A generic analysis of English Research Article abstracts and the use of modal verbs for financial economics

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Abstract: This paper is a generic study of schematic structures and the use of modal verbs of 50 English Research Article (RA) abstracts. With Bhatia's (1990) model as the framework, three other move patterns were obtained besides the normal move order. The density of modal verbs varies greatly from move to move with significant differences in the frequency of occurrence in different moves. The use of modal verbs is much more move-determined than discipline-determined.

Key words: RA abstracts for financial economics; genre analysis; move; modal verb

1. Introduction

Since the early 1980s, applied linguists and language teachers, especially those concerned with the teaching of ESP (English for Specific Purposes) and EAP (English for Academic Purposes), have shown a great deal of interest in genre-based approaches to the analysis of written and spoken discourses. As a matter of fact, this interest in genre analysis has, to a larger extent, been motivated by pedagogical target. With the international recognition in various fields, it is apparent that English has become the most commonly used language in scientific and technical research (Swales, 1990). Scholars and practitioners worldwide are constantly faced with the need of reading and writing academic publications in English so as to keep abreast with the latest development in their fields, which will ultimately facilitate them to publish in English. "An abstract, as commonly understood, is a description or factual summary of the much longer report, and is meant to give the reader an exact and concise knowledge of the full article" (Bhatia, 1993, p. 78). It is, therefore, the urgent need that Chinese researchers and students obtain a comprehensive understanding of the genre knowledge and discourse conventions about Research Article (RA) abstracts.

There is now a substantial literature in English on a variety of academic genres including abstracts, presentations, lectures, theses, dissertations and textbooks. Swales (1990), in an overview of completed textual studies of the genre of the Research Article (RA), said "it is easy to see that some fields are much less well represented than others; for example, there is very little on disciplines such as economics or sociology" (p. 132). Therefore, financial economics was chosen as the discipline of the present study which will be a contribution to the comprehensive and global research in genre analysis of research articles. The study may offer suggestions to ESP teachers who will help students in academic reading and writing of RA abstracts.

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2. Method

2.1 General principles and procedures of data collection

Data collection is the essential step which requires strict scientific method of sampling so that reliability of the results can be achieved. Besides, the negative influence of the writer's biases could be eliminated. The present study followed principles suggested by Nwogu (1997, p. 121)—representativity, reputation and accessibility. In other words, the sources and texts were systematically chosen to ensure a representative sample. Reputation refers to the esteem which members of an assumed readership hold for a particular publication. Accessibility here refers to the ease with which samples can be obtained; otherwise the study cannot be carried out. With the principles above, the journals of English published by Elsevier Science (http://www.elsevier.com) meet the needs of the present study. Following the guidance on Elsevier Science, the 10 English journals[1] of core publications in financial economics were selected. Stratified sampling was performed to select 5 articles randomly from each journal. Thus, the English corpus for analysis was established.

2.2 Move analysis

The method of analysis in ESP can be advantageous to integrate function (Move) and rhetorical form (Step). The present study is to analyze English RA abstracts and enable the postgraduates and practitioners to benefit from the results of the analysis; therefore, the approach of ESP genre analyses was adopted here. The move identification of the present study followed the four-move model of Bhatia (1993): Move 1: Introducing purpose, Move 2: Describing methodology, Move 3: Summarizing results and Move 4: Presenting conclusions.

A rigorous definition can be found in (Nwogu, 1991),

> By the term "move" is meant a text segment made up of a bundle of linguistic features (lexical meanings, prepositional meanings, illocutionary forces, etc.) which give the segment a uniform orientation and signal the content of discourse in it. Each "move" is taken to embody a number of "Constituent Elements" or submoves which combine to constituent information in the move (p. 114).

Regarding the identification of schematic structures, the process of analysis followed the procedures proposed by Nwogu (1997):

> (1) Focusing on the propositions in the texts and identifying important information. (2) Searching for the linguistic clues such as function words, explicit lexemes and expressions, verb forms, discourse conjuncts and markers, structural headings and subheading, summary statements, etc.. (3) Classifying and paraphrasing the context of discourse based on the linguistic clues. (4) Assigning discourse functions to the overall information in segments of text as well as constituent elements of information in the segments. (5) Establishing whether or not the functions identified is a general one by reference to other texts in the corpus (pp. 123-124).

3. Results and discussion

3.1 Move structure

The generic analysis of the English corpus in the present study following Bhatia's (1993) model showed that only 10 out of 50 abstracts analyzed conform to his norm irrespective of the journals: introducing purpose,

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[1] Ten English journals of core publications in financial economics (http://www.elsevier.com): (1) *Financial Services Review*, (2) *Global Finance Journal*, (3) *International Review of Economics & Finance*, (4) *International Review of Financial Analysis*, (5) *Journal of Banking & Finance*, (6) *Journal of Corporate Finance*, (7) *Journal of Financial Economics*, (8) *Journal of Financial Markets*, (9) *Journal of Multinational Financial Management*, (10) *Review of Financial Economics*.

describing methodology, summarizing results and presenting conclusions, which is consistent with the findings by NING (2008). By contrast, the difference lies in the fact that 40 other abstracts which do not follow Bhatia's order fall into different categories of move patterns.

