

Exploring the Interpersonal Meaning Reflected by Epistemic Modality in Business Emails: A Corpus-Based Study

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Abstract—To date, the significance of epistemic modality is widely approved not only in semantics but also in relation to its functions. A repertoire of previous research have explored the role of epistemic modality in legal and academic texts. Yet its functions in business emails have failed to attract researchers' attention. Given emails as prevalent communication media in foreign trade, the present study was conducted as a first step in the investigation of interpersonal meaning implied in epistemic modality used in authentic business emails. For this study, the corpus consist of 400 business emails written in English and collected from a foreign trade corporation located in China with annual sales as 1.6-1.8 billion RMB. Within corpus, both congruent and metaphorical epistemic modal expressions were retrieved by Antconc and examined using concordance line. Afterwards, the interpersonal meaning of retrieved epistemic modal expressions were analyzed based on modality values and orientations. The results highlighted the politeness and negotiative functions of epistemic modality used in the business emails, which might enlighten foreign trade practitioners to achieve diverse communicative purposes by utilizing epistemic modal expressions selectively.

Index Terms—Business email, epistemic modality, interpersonal meaning.

I. INTRODUCTION

In recent years, much attention has been drawn to research on the use of epistemic modality in diverse types of texts. For example, Gao [1] conducted research on interpersonal functions of Epistemic modality in academic English writing. Afterwards, Cheng and Cheng [2] examined the way in which epistemic modality is employed in civil judgments to construct legal facts and to indicate legal probability. In addition, Yang, Zheng and Ge [3] investigated the use of epistemic modality in English-medium medical research articles (RAs) from a systemic functional perspective. Prior research generally confirm the significance of epistemic modality and its extensive use in various texts to achieve diverse functions. However, little research has been conducted to indicate the function of epistemic modality in business emails. Given the interest in the role of epistemic modality in business emails, the author conducted the study to address the interpersonal meaning of epistemic modality in business emails and explores what role it plays to fulfil the communicative purposes based on a corpus of 400 authentic business emails collected from a foreign trade enterprise located in China.

Manuscript received March 6, 2020; revised April 17, 2020.

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II. LITERATURE REVIEW

A. Identifying Epistemic Modality in Business Emails

According to Halliday and Matthiessen [4], modality is categorized as “modalization” (‘indicative’ type) and “modulation” (‘imperative’ type). Modalization refers to the scales of probability and usuality, while modulation refers to the scales of obligation and inclination (p. 618). Probability is known as “epistemic modality” and obligation as “deontic modality” (p. 621).

Epistemic modality is widely regarded as a subtype of propositional modality, although the classification of propositional modality is distinct. For example, Palmer [5] divides propositional modality as epistemic and evidential systems and argues that with epistemic modality speakers express their judgments about the factual status of the proposition, whereas with evidential modality they indicate the evidence they have for its factual status (p. 8). Unlikely, Halliday [4] classified modality in a proposition as scales of probability and usuality. The former is referred to as epistemic modality with different degrees of likelihood attached while the later is equal to different degrees of oftenness. Moreover, it is also worth noting the distinction between epistemic modality (probability in proposition) and deontic modality (obligation in proposal), as two apparently different systems may use the same (or most of the same) set of markers such as ‘can’ and ‘must’ [5] (p. 14). Thus, whether the expression in business email indicates epistemic modality or the other type of modality is supposed to be identified according to certain context.

Modal auxiliaries and modal adjuncts are largely used to express modality, yet it can be expressed by clauses, nouns, verb phrases or even prepositional phrases as well. The former is congruent while the latter is incongruent namely metaphorical [6]. In this study, both congruent and metaphorical epistemic modality were retrieved and analyzed.

B. Values and Orientations of Modality

To analyze the degree and scales of modality, Halliday [7] established three basic values which are “attached to the modal judgment: high, median and low” (p. 358). In addition, he pointed out that orientation consisted of subjectivity and objectivity, explicitness and implicitness, which leaves four choices in modalization and modulation, namely subjective implicit, subjective explicit, objective implicit and objective explicit (p. 356).

According to Halliday [8] (p. 622), the probability (epistemic modality) is mainly expressed by both positive and negative modal auxiliaries or modal adjuncts (see Fig.

1). Thereinto, the subjective and objective implicit modality are both congruent while subjective and objective explicit modality are based on metaphor.

