidence in the sector, could affect the long-term investment strategy of investors and potentially be detrimental to trade and inflow of foreign direct investment (Neumayer, 2011; Song et al., 2012) (Conclusión; TOU_0053).

In both cases, the modal form used is *will*. Example (11) represents part of an introduction to an article on backpacker tourism. The use of the modal *will* with a deontic meaning and with a predictive function pursues a presentational effect on the one hand and a promotional effect on the other. This is especially evident in "Results of the study will challenge previous interpretations… and will simultaneously illustrate…" where the reader is led to expect the promise which reflects the uses of this modal in this context. In the case of the example in (12), the use of *will* has the same function of evaluating the situation resulting from a context where the current system of a three-year visa for Chinese visitors to Australia is changed to a ten-year visa costing ten thousand dollars. The authors relate the consequences of this change in a hypothetical scenario which they reflect with *will* and support by the use of certain textual elements indicating outcome (*as*, *consequently*), as well as the speakers' perspective on the facts being concluded (*effectively*).

These deontic predictive values, especially in the conclusion of research articles, often also have some outcome value that occurs as a conclusion to the work presented, as in the following examples:

> (13) Taking a gap year involves physical mobility to a periphery destination, which **will** lead to social mobility after returning to the gapper's centre (Conclusión; TOU_0033).

> (14) For example, to overcome the security concern that is hindering Internet adoption, TAs in Dubai can form alliances in order to develop a more secure and effective transaction-based website. Additionally, creating alliances with other industry facilitators such as airlines, tour operators, hotel chains, international TAs and cruise lines **will** certainly increase their competitiveness and their market share. Another significant barrier that may be hindering e-commerce adoption is the lack of IT skilled labour. This could be overcome by sending employees in TAs to attend professional training courses and sessions related to ICT (Conclusión; TOU_0112).

In these examples, the modal form *will* is combined with lexical items indicating logical reasoning such as lead to in (13) and adverbial structures such as *for example* and *additionally* in (14) which contribute to this sense of research result supported by the evidence that has been considered in the elaboration of knowledge. Following this same line of reasoning, in this same example, would explain the evidential adverbial certainly, which reinforces the authors' point of view, as well as the evidential structure introduced by the modal *may* followed by the progressive aspect *may be hindering* which is finished off in the text with the suggestion presented with the modal form *could*, in *This could be overcome*.

The expression of authority can be made openly through the use of the imperative or through deontic modal verbs. As Collins (2009: 22) points out, the deontic modality

> occurs when the factors impinging on the actualisation of the situation referred to in the utterance involve some type of authority – as when a person or a set of rules or a social convention is responsible for the imposition of an obligation or a granting of permission.

This is seen in the following instance:

(15)   Tourism scholars **must** question the ways in which travel policies and programmes work 'to determine the mobility of those people whose "credentials" to travel are often deemed "risky," "suspect" or "illegitimate"' (Bianchi and Stephenson, 2014: 98–99) and to unpack the ideological forces shaping the development and normalization of those policies and programmes (Introducción).

In the case of *must* in (15), this is used to express what appears to be an obligation to the scientific community to raise questions for improvement, which the authors raise after the situation analysis. Indeed, the sense of authority is evident, which is further reinforced by the use of attribution devices, revealed here by the bibliographic reference, which supports the speaker's perspective.

The impossibility of carrying out an action may be due to the action of an external or internal force, and this can be expressed through the use of deontic forms, as shown in the following instances with *cannot*:

(16)   It **cannot**, however, be denied that new patterns of tourism-related consumption were also emerging during these years (Introducción).

(17)   We simply **cannot** know, and thus the extent to which my model can be tested through this approach is questionable (Introducción).

5. **Conclusion**

This chapter has focused on the study of modal periphrases with deontic meaning in the introductions and conclusions of tourism research articles, which is intended as a contribution to the study of modality in general and modal verbs in English, in particular, in the field of specialised discourse. For this reason, the analyses have focused exclusively on material extracted from scientific journals in tourism, which have been selected according to criteria based on the quality and visibility of the research. In general deontic modality is more common in conclusions than in introductions in the corpus surveyed. The deontic modality usually appears in connection with predictive functions, the indication of organisation, the expression of authority and the formulation of recommendations to authors and those addressed to the tourism sector. Occasionally, it has been shown how the use of modal forms is combined with other textual elements to reinforce the communicative intention of the authors.

Deontic modality is more frequent in the introductions of linguistics and tourism, in that order, and slightly less frequent in the introductions of tourism. Especially in introductions, deontic modals indicate the organisation of the research article, as the use of these forms manifests the intention of the authors in the design of their own work. This function is also supported by other adverbial markers and lexical items, as has been shown in this paper. The deontic modality is also used to express authority. Just as propositional content can be mitigated to avoid later criticism of a direct assertion, it is possible to show the degree of specialist involvement of the authors in order to guarantee the reliability of the information provided. Otherwise, the information would appear to lack validity due to excessive attenuation that prevents the authors' involvement from being checked against the veracity of the information that emerges from the research that has been carried out.

Another function that has been identified in this corpus is to express the impossibility of carrying out the action described in the proposition. Generally, this impossibility is manifested in the inability or absence of conditions that promote the performance of the action. This use would be framed as a mechanism of negative politeness to avoid the imposition of the point of view, since the conclusion reflects an objective fact based on the subject's own qualities, or on the conditioning factors that allow it.

It has also been noted that the recommendation is a key function in tourism texts, as it is not only addressed to colleagues in the academic field, but also to companies and organisations in the tourism sector, with the significance it has for the advancement of the sector. These recommendations are formulated using deontic

modal periphrases, preferably should, in the corpus analysed. Thus, the authors explain the need for an improvement of the academic or professional environment in the tourism industry. This idea of improvement is noticeable in the use of these modal forms, especially in the conclusions. This is fundamentally the same in the case of recommendations aimed at the tourism sector. This type of modality function is based on the utilitarian sense of research articles to collaborate with the productive fabric in this sector, so it is not strange that it occurs in the conclusions of these works. The modals with this function can be followed by structures that indicate the reason or consequence of carrying out the recommendation expressed.

Article history

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Acknowledgements

Declaration of Interest

The authors hereby confirm that there are no identifiable conflicting commercial interests or personal associations that might have seemed to impact the research presented in this paper.

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