

## English Words and Collocations Found on Logistics Magazines: A Corpus-based Study

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### ABSTRACT

Delivered up-to-date news and shown authentic use, the language appeared on the digital platform is an interesting alternative in learning the English language. The present study investigates the English language written on the online logistics magazines published in Thailand by using the corpus tool called Ant-Conc to analyze the frequency of nouns, verbs, adjectives, and collocations. The findings revealed that 1) the most frequent use of nouns was *cargo*, 2) the word *said* reported to be the most use of the verb, 3) the word *cargo* appeared to be the most frequent use among adjectives, 4) among the type of grammatical collocation, *noun+preposition* was shown as the most frequently used type, whereas the most three used of grammatical collocation was *cargo in*, *important to*, and *said with* and 5) among the type of lexical collocation, *noun+verb* was reported as the most frequently used type, whereas the top three used of lexical collocation was *said Mr.*, *cargo is*, and *new facility*. Furthermore, the present study might have implications for the ESP study and recommend the use of authentic language in the logistics business.

### INTRODUCTION

The studies of words and collocations have been widely considered and conducted in various disciplines including medicine (Yanxia & Weicai, 2017), law (Carreon et al., 2018), hospitality (Chaiwong et al., 2018), nursing (Trinant & Yodkamlue, 2019), and business (Stella, 2015). The main reason why studying the appearance of the words and collocations is still needed is that the EFL learners still face some difficulties and problems in using the words and collocations (Khittikote, 2011; Yumanee & Phoocharoensil, 2013; Maneewan, 2017; Dokchandra, 2019; Pisitsenakul, S. & Khamnok, W. 2019; Tungyai & Rakpa, 2021; and Boonraksa & Naisena, 2022). Therefore, by investigating the frequency of the words and collocations found in authentic usage, it could encourage learning among students who study English as a foreign language. That is because such information could present the real use of language that appears daily for specific purposes, especially when the meaning of each word could be varied when it appears in different disciplines. Therefore, studying the meaning of the word for the specific field should be given more attention in order that the learners could understand the real meaning in that specific context and gain more vocabulary knowledge which is varied in different disciplines. In other words, learners should

acquire vocabulary according to their discipline-specific needs (Wang, 2017). Then, a corpus-based study for specific vocabulary and collocations would be suited for filling the gap left by studying English for specific purposes. By doing this, the student can pay attention to the most used words and collocations together with their usage in that specific field or context.

Focusing on the field of business, logistics is one of the vital core businesses worldwide. That is because most businesses unavoidably rely on logistics for their part of success in effectively rising market share (Kherbach & Mocan, 2015). Therefore, the English language which is a medium tool used for communication in logistics business should be taken into consideration, especially those that are used in daily work or interaction to ensure smooth operation (Phuyathip, 2019).

In addition, nowadays, as people prefer online interaction, the language appeared on the online platform should be integrated into education for this era. Then, an online magazine is one of the most useful and interesting choices for exploring the words and collocations in a specific field. The reason is that the language used in the magazines is updated with authentic characteristics used for the specific field. This is the reason why the stated issue should also be considered in the field of logistics.

Thus, by using the most suitable language to coordinate with the staff in the specific field, it surely increases the chance of having a smooth and successful business cooperation. This is also true in logistics business. The results from previous studies indicated that there was a need for people in the logistics field in the technical English skills including business writing, grammar, and vocabulary to achieve for their interaction (Youngyuensin, 2015; and Phuyathip, 2019).

Few scholars, however, established a logistics word list, collocation, and investigated grammatical or lexical features of the logistics business using authentic materials. As a result of investigating the language used in logistics magazines, the findings may present language learners with some specific linguistic features and characteristics of the language used in the real world. The benefit also encourages and triggers the logistics staff to realize the use of specific features of language used in logistics business in order that they can have more effective communication in their career.

The present study then aims to explore the frequent use of nouns, verbs, and adjectives together with the grammatical and lexical English collocations in the logistics magazines published in Thailand during 2019 – 2020. To achieve the stated objectives, the answers of the following research questions are the key.