	TYPE	POL.	TRANSF.	DEGREE	ORIENTATION		modal item
1	probability	positive	-	high	implicit	subjective	must
2			-			objective	certainly
3			-	median		subjective	will
4			-			objective	probably
5			-	low		subjective	may
6			-			objective	possibly
7		negative	transferred	high		subjective	can't
8			direct			objective	certainly...n't
9			transferred		explicit		n't possible
10				median	implicit	subjective	won't
11			direct			objective	probably...n't
12			transferred		explicit		n't probable
13				low	implicit	subjective	needn't
14			direct			objective	possibly...n't
15			transferred		explicit		n't certain

Fig. 1. Key to examples [8] (p. 622).

C. Metaphorical Patterns of Modality

Following Liardé [9], “once the concordances are compiled, the patterns of interpersonal reconstrual and the different forms of these reconstruals can be calculated”. According to previous scholars, interpersonal metaphor can be classified into five patterns (see Fig. 2). Thereinto, both circumstances and projecting clauses can be realized either objectively or subjectively, while the third type of reconstrual, “modal as thing” can only be expressed in an impersonal, objective manner.

Type of reconstrual	Congruent → Incongruent examples	Functional label
Intermediate implicit-explicit subjective	Possibly, probably → IN MY OPINION	Circumstance
Intermediate implicit-explicit objective	Likely, certainly → IN ALL PROBABILITY	
Explicit-subjective	Possibly, probably → I THINK, I BELIEVE	Projecting Clause
Explicit-objective	Likely, certainly → IT IS LIKELY, IT IS CLEAR	
Modal as thing	Likely, possibly → LIKELIHOOD, POSSIBILITY	Participant

Fig. 2. Interpersonal grammatical metaphor patterns [4] (p. 615), [7] (p. 333), [10].

D. Interpersonal Meaning of Using Epistemic Modality

Following Halliday [11], the situation when speakers communicate not merely propositions and attitudes to propositions but they also show their attitudes to addressees in conversation is realizing the interpersonal function of language. Given the significance of epistemic modality in mediating interpersonal meaning, a large repertoire of research have been conducted to address it in distinct texts. For instance, Yang, Zheng and Ge [3] argue that “by adopting some politeness strategy through the use of epistemic modality, addressers can establish a relationship with their addressees and successfully communicate with them”. Furthermore, Xu [6] declared that the employment of explicit epistemic modality can help advertisers avoid relevant legal responsibility and restriction. Meanwhile, consumers’ attitudes and behaviors were persuasively guided under the impact of the metaphorical modality use in advertising, which contributed to a commercial success. In addition, Gao [1] outlined three interpersonal functions of epistemic modality use in academic English writing, namely politeness, negotiative and constructive functions. Not surprisingly, interpersonal function of epistemic modality

was explored as well in legal setting [12]. Besides the above contexts, He and Pang [13] also investigated the role of epistemic modality in business letters in terms of interpersonal meaning.

In summary, certain interpersonal meaning reflected by epistemic modality varies according to diverse context. With the above research findings in mind, this paper aims to explore the interpersonal meaning of epistemic modality use in business emails and provide new practitioners in foreign trade company with some strategies to skillfully employ epistemic modality in business emails to achieve distinct negotiation purposes.

III. DATA AND METHODOLOGY

A. Corpus

In the paper, the corpus consists of 400 authentic emails (18,624 words) written by 60 foreign trade practitioners respectively from 27 countries. The data were collected from a foreign trade corporation located in China with annual sales as 1.6-1.8 billion RMB. The texts in corpus were retrieved by Antconc.

B. Research Procedures

In the first stage, texts were originally copied from 400 authentic business emails and then exported into 400 plain text files in which each email was established as a file. It is necessary to note that ‘***’ was used to replace confidential information and all the texts were directly selected from authentic emails without correcting any grammatical and spelling error.

In the second stage, all possible forms of implicit epistemic modal items listed in Fig. 1 were retrieved by Antconc and examined carefully by the coder to ensure they function as indicating probability based on the meaning in the particular context (e.g. ‘must’ could serve as epistemic modality or deontic modality that functions as imposing obligation). Only retrieved ones that indicate epistemic modality were counted and analyzed in terms of interpersonal meaning.

In the third stage, the study examined metaphorical expressions of epistemic modality in the corpus by retrieving incongruent examples listed in Fig. 1 & Fig. 2 and discuss their interpersonal meaning.

IV. RESULTS AND DISCUSSION

A. Interpersonal Meaning of Congruent Epistemic Modality

Through concordance line, the epistemic modal items were used for 61 times in total including ‘can’, ‘could’, ‘would’, ‘might’ that were not listed in Fig. 1. The concordance hits of each epistemic modal item were illustrated as follows (see Table I).

