Internet Customer Reviews in Chinese and English on Apple App Store Based on Appraisal Theory

Xiaowei Pan, Li Zhang, Yujin Wang

Nanjing University of Posts and Telecommunications, Nanjing, Jiangsu 210046

Abstract: Online product reviews are often posted by consumers on online shopping sites. Previous studies are involved in all aspects of linguistics and lack pertinence. For example, the application of the access system of functional linguistics in the online evaluation text and the emotional tendency implied in the online evaluation text, etc. This study aimed at revealing the similarities and differences between Chinese and English attitude resources on online product reviews. Four hundred Chinese and English positive and negative reviews on TikTok from the Apple App Store were selected randomly and analyzed based on the appraisal theory. The results show that both Chinese and English online product reviews are based on product quality, after-sales service, and service; the difference is that the two are very different in expression and language style. First, although English and Chinese ICRs are consistent with each other in the overall allocation of attitude resources, they do differ in certain subtypes of Attitudes. Second, Attitude resources in Chinese and English ICRs may have different assessment concentrations, which are statistically similar to each other or share similar realizations. As a comparative study of the attitude resources of online commodity reviews in English and Chinese from the perspective of linguistics, this study has enlightening significance for both the online commodity reviewers themselves and the Appraisal Theory.

Keywords: Online commodity reviews; Comparative research; Appraisal Theory; Attitude resources; Systemic functional linguistics

1. Introduction

With the promotion and help of the rapid development of information technology, all kinds of software on mobile phones have become indispensable for people. These APPs bring convenience to ordinary people who can save time and money and enjoy better service at the same time, so it is highly praised.

As many users may have noticed, another advantage of mobile apps is the ability to post and read reviews of products on app store websites. On the one hand, these reviews allow customers to share their first-hand user experience with potential customers and serve as a counterweight to biased ads on description pages. As such, they are critical to the decision making of many potential users. These online reviews are also called Internet customer reviews (ICR), on the other hand, full of users' attitudes towards the services obtained by using the software. [1] Although the applied research in the literature of Appraisal Theory at home and abroad accounts for the vast majority, there are still some gaps in the research objects. For example, the analysis of discourse with evaluation as the main purpose is also rare. The Appraisal Theory has a wide application future in solving practical social problems.

The operating theory of Appraisal Theory (AT) in the current study is developed under the framework of Systemic Functional Grammar, and its research focuses on interpersonal meaning in language. [2] Dedicated to discourse analysis, AT has stood the test of a variety of genres, including political speech, journalism, literature, and more. However, as mentioned above, ICR analysis using the AT model is an unexplored area, let alone an English Chinese ICR comparison. Questions may be asked about similarities and differences between English and Chinese ICRs assessment resources, which explain the theoretical and practical value of this research. This paper attempts to provide a starting point for a more comprehensive study by comparing the attitude system of one of the three ICRs systems in English and Chinese. [3]

2. Literature review

2.1 Appraisal theory

As an extension and improvement of interpersonal meaning in functional linguistics, Appraisal Theory is a set of resources for expressing attitudes in language. Appraisal Theory divides evaluative resources into three aspects according to semantics: attitude, engagement and graduation. They are further refined: attitude is subsystematized into emotion, judgment and appreciation; Intervention is refined into self-talk and borrowing; The gradation is further divided into potential and focus. These three subsystems are described in detail below. [4]

2.2 Previous studies of appraisal theory Overseas and in China

The research on Appraisal Theory began in 1980 and reached the hottest in 2014, with a total of 3,696 related papers. With the

deepening of the research, more and more research sites related to Appraisal Theory have emerged, forming a huge research network. The following are the research sites with high correlation. Interdisciplinary research on Appraisal Theory has also developed rapidly. It has penetrated into many disciplines such as Chinese language and literature, law, etc., and derived a number of cross-disciplinary topics. The following are several infiltration disciplines and their corresponding research topics. [5]

It focuses on the various attitudes that can be negotiated in discourse. Previous literature Appraisal Theory in discourse analysis in some applications, such as the commercial packaging words, historical discourse and autobiography, discourse analysis, and put forward the problems existing in the application of: namely further understanding attitude of "human nature", contextual factors in the evaluation methods to identify, for evaluation as interpersonal meaning and the importance of the division of concept and evaluation and the relationship between the language class, etc. [6]

After searching core journals, doctoral dissertations and some non-core foreign language journals of Peking University, we have obtained 109 related papers, two monographs and two papers. According to the purpose of literature review and Appraisal Theory, we divide the literature into six categories: theory review, literature review, improvement or revision, innovation of other theories, discussion and application of philosophical perspectives. The applied category is divided into seven sub-categories according to the research objects: applied in translation, English teaching, discourse analysis theory, discourse analysis practice, Chinese Appraisal Theory, rhetorical phenomena, and social practical problems. In the applied category, the number of papers in the practical category of discourse analysis is the largest, so it will be further subdivided into several sub-categories according to the type of discourse. Among them, the research on Chinese evaluation system, discourse analysis theory and social practical problems provide theoretical basis for this study.