- 1) What are the ten most frequently used nouns in logistics magazines?
- 2) What are the ten most frequently used verbs in logistics magazines?
- 3) What are the top ten adjectives used in logistics magazines?
- 4) What are the types and frequencies of English grammatical collocations in logistics magazines?
- 5) What are the types and frequencies of English lexical collocations in logistics magazines?
- 6) Which grammatical collocations are most used in logistics magazines?
- 7) What are the most used lexical collocations in logistics magazines?

## LITERATURE REVIEW

### Corpus-based Approach in written Materials

Being one of the fastest emerging language teaching methods in modern applied linguistics (Aswini, 2016), corpus-based approach is the effectiveness of using corpus linguistics as a teaching technique to highlight how native speakers of English use certain language forms, vocabulary items, and expressions. The benefit of this approach is obvious by presenting the use of authentic and real-life examples which present the advantages in learning for the students in experiencing with the real-life use of language. In addition, corpus tools have enabled linguistic researchers and teachers to investigate actual usages and the characteristics of certain genres to improve syllabus design and infer more effective classroom exercises (Almutairi, 2016).

Using corpus-based analysis, several studies have been carried out to study the effectiveness of using a corpus-based

approach to comprehend written materials. Firstly, Weir & Anagnostou (2007) analyzed the text data from a Scottish newspaper by aiming to report on the adopted approach and the application of simple corpus analysis tools and techniques, together with reporting some of the findings from the analysis. Secondly, Thongvitit & Thumawongsa (2017) explored the types and frequencies of grammatical and lexical English collocations found in the abstracts written by Thai people. Then, Yanxia & Weicai (2017) used corpora to compare linguistics and medical academic English lexical chunks and analyze their similarities and differences in lexical structure fixation, structural form, and discourse function to reveal the usage pattern of academic lexical chunks. The results showed that 1) linguistics and medical scholars prefer to use more productively semi-fixed lexical chunks, 2) there are significant differences in the species and frequency of the two most used lexical chunks in the two corpora, and 3) the high frequency four-word lexical chunks are similar in the structural form, but there are differences in the structure fixation. Next, Carreon et al., (2018) investigated the keywords that characterized the legal news reported on Bangkok Post online. The results showed that keywords related to the law profession were abundant and varied subjects for law students. In addition, Chaiwong et al., (2018) examined word choices and common language expressions used by hotel staff. The findings showed that the staff mainly focused on building interpersonal relationships with their guests. Lastly, Din & Ghani (2020) investigated verb patterns found in Pakistani newspaper headlines. The findings showed different verb patterns used in the stated material. According to the stated previous studies, there hardly found any paper that worked on the authentic language that appeared in the magazines.

### AntConc and TagAnt

Included various functions namely concordance, word and keyword frequency generators, tools for cluster and lexical bundle analysis, and a word distribution plot, AntConc is extremely easy-to-use (Anthony, 2005) and is very popular among scholars who are interested in corpus-based study. It helps studying many topics, such as analyzing the data to identify discourse proficiency of 2L English texts and cohesion in upper CEFR levels (Tejada, et al., 2015), investigating the frequent lists and their collocations (Srichai, 2016), examining grammatical and lexical English collocations found in the abstracts written by Thai EFL writers (Thongvitit & Thumawongsa, 2017), improving students' learning of legal English with great appreciation from the users (Carreon et al., 2018), examining word choices and common language expressions on the online travel agency website (Chaiwong et al., 2018), analyzing the positive reviews of Amazon.com users (Altun, 2019), and identifying the verb patterns used in news headlines (Din & Ghani, 2020). In addition, one of the most common and basic practices carried out for improving corpora is Part-Of-Speech (POS) tagging. However, in creating a small project, the researcher often needs to rely on freeware taggers that are sub-optimal for detailed linguistic research (Weisser, 2018). As mentioned, TagAnt, a freeware

part-of-speech (POS) tagger, is key to supporting the stated mission.

### Word List

Studying word list could help students achieve success in language learning. Chanchanglek & Sriussadaporn (2011) found that by studying the word list, it could help learners understand and consider the basic words and some frequently occurring academic words. Therefore, there are many previous studies that have worked on this issue. Firstly, Stella (2015) created an academic business English list by investigating the vocabulary needed by undergraduate students in business to understand their textbooks at this 95-98% level of text coverage. A corpus called Business English List (ABEL) based on undergraduate business core courses textbooks was compiled to extract a list of the most used vocabulary, excluding the BNC/COCA 3K and proper nouns. It consists of 840-word families, which cover 2.86% of the ABEL corpus. With knowledge of these 840-word families, the BNC/COCA 3K and proper nouns, text coverage reached 96.94%. The ABEL list can be used by material creators and business English teachers to prepare students for their undergraduate business programs. Secondly, Srichai (2016) explored the most frequent specialized vocabulary items in American political online news articles. The total word count of this corpus was about 200,000 words. The results showed that all four websites had a high density of vocabulary. In other words, the American political article is challenging for readers. In addition, the frequent keywords from each website imply interesting information. This means that each website focuses on different American political issues. Then, Pattanasorn (2017) compiled an academic word list from books, journals, articles, and newspapers to create a corpus called Business English Academic Wordlist. The results indicated 16 million words containing 415 headwords and 1572 family members. The findings can be applied to the teaching of business English and ESP. In other words, this word list can help the students acquire the vocabulary they need to be successful in their learning. Next, Marusic & Katavic-Causic (2018) explored the word class adjective that appeared in the online English business magazine in order to comprehend the insight of English syntax, semantics, and word formation. Finally, Norberg & Nordlund (2018) built a corpus based on the words in the textbook for exploring the vocabulary used in Swedish primary textbooks. The results showed that many words in the textbooks occur only occasionally in common everyday language use.

### Collocations

The term “collocation” as defined by Gramley & Patzold (1992) refers to combinations of two lexical items, each of which makes a distinct semantic contribution, belongs to a different word class, and shows a restricted range. Another definition appeared in the Oxford Advanced Learners Dictionary (2005), which stated that collocation is a combination of words in language that happens very often and more frequently than would happen by chance. The next definition is

from the Cambridge Advanced Learners Dictionary (2008), which defines “collocation” as a word or phrase that sounds natural and correct when it is used with another word or phrase. From the stated definitions, it may imply that without the knowledge of collocation, L2 learners may produce grammatically correct but unacceptable sentences. According to its definitions, collocation plays a role for L2 learners in studying English because it helps them understand how to use a word in a sentence correctly. Therefore, there are many scholars who are interested in this field. Firstly, Daskalovska (2013) explored the effectiveness of corpus-based activities for learning verb–adverb collocations compared to traditional activities usually found in course books. The findings revealed that the participants who learned the collocations based on the corpus approach gained more knowledge and had better results in all parts of the test. Secondly, Ruenroeng (2014) explored three synonymous verbs: ruin, demolish, and destroy. These words are used differently in terms of grammatical patterns, degrees of formality, collocation, and their distribution in different genres. The results showed that the definitions of the three synonyms are not absolutely the same. Even if they share a core meaning, they each convey different meanings. The grammatical patterns of these three words are not completely identical; they just share some patterns. Moreover, these words usually collocate with an object noun. In addition, the degrees of formality among these synonyms were not the same. Moreover, Pimjuntug (2015) explored three synonymous verbs in English, including respond, reply, and answer, detecting their grammatical patterns, collocations, and degree of formality. The results showed that these three verbs could not be used interchangeably in every context. Regarding the shared patterns as well as the different patterns, each word has its own distinguishing pattern. In terms of collocations, only the words “question/questions” can co-occur with all three verbs. The results showed that, for the degree of formality, a response can be used in both formal and informal contexts. However, when considering the frequency of occurrence in the academic genre, respond occurred more often than answer and reply, so it can be concluded that it is the most formal word. Next, Chen (2017) reported an empirical study of an explicit instruction of corpus-aided business English collocations and verified its effectiveness in improving learners’ collocation awareness and learner autonomy, as a result of which is a significant improvement in learners’ collocation competence. The findings revealed that corpus-aided business English collocation pedagogy is more effective for intermediate and advanced learners than for lower-level learners. Lakkam then studied the lexical collocations used in online advertisements for facial skincare products in 2017. The findings showed that there are seven types of lexical collocations in the compiled corpus, with the most frequent type being the adjective + noun collocation. In 2017, Thongvitit & Thumawongsa additionally explored the lexical English collocations in the abstracts of research articles in the fields of liberal arts and humanities. The results showed that noun + preposition and adjective + noun collocations were the grammatical and lexical collocations that were used the

most. Finally, in 2019, Trinant & Yodkamlue explored the lexical collocations in nursing research articles. The findings showed that Noun + Noun was the most frequently used, followed by adjective + noun, and noun + verb, respectively.

## METHODOLOGY

### Instruments

Two computer software, namely AntConc version 3.5.8 (2019) and TagAnt version 1.2.0 (Window), were employed to analyze the quantitative data of linguistic features that appeared on the logistics columns. AntConc was selected because of its ability to work with plain text files (.txt). In addition, the stated corpus tool was widely used in the previous studies in the field, as stated earlier. Unlike the earlier tool, TagAnt was used to analyze the parts of speech because of its effectiveness and convenience.

### Corpus

Various columns from two logistics magazines, *Logistics Manager* and *Airfreight Logistics*, published online in Thailand and written by English native speakers from January 2019 to February 2020, were selected to explore the authentic language used in the logistics business. By collecting the data in this interval, the obtained data was more authentic and appeared to be better at predicting lexical and grammatical processing than the older data (Chen, Dong, & Yu, 2018). Then, the main reason for considering these two magazines is that they are the two most trusted and influential trade publications for the transportation and logistics industry in Thailand. Published bimonthly, *Logistics Manager Magazine* presents popular categories including ocean carriers, ports and terminals, technology, logistics services, freight forwarding, material handling, industry associations, and supply chain consulting (logistics-manager, 2020). Released monthly, *Airfreight Logistics Magazine* focuses on airlines, ground and cargo handling, freight forwarding, features, industry associations, airports, contract logistics, integrators, and technology (airfreight-logistics, 2020). At least 168 columns (4 columns multiplied by 3 issues, resulting in 14 columns a month) would be retrieved from both magazines for building a corpus of English for logistics. Before compiling the data from the stated magazines, the researcher received permission from the editors of the two magazines to use the data.

### Research Design

To find the answers to the research questions, the AntConc is a playmaker for this study in exploring the top ten frequency lists, the grammatical collocations, the lexical collocations, and the most frequently used of both grammatical and lexical collocations found in logistics magazines. Focusing on collocation, the present study used the grammatical and lexical collocation patterns proposed by Benson (1985) which were found to have been used as a framework in the previous study (Thongvittit & Thumawongsa, 2017) to identify the related research questions. The details are as follows:

- 1) Grammatical collocation includes
  - Verb + Preposition
  - Noun + Preposition
  - Adjective + Preposition

To answer the research questions, the compiled texts were first converted from MS Word to a text file. Then, AntConc would be employed to find nouns, verbs, and adjectives that might co-occur with the prepositions and make up grammatical collocations. The corpus tool would also be used to count the frequency of the potential grammatical collocations.

- 2) Lexical collocation includes
  - Adjective + Noun
  - Noun + Verb
  - Verb + Noun

The same practice as with grammatical collocation would be applied to searching out the lexical collocations. However, the co-occurrence would be changed from propositions to nouns and verbs.

### Data Collection

The researcher first contacted the editors of the two stated magazines to ask their permission to use data for building a corpus. Fortunately, he received positive feedback from them, allowing him to process accordingly. The editors also sent the researcher the editorials from the previous issues during 2019 to 2020 together with suggestions on how to find and retrieve the columns from the websites. Next, the columns were purposefully selected from the two online magazines mentioned earlier to match the target area of language use. The data included 106,385 tokens and 8007-word types (editorials = 49 articles, word tokens = 18761, word types = 2993; airfreight logistics = 138 articles, word tokens = 58264, word types = 5772; and logistics manager = 56 articles, word tokens = 29360, word types = 4034). Discussing the size of the data, it looks small, but it can still be of value for teaching and learning goals (Toriida, 2016).

The researcher then reviewed the literature process by considering some previous studies (Carreon et al., 2018; Chaiwong et al., 2018; Din & Ghani, 2020; Kherbach & Mocan, 2016; Tejada, Gallardo, Ferrada, & Lopez, 2015; Thongvittit & Thumawongsa, 2017; Weir & Anagnostou, 2007; and Yanxia & Weicai, 2017). The data was then cleaned by removing all images, unrelated marks, references, advertisements, charts, diagrams, and other non-textual elements. The researcher later tried to design a corpus of English for logistics based on the cleaned English columns derived from the two stated logistics magazines (Anthony, 2016).

### Data Analysis

- 1) The cleaned data was uploaded into AntConc.
- 2) The researcher then instructed the software to detect noun, verb, adjective, and collocation frequency lists. The corpus tool then processed the data.
- 3) Next, the results from the search were tagged and shown on the screen.
- 4) Finally, the results were manually noted.

## RESULTS AND DISCUSSION

After an investigation, the results were shown in Tables 1 – 7.

Table 1 presents the ten most frequently employed nouns that appeared in the logistics magazines. It showed that the word “*cargo*” appeared the most, followed by “*customers, services, industry, service, world, company, market, operation, and time*”, accordingly. They are those that are widely used as technical terms in logistics (*cargo, operation*), a stakeholder in the business (customer), normally found in an international business context (*services, industry, service, world, company, market*), and related to the nature of the logistics business (*time*).

Table 2 presents the ten most frequently used verbs that appeared in the logistics magazines. The result showed that the most frequent use of verbs is “*said*”, followed by “*offer, provide, continue, make, help, do, need, see, and become*”, respectively. There are many possible reasons why these verbs are most found. Firstly, it is possible that it is the nature of the magazine. For example, the word “*said*” is widely used in reported speech. Some columns of the magazine presented the interview section so that the writers used the reported speech to tell what the interviewees said or informed. Secondly, it is also comprehensible that some of the most frequently used verbs present the definition of

**Table 1.** Ten most frequently used nouns

No.	Noun	Frequency	Collocation
1	cargo	461	oversized cargo, cargo of
2	customers	342	customers and, customers to
3	services	283	services in, services for
4	industry	265	industry is, industry and
5	service	217	service to, service and
6	world	204	world of, world in
7	company	177	company has, company will
8	market	158	market for, market in
9	operation	151	operation and, operation to
10	time	150	time and, time to

**Table 2.** Ten most frequently used verbs

No.	Verb	Frequency	Collocation
1	said	461	said Yasuyuki, said Supriya
2	offer	342	offer advice, offer exporters
3	provide	283	provide examples, provide updates
4	continue	265	continue developing, continue growing
5	make	217	make sure, make decisions
6	help	204	help airlines, help develop
7	do	177	do big projects, do business
8	need	158	need food, need any.....
9	see	68	see how....., see a need in.....
10	become	63	become a landmark, become a member

the logistics business as a service provider, together with supporting the nature of the business that is to give great service to the customers or clients (*offer, provide, help*). And it is also reasonable to use some words like “*make*” or “*do*” to deal with the logistics activities or relevant operational tasks.

Table 3 presents the ten most frequently employed adjectives as shown in the logistics magazines. The result showed that the most frequent use of adjectives is “*cargo*”, followed by “*logistics, global, international, important, service, based, leading, fresh, and economic*”, respectively. It is possible that these adjectives were mostly employed to present the technical terms like “*cargo or logistics*”, to show the characteristics of the business such as “*worldwide*”, or to stress how serious and competitive this business is, like “*important or leading*”.

According to Table 4, which presents the type and frequency of English grammatical collocations in logistics magazines, *noun + preposition* was found the most, which is in line with the studies of Alsulayyi (2015) and Pisitsenakul & Khamnok (2019), followed by *adjective + preposition* and *verb + preposition*, respectively.

According to Table 5, which presents the type and frequency of English lexical collocations in logistics magazines, *noun + verb* was found the most, followed by *adjective + noun*, and *verb + noun*, respectively. The results were in line with the study of Thongvitis & Thummawongsa (2017).

**Table 3.** Ten most frequently used adjectives

No.	Adjective	Frequency	Collocation
1	cargo	428	cargo hub, cargo terminal
2	logistics	287	logistics industry, logistics providers
3	global	254	global account, global aviation
4	international	155	international airlines, international airport
5	important	141	important areas, important airports
6	service	97	service providers, service center
7	based	88	Loas-based business, plant-based biopolymer
8	leading	74	leading experts, leading global carrier
9	fresh	57	fresh fish, fresh fruits
10	economic	56	economic corridor, economic powerhouse

**Table 4.** Type and frequency of english grammatical collocations in logistics magazines

Type	No. of uses
Noun + Preposition	284
Adjective + Preposition	46
Verb + Preposition	23

**Table 5.** Type and frequency of English lexical collocations in logistics magazines

Type	No. of uses
Noun + Verb	296
Adjective + Noun	278
Verb + Noun	149

**Table 6.** The most frequency used of grammatical collocations in logistics magazines

Type	collocation	No. of uses
Noun + Preposition	cargo in	20
Adjective + Preposition	important to	13
Verb + Preposition	said with	5

**Table 7.** The most frequency used of lexical collocations in logistics magazines

Type	collocation	No. of uses
Verb + Noun	said Mr.	38
Noun + Verb	cargo is	25
Adjective + Noun	new facility	19

Table 6 presents the most used grammatical collocations. In noun + preposition, the most used cluster is “*cargo in*”. Then, in adjective + preposition, the most used cluster is “*important to*”. And, in verb + preposition, the most employed type is “*said with*”. Among all three types, “*noun + preposition*” revealed to be the most used.

Table 7 presents the most often used lexical collocations. In verb + noun, the most employed is “*said Mr*”. Then, in noun + verb, the most used cluster is “*cargo is*”. And in adjective + noun, the most used cluster is “*new facility*”. Among all three types, *verb + noun* was the most used.

## CONCLUSION

This research article focused on the frequency of words and collocations together with the types of both grammatical and lexical collocations that are shown in the written materials. The main aim of this article was to investigate the frequent use of nouns, verbs, and adjectives together with the grammatical and lexical English collocations found in the logistics magazines published in Thailand. To achieve this, the logistics columns were collected and analyzed to find the answers to the stated issues. Likewise, the appropriate tools (AntConc and TagAnt) are needed. The present study revealed that 1) the ten most frequently used nouns were: *cargo, customers, services, industry, service, world, company, market, operation, and time*, 2) the ten most frequently used verbs were: *said, offer, provide, continue, make, help, do, need, see, and become*, 3) the ten most frequently used adjectives were: *cargo* followed by *logistics, global, international, important, service, based, leading, fresh, and economic*, 4) the types of grammatical collocation that appeared the most were: *noun + preposition,*

*adjective + preposition, and verb + preposition*, 5) the types of lexical collocation that appeared the most were: *noun + verb, adjective + noun, and verb + noun*, respectively. The benefits of the study go to students, course designers, professionals, and those who are interested in English used in the logistics business.

## LIMITATIONS

Some limitations in this present study may be considered when conducting further studies in the corpus-based study.

- 1) The size of the data was quite small due to the number of issues (bimonthly for the logistics manager and monthly for airfreight logistics).
- 2) A source of data was limited to the field of logistics business, which seemed to affect the research results, which may change when collecting data from a different field.
- 3) Because the author did not provide an annotation scheme, it is difficult to search for some features such as the year or issue of the magazine.

## IMPLICATION

For students, they can learn the word list, and collocations used in the authentic text of the logistics business, which can help them be successful in their learning by facing the language that is genuinely used in the field. For teachers, the findings can be applied to developing English for logistics courses, designing the syllabus, creating contextualizing materials, and developing other language learning activities (Toriida, 2016). For professionals, it also presented some authentic language used in the field that could be used and applied in their daily work, together with including in the English for the logistics training course for the staff in the field.

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