TABLE I: CONCORDANCE HITS OF EPISTEMIC MODAL ITEMS

Epistemic modal items	will	would	must	may
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Concordance hits	42	5	1	4
Epistemic modal items	might	can	could	adverbs
Concordance hits	0	8	1	0

Congruent epistemic modal items consist of both modal auxiliaries and adverbs. The concordance results showed that practitioners only used modal auxiliaries without using modal adverbs to express the probability, which showed that practitioners prefer to express the probability in a subjective way with more personal engagement. Furthermore, among modal auxiliaries, ‘will’, ‘would’ with median value were totally used for 47 times, while low value modal auxiliaries ‘may’, ‘might’, ‘can’, ‘could’ altogether were used for 13 times, compared with “must” with high value only used for one time (see Table I), which showed that practitioners gave consideration to both positive attitude and politeness. As the greater value of modality is shown, the more positive attitudes the addresser has the lower degree of politeness is given. On the contrary, lower value of modality expresses more euphemistic mood with higher degree of politeness and offers addressee the option to accept the addresser’s perspectives or not [6]. For example (see Examples 1, 2, 3): Example1:

- ① “What would be you price for 370,000 (40HC container)?”
- ② “kindly ask you how much will be your service for using your warehouse as pick up point”^{SEP}
- ③ “it is around 150USD for each size , so totlly will be 150*5=750USD.”

Sentences ① ② in Example1 came from enquiry emails addressed by buyers to ask for price in a polite mood, while sentence ③ was from quotation email addressed by the seller to inform buyer the price of product. Here ‘will’ combined with ‘around’ function as hedges to show seller’s indeterminate attitude, which left an impression with buyers that the price will be negotiable.

Example 2:

- ① “we place an order for about 10000 pcs. *** with the biggest chamber after receiving 10 samples for testing what would be the delivery time for them.”
- ② “Delivery time will be within 60 days after artworks confirmed and deposit received.”

For the same token, in Example 2, ‘would’ in first sentence also showed buyer’s politeness in inquiring delivery time, while ‘will’ combined with ‘within’ in second sentence function as hedges by giving a time scope to leave an impression with buyer that the delivery time could be flexible and adjustable. Interestingly, unlike Example1, the probable delivery time that ‘will’ indicated here was based on a precondition ‘after artworks confirmed and deposit received’, which increased the objectivity.

Example 3:

“Our stock of *** in the beginning of December will be empty and some of our contracts could be cancelled. Pls. try to ship the *** a.s.a.p.”

The sentence in Example 3 was addressed by the buyer for asking the seller to expedite shipment. The buyer did not speak in a commanding tone, but presupposed the possible consequences that might be caused by the shipment delay, which not only satisfied politeness principle, but it also made the seller realize the urgency thus take action to solve the problem.

To sum up, whereas those modal auxiliaries often express deontic stance in business communication, the occasions when they deliver epistemic modality cannot be overlooked, as they are achieving distinct goals. To be specific, deontic modality aims to impose clear obligations on addressees or addressers themselves, yet epistemic modality indicates addressers’ uncertainty toward what they said. That is to say, the later can not only function as hedge in certain context, but it is also an effective communication strategy to leave space for further negotiation, which contribute to potential cooperation.

B. Interpersonal Meaning of Metaphorical Epistemic Modality

The five metaphorical patterns of epistemic modality listed in Fig. 2 were all retrieved by Antconc. The concordance lines showed that in this corpus, explicit subjective and objective patterns were the only types of reconstrual to achieve metaphor of epistemic modality by projecting clauses (see Table II). Being metaphorical, “the clause serves not only as the projecting part of a clause nexus of projection, but also as a mood Adjunct, just as ‘probably’ does” [8] (p. 614).

TABLE II: CONCORDANCE HITS OF METAPHOR PATTERNS

Metaphor patterns	Explicit subjective	Explicit objective	Modal as thing
Concordance hits	7	1	0
Metaphor patterns	Intermediate implicit-explicit subjective	Intermediate implicit-explicit objective	
Concordance hits	0	0	

Explicit subjective metaphors of epistemic modality was presented by cognitive mental clauses like ‘I think’, ‘I believe’, ‘I suppose’ in the corpus. For example (see Example 1, 2, 3) Example 1:

- ① a. “the weight I think is about 10KG.”
b. The weight is probably 10KG.
- ② a. “I think that the correct name of the ISO standards is ***.”
b. The correct name of the ISO standards is probably ***.
- ③ a. “I think the meaning is that manufacturing license , or *** certificate. They are optional. Not all are required.”
b. Manufacturing license and *** certificate are probably optional.
Not all are required.
- ④ a. “I think there is some small changes in the formats.”

- b. There is probably some small changes in the formats.

⑤ a. *"I think we can get it when the new order w is closing to be finished."*

- b. We can probably get it when the new order w is closing to be finished.

'I think...' is a kind of metaphorical expression of "probably" with median value. Thus in the above five pair sentences (① ② ③ ④ ⑤), "a. sentences" written by practitioners are respectively the metaphorical variants of "b. sentences". Both 'I think...' (subjective) and 'probably' (objective) demonstrate addresser's uncertainty toward the fact with median value. However, the concordance showed that the practitioners only used 'I think' but never used 'probably' in the corpus and sentences in Example 1 were all addressed by practitioners in exporting enterprise, which indicated that seller preferred to express uncertainty subjectively to show politeness. Furthermore, the subjective expression showed the seller's responsibility toward what he or she said thus helped seller gain the buyer's trust, which contributed to the effectiveness of interpersonal communication and business cooperation.

Example 2:

a. *"We believe that the report to TUV for your company did not come from the authorities in ***."*

b. We don't believe that the report to TUV for your company come from the authorities in ***.

c. The report to TUV for your company possibly did not come from the authorities in ***.

In Example 2, sentence a. was addressed by the buyer. Sentence b. is the regular form of sentence a. which is the metaphorical form of sentence c. Following Halliday [8], "there is a switch from high to low value, or from low to high value, if the negative is shifted between the two domains", so 'we don't believe' here owns a low value as it is negative form of 'we believe' (high value). Thus 'we don't believe' is the interpersonal metaphor of 'possibly not' with low value, which showed buyer's subjective and euphemistic mood with high degree of politeness, thus gave more options for seller to decide whether to accept the buyer's opinions and led to further negotiation toward the fact. Another subtype of mental clause 'I suppose' was not listed in Fig. 1 & Fig. 2 but it was the metaphor of epistemic modality as well (see Example 3).

Example 3:

a. *"*** has offered already prices for all items but I suppose at very high prices."*

b. I suppose that prices for all items already offered by *** are very high.

c. Prices for all items already offered by *** are probably very high.

Example 3 appeared in an inquiry email written by the buyer to the seller. Sentence a. decoded as its regular form (see sentence b.) is metaphorical variant of its congruent form (see sentence c.). 'I suppose...' here expressed buyer's opinion on the prices offered by other supplier and implicated buyer's expectation that the exporter might offer them lower prices to be accepted.

Other than the above subjective mental clauses, explicit

objective metaphor of epistemic modality only occurred one time in the corpus and was presented as relational clause 'it is not possible' (see Example 4).

Example 4:

a. *"The *** components has to be same as our original samples, if it is not possible, please inform us about the differences."*

In Example 4, the probability was firstly expressed by "it is not possible" with high value. However the conjunct "if" before it moderated such high modalization of probability, thus softened addresser's stance toward the proposition.

The other relational clauses did not appear in the corpus at all, which indicated that practitioners seldom used explicit objective metaphor pattern to express epistemic modality in business emails. Additionally, nor did prepositional phrases (eg. in my opinion, in all likelihood) and nominal group (eg. likelihood, possibility) appear in the corpus, which demonstrated that intermediate implicit-explicit and nominal group interpersonal metaphor patterns were not commonly used in business emails.

In summary, the metaphorical way of expressing epistemic modality was mainly realized by mental clauses in the business emails, which not only explicitly expressed addressers' opinions with politeness but also involved more personal negotiations thus contributed to the establishment and maintaining of commercial relations with trade partner.

V. CONCLUSIONS

This article explores the role that epistemic modality plays in business emails. It was found that congruent epistemic modal items outnumbered metaphors of epistemic modality in business emails. All the same, both congruent and metaphorical epistemic modality have to do with certain communicative intentions. That is to say, other than the semantic meaning of epistemic modality to show the scales of probability, its underlying interpersonal meaning will always vary with distinct context. More specifically, epistemic modality use not only observes politeness principle but it can also function as hedge to leave space for further negotiation, which is beneficial for the enterprise to establish or maintain sound cooperation with trade partner.

What may be interesting for further research are investigations into the cultural influence on the epistemic modality use in business emails. Moreover, it is worthy to explore the distribution of epistemic modality use in diverse business email types such as marketing email, inquiry email, quotation email or follow-up email.

CONFLICT OF INTEREST

The author declares that the submitted paper was carried out without any conflict of interest.

AUTHOR CONTRIBUTIONS

Xue Xiao conducted the research; analyzed the data and wrote this paper on her own. She had approved the final version.

ACKNOWLEDGMENT

I would like to thank the foreign trade corporation for

providing me with the authentic business emails. I would like to express my deepest gratitude to Prof. Shuangling Li for her valuable suggestions on an earlier version of this paper. I am also extremely grateful to the *IJLL* editors, the anonymous reviewers for their insightful feedback and comments.

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