The variations can be summarized into 3 patterns: missing of move, elaboration by embedding subordinate moves within a major move and insertion of unconventional moves. The results reveal that, among the 50 abstracts, 8 abstracts have the missing of one move and 4 abstracts have the missing of two moves, 18 abstracts are in elaboration by embedding subordinate moves within a major move, and 10 abstracts have the insertion of unconventional moves. After a closer examination of those abstracts categorized as "significant reordering of moves" detected by NING (2008), it was found that the recurrence of a sentence does not exhibit the simple reordering of a specific move. The sentence actually serves a multi-rhetorical function in the context. Therefore, it is assigned to the move that seems to be more salient.

The following example is an abstract with the insertion of an unconventional move:

Example 1:

(1) The effect of exchange rate volatility on trade is a controversial issue in international economics.

(2) Despite a widespread view that an increase in exchange rates volatility reduces trade, there is no real consensus on the direction or the size of the exchange rate volatility-trade level linkages.

(3) This paper investigates the relationship between U.S. trade volume and exchange rate volatility using cointegration and error-correction models.

(4) We use conditional variances of the real effective exchange rate (REER) series modeled as a generalized autoregressive conditional heteroskedastic (GARCH) process to measure the exchange rate volatility.

(5) The cointegration results indicate a significant negative relationship between U.S. export volume and exchange rate volatility.

(6) The short-run dynamics of the relationship, however, show that the effects of both real exchange rates and exchange rate volatility are insignificant.

In the Example 1, the author follows Bhatia's four-move pattern in the organization of the abstract largely with Sentence (3) introducing the purpose, Sentence (4) describing methodology, Sentence (5) summarizing results and Sentence (6) presenting conclusions. What's more, it is evident that Sentence (1) and Sentence (2) convey the background information of the study which is unconventional in Bhatia's (1993) model. The use of background information plays the multi-functional role in the context, such as establishing the research focus, generalizing the topic, indicating the gap, etc., which is also apparently presented in the Example 1. Therefore, the insertion of the unconventional move (background information) embraces the potential of being the optional move in the realization of RA abstracts. Whether it is discipline-specific or not remains to be attested in similar kind future studies.

3.2 Linguistic features of the fifty English abstracts—Modal verb

Modal verb, also called hedging, is often held to be a central feature of more technical ESP texts, such as scientific specialist-to-specialist RAs. Modal verb is the expression of tentativeness and possibility by means of epistemic devices. It is commonly acknowledged that the roles of the writer and the reader have an effect on the rhetoric of ESP texts.

In the 50 analyzed abstracts, people can observe how the modal verbs are used and distributed in the

abstracts. The results are in Table 1.

Table 1 Distribution of modal verbs in the fifty abstracts

Modal Verbs	M1	M2	M3	M4	T
Can	5				5
May	5	4		15	25
Should			3		3
Could	3				
Would				3	
Might		2			
Must				3	2
M*	13	6	3	21	35

Note: M*: totals numbers of modal verbs in each move.

Table 1 clearly shows that the density of modal verbs varies greatly from move to move. People can see that there are significant differences in the frequency of occurrence of modal verbs in different moves. The last move exhibits the highest density of modal verbs, while there are fewest modal verbs in Move 2 and Move 3. Move 4 is meant to interpret results and draw inferences. There are typically some indications of the implications and applications of the present findings; therefore, it is no surprise that the highest density of modal verbs is presented in Move 4. The frequency of occurrence of modal verbs in Move 1 is very close to that of Move 4. Move 1 usually gives a precise indication of the RA authors' intentions. That is why they need to show their modesty so as to avoid the negative influence of subjectivity. Some analyzed abstracts moves present a low incidence of hedges. The result is that Move 3 is relatively unhedged as compared with the other 3 moves. The reason is that only the most salient and striking results are mentioned in abstracts (this is indeed the requirement from journal editors). In abstracts, claims are usually stated boldly without explanations. The degree of tentativeness or reserve and the comments on the results are left to the article itself. This finding is in agreement with Bruce's (1984) finding that the explanations of the results are frequently hedged in scholarly papers in medicine.

"May", which is used "when the authors are quite confident of their findings and when they want to indicate a high degree of probability" (Kibui, 1988, p. 11), can be called the conclusion modal marker; "can", in the analysis, is used to express possibility and uncertainty, the data synthesis one; and "should" is used as a way of giving commands, warnings, instructions and predictions. The results, then, are in agreement with the claim that modals have a special function in EST (English for Science and Technology) writing that normal linguistic description fails to identify. Consequently, a conclusion can be drawn that the use of modal verbs is much more move-determined than discipline-determined.

4. Conclusion

The move patterns and the use of modal verbs in RA abstracts were examined in the study. Besides the norm proposed by Bhatia's (1993) model, more move patterns were detected, which may serve as a reference point for further research of this kind to justify the flexibility and modification of the model. The use of modal verbs varies greatly from move to move with significant differences, which is largely ascribable to the rhetorical function each move is supposed to exert. Therefore, the use of modal verbs is much more move-determined than discipline-determined. To sum up, knowledge of generic structures and the strategic use of modal verbs are of

great value to journal abstract writers. The identification of the generic structure potential for the abstract section of RAs could enable teachers to give instructions to learners not only on the typical structural patterns present in such texts, but also on the amount of flexibility and the variations of the genre that the specific discipline may embrace. Equipped with better knowledge of the rhetorical structure of English RA abstracts, students will become more critical readers as well as effective writers in the field, which is ultimately conducive to their academic development.

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