Which can be seen that although the Appraisal Theory and the language of evaluation significance in nearly 100 years has become a hotspot in the research of the linguistics and literature "numerous", but particularly focus on the application and theory book, application class literature category specific language or in a specific discourse of discourse analysis for the most part, to the improvement of the theory and correction, contact to other theoretical innovation of literature Appraisal Theory is relatively small. (Chen Lingjun, 2007)

3. Methodology

3.1 Data collection

The ICRS of this study was selected from Chinese and English online reviews of Tiktok on Apple App Store. A total of 400 positive and critical customer reviews were selected. Specifically, there are 200 ICRs for each language, and according to the App Store's star classification, 200 ICRs are five stars or positive. When the customer uses the same attitude resource three times in a review but not the same phrase, we count it as three times. If the customer uses the same attitude resource three times in a review and the same phrase is counted once.

The main reason for data collection is that Apple App Store is currently the only online app store that has bilingual reviews in both Chinese and English as well as multiple users. The reason for choosing Tiktok for data collection is the recent US ban on Tiktok. In this political situation, the use of Tiktok as a software is more controversial. The data collected in this way can be reasonable and comparable.

It is worth mentioning that the collected data retains all the original forms of ICR, including uppercase, net speech, non-standard expressions and some incorrect forms, because they are natural forms of language and may also contain attitude resources.

3.2 Data analysis

The data is divided into two types: positive reviews and negative reviews. The classification standard comes from the Apple App Store. The review considers 5 rating stars as positive and 1 rating star as negative. Generally speaking, the higher the customer's satisfaction with the product, the higher their rating of the product when writing a review. Rating stars is the most direct way for customers to express their attitude towards the products they buy. People with positive emotions may be different from those with negative emotions; they are not satisfied with their evaluation language. Therefore, it is necessary to classify these two types of data.

Four small-scale corpora, Active English ICRs corpus (referred to as PEIC), negative English ICRs corpus (referred to as NEIC), positive Chinese ICRs corpus (referred to as PCIC) and negative Chinese ICR corpus (referred to as NCIC). In order to facilitate analysis and exemplification, each ICR is coded from 1 to 100 in the corpus.

AT provides a relatively complete Attitude resource data coding system, which can be well applied in this research. Before proceeding with the coding process, the author thoroughly studied the coding of attitude resources in the work of Martin and White (2005). The encoding process went through two rounds to ensure the accuracy of distinguishing and encoding gesture resources. As with all discourse analysis, when determining attitudinal resources, it is inevitably affected by the researcher's culture and personal background. Therefore, the objectivity of research results may be more or less affected in this way.

The key step in the coding process is to mark the attitude resources of the ICR. Specifically, the name of each attitude type is enclosed in square brackets in abbreviated form (see Table 3.1). These square brackets will be inserted to identify the corresponding Attitude resource. The plus and minus signs (+ and -) were introduced to mark positive and negative attitudes. Negative feelings, such as unhappiness or unhappiness, are represented by the grammatical negation "neg" and are also placed in square brackets. Morphologically negative feelings (for example, unhappy, disappointing) are regarded as negative attitudes because they are inseparable words. Therefore, unhappiness is coded as [hap], which is the same as sadness. Both English and Chinese ICR are vaguely expressed as attitudes, which are invoked by conceptual markers (also called "[t]").[7]

Table 3.1 Abbreviation of attitude subtypes

Attitude type	Attitude subtype	Abbreviation of the subtype

	reaction	[+reac]
		[-reac]
Appreciation	composition	[+comp]
		[-comp]
	valuation	[+val]
		[-val]
	dis/inclination	[+des]
		[-des]
	un/happiness	[+hap]
Affect		[-hap]
	in/security	[+sec]
		[-sec]
	dis/satisfaction	[+sat]
		[-sat]
	normality	[+nom]
		[-nom]
	capability	[+cap]
		[-cap]
Judgement	tenacity	[+ten]
		[-ten]
	veracity	[+ver]
		[-ver]
	property	[+prop]
		[-prop]

4. Findings

4.1 Attitude in English Internet Customer Reviews

We will begin our analysis by providing an overview of the attitude resources identified in PEIC and NEIC, including positive and negative English ICRs. The occurrence rate and percentage of each attitude resource in the two corpora are counted, as shown in Table 4.1 below.

Table 4.1 Distribution of Attitude Resources in PEIC and NEIC

Attitude type	PEIC		NEIC	
	occurrence	percentage	occurrence	percentage
Affect	68	54.4%	17	15.74%
Judgment	9	7.2%	31	28.7%
Appreciation	48	38.4%	60	55.56%
sum	125	100%	108	100%

It can be seen that both PEIC and NEIC have abundant attitude resources, with 125 attitude resources and 108 attitude resources respectively, including 100 ICRs respectively. In other words, for each positive English ICR, there are 1.25 attitude resources on average. For each negative English ICR, there were an average of 1.08 attitude resources. The results also show that PEIC contains more attitudinal resources than NEIC. This is most likely due to the fact that, although NEIC equals PEIC in the number of ICRS entries, the individual ICRs in NEICs tend to be longer than PEICs. PEIC is composed of 1644 words and NEIC is composed of 2614 words. It seems that many satisfied customers are reluctant to add reviews after receiving goods. And even when they do, they tend to write pleasantly, casually, and succinctly. Dissatisfied customers, by contrast, are serious critics who are fully aware of the difficulties that can arise in challenging a product's good reputation. Therefore, they need to provide detailed evidence to support their position. The ratio of attitude resources to words for PEIC and NEIC is 0.076 and 0.041 respectively, that is to say, there are about 0.41 ~ 0.76 attitude resources in every 10 words for PEIC and NEIC. Respectively, It should also be pointed out that, although an attitudinal meaning may be interpreted by several words, in order to facilitate coding counting, in this study we treat an attitudinal meaning as an attitudinal resource, receiving only one code. To a certain extent, this factor will affect the result of attitudinal resource pair word ratio. However, there is still reason to believe that the attitudinal resource frequencies of PEIC and NEIC are roughly similar.

The distribution of Appreciation resources and Affect resources in the two corpora ranked first, accounting for 55.56% and 54.4%, respectively. As introduced in the second chapter, the allocation of appreciation resources is to evaluate things. Since ICRs are reviews of products, reviewers must focus on the products they purchase, and their appreciation of the products must play a key role in the review process. They should decide if the product is attractive to them; Whether they like it or not; Product quality is high or low; Or whether the product is worth buying. Below is an excerpt from the NEIC, which has a lot of resources to enjoy.

Example 4-1: Although sometimes tiktok can be interesting[+reac] and addictive[+sat], the communities on tiktok are so toxic[-comp] and the tiktok algorithm mixes people with different communities and they let toxicity spread and grow instead of shutting down these toxic people[-comp]. They let them grow and get people to be more toxic[-comp] and let people ruin others life's for using words.(NEIC-29)

This negative review evaluated TikTok from multiple aspects: TikTok's overall quality, communities, algorithm, and user and comment management. The author uses many Appreciation values, such as "addictive" and "toxic" to clearly indicate that he thinks TikTok is a bad choice. From the beginning, the author focused on appreciating TikTok. But later, he mainly criticized and provided many supporting details, which helped him draw his conclusion that TikTok he downloaded was not worthwhile.

At the same time, in PEIC and NEIC, the distribution of Affect resources accounted for 54.4% and 15.74% of Attitude resources

respectively. One possible explanation for this fact is that in the process of purchasing goods from Apple App Store and writing the ICRs on the website, the author may encounter certain emotions when evaluating the product. They may be satisfied with the video props of TikTok, they may be content with the flow of the platform, or they may be disappointed with Big data problems they find. See example 4-2 below.

Example 4-2: Amazing[+reac]! Love[+hap] it!(PEIC-18)

The author of this review did not expand as in Example 4-1. His/her evaluation of Tik Tok-"Amazing"-is concise but very positive. Clearly, Tik Tok provides him/her with a good user experience, so he/she has a positive feeling about it ("love it").

In the two corpora, the number and frequency of Judgments are ranked last, accounting for 7.2% and 28.7% respectively. In the ICRs discussion, most of the content evaluated is the product and its evaluable parts. However, no commercial activities can be carried out without the participation of people. The same is true in Internet application downloads. The main participants in the Internet application download activity are the purchaser, the manufacturer and the download platform. ICR will closely record and evaluate their behaviors, especially when there is a problem and make judgments about the manufacturer or download platform. This may answer the following question: Why are more Judgment resources allocated in NEIC than in PEIC. Example 4-3 is a comment containing Judgment resources.

Example 4-3: This app literally got me out of a dark[+cap] place. It made me happy[+hap] and I have new[+cap] friends. (PEIC-45)

In Example 4-3, the customer expressed that Tik Tok helped him/her regain happiness and was satisfied with Tik Tok. Based on his/her positive feelings, the author made a judgment on Tik Tok.

In short, English ICRs authors distribute a large amount of Attitude resources in both positive and negative Internet customer reviews. They focus on appreciating things and expressing their feelings accordingly. They also make Judgments the behaviors of those TikTok bloggers.

In the next section, we will focus on the characteristics of Attitudes in China's ICRs by analyzing statistical results and examples.

4.2 Attitude in Chinese Internet Customer Reviews

In this paper, two small-scale corpora, PCIC and NCIC, are used to collect Chinese ICRs. PCIC is a collection of positive comments and NCIC is a collection of negative comments. Table 4.2 below shows the incidence and percentage results of the distribution of each major attitude system in the PCIC and NCIC.

Table 4.2 Distribution of Attitude Resources in PCIC and NCIC

Attitude type	PEIC		NEIC	
	occurrence	percentage	occurrence	percentage
Affect	73	58.4%	15	10.4%
Judgment	3	2.4%	26	18%
Appreciation	49	39.2%	103	71.6%
sum	125	100%	144	100%

Chinese ICR writers, like their British counterparts, take a variety of attitudes when writing reviews. 125 and 144 attitude resources were identified in the two corpora respectively. From this result, we can infer that NCIC has more attitude resources than PCIC, with 1.25 attitude resources for each positive Chinese ICR and 1.44 attitude resources for each negative Chinese ICR. It can also be explained that since the PCIC contains 1355 Chinese characters and the NCIC contains 4057 Chinese characters, negative Chinese ICRs tend to be longer than positive ICRs. The attitude-to-trait ratios of PCIC and NCIC were 0.09 and 0.035, respectively. As we all know, Chinese words are usually composed of more than one character. In addition, the attitude resources identified in PCIC and NCIC contain at least one word (see Example 4-4). Therefore, the ratio of attitudinal resource pair words in PCIC and NCIC can be significantly higher than that of attitudinal resource pair words.

Example 4-4:

(1)超好的[+reac]平台，感谢平台给我们分享这么多精彩[+sat]有趣[+reac]的视频。赞[+prop]！(PCIC-44)
(Super good platform, thank you for sharing so many wonderful and interesting videos for us. Great!)

(2)建议不要下载[-comp]，这样的垃圾[-prop]软件，换句话说，软件没错[neg][+reac]，运营的人错了[-comp]，低俗的[-val]东西太多，太多。(NCIC-29)

(It is recommended not to download such junk software. In other words, the software is correct, the operator is wrong. There are too many vulgar things, too much.)

Similar to that of English ICRs, the number of Appreciation resources in Chinese ICRs ranks first among all Attitude subsystems in PCIC and NCIC, and they each share 39.2% and 71.6% of all Attitude resources. The fundamental reason for this distribution is similar to the reason for the large Appreciation of resources in English ICRs, that is to say, the authors of Chinese ICR also focus on evaluating "things" in their comments. Example 4-5 is the Chinese ICR selected from PCIC.

Example 4-5: 挺好的[+reac]平台就是从不给我热门[-comp]。(PCIC-82)

(Very good platform just never make me popular.)

This short excerpt contains a mix of Reaction resources(挺好的) and Composition resources(从不给我热门). These resources are related to the overall user experience and specific aspects of Tik Tok. Although Tik Tok has slight flaws, the author of this review gave it a very positive evaluation.

On the other hand, Affect resources are another important role in Attitude resources in China's ICRs. It accounts for 58.4% and 10.4% of PCIC and NCIC respectively.

As we analyzed in Example 4-2, many Affect resources are used to describe how the author feels about the product. However,

other purposes are to achieve diversification, which will increase a lot of Affect resources. For example, many Chinese ICRs are recorded as the experience of Internet application download activities, which may involve their emotional experience. In the first excerpt from Example 4-6, the author faithfully describes the author's psychological experience through a series of Affect resources. Although he/she "doesn't know how to play", he/she still "likes it" and thinks "it is very good". All in all, the writer is satisfied with the app. In addition, the authors of China ICRs often express their views on other parties in the business. The second excerpt from Example 4-6 expresses the author's extremely negative feelings about Tik Tok. Zhang Yiming is the CEO of the manufacturer of the product reviewed in this review. According to records, Tik Tok "specializes in stealing personal information". The author requested that "Zhang Yiming should be killed".

Example 4-6:

(1) 喜欢[+hap]，特别好[+sat]，就是不太会玩[-comp]。(PCIC-81)

(I like it. It's very good, but I don't know how to play.)

(2) 这种垃圾[-val]软件专业盗取个人信息[-comp]，应该把张一鸣杀了[-prop]！(NCIC-100)

(This kind of junk software specializes in stealing personal information and should kill Zhang Yiming!)

Judgment has a low frequency in PCIC at the proportion of 2.4%. However, it appears as frequent as Affect in NCIC by sharing 10.4% of Attitude resources. This is because, in general, the authors of positive Chinese ICRs focus on product evaluation and seldom pay attention to the judgments of other parties involved in the purchase, while authors of negative Chinese ICRs have many complaints against manufacturers. The author of the first comment in Example 4-7 thinks that Tik Tok can be rated lower("One star is high, because it can't be low"), and hopes that "Apple take the Tik Tok off the shelves". He/She also thinks it is "disgusting". The author of another comment encountered a problem with the management of Tik Tok's comments, madly claiming that Tik Tok was one of the "pioneers of CPC speech censorship", and judged that Tik Tok was "dirty".

Example 4-7:

(1) 一星算给高[neg][+reac]了，因为不能再低[-reac]了，苹果什么时候把抖音下架了就好[-comp]，恶心的[-prop]软件。(NCIC-52)

(One star is high, because it can't be low. When will Apple take the Tik Tok off the shelves? It's disgusting software.)

(2) 提议Apple store认真考虑全球下架字节跳动公司产品[-comp]，它们都是GCD言论审查的先锋[-prop]，抖音最下作的[-prop]是除你本人外其他人都看不到你的评论，因为你自己可以看到还以为是正常的[neg][+norm]，不像直接删除那么明显。我注册了两个抖音号才发现它们的龌龊[-prop]手段。支持美国封禁tiktok[-prop]。(NCIC-82)

(It is suggested that Apple store seriously consider removing Byte's products worldwide. They are all pioneers of CPC speech censorship. The most important thing about Tik Tok is that no one but you can see your comments, because you can see them and think it is normal, not as obvious as deleting it directly. I registered two Tik Tok accounts before I discovered their dirty tricks. Support the United States to ban tiktok.)

So far, we have discussed the attitude resources in English and Chinese ICR as a whole. Before continuing to analyze the Attitude subsystem in Chinese and English ICR, we will briefly compare them in the next part.

4.3 Appreciation in English Internet Customer Reviews

As presented in section 4.1.1, Appreciation resource is the most frequently distributed resource in PEIC and NEIC. The distribution of Appreciation is expressed in Table 4.3.

Table 4.3 Distribution of Appreciation Types in PEIC and NEIC

Appreciation type	PEIC		NEIC	
	occurrence	percentage	occurrence	percentage
Reaction	43	89.58%	21	35.00%
Composition	2	4.16%	39	65.00%
Valuation	3	6.25%	0	0.00%
Sum	48	100%	60	100%

We can see it clearly from the above table that all types of Appreciation are involved writers of both PEIC and NEIC. For positive English ICRs writers, 'reaction' is the most frequent Appreciation resource, taking up 89.58% of all Appreciation resources identified in PEIC; ' composition' and 'valuation' are both found to be less frequent, at 4.16% and 6.25% respectively. However, for negative English ICRs writers, the most frequently adopted Appreciation resource is ' composition', taking up a share of 65.00% of Appreciation resources in NEIC; 'reaction' is taking up a share of 35.00% of Appreciation resources, becoming the second largest type of appreciation resources in NEIC. In addition, ' valuation' , it doesn't appear in any of them.

The results suggest that writers of positive English ICRs tend to record their reactions while those of negative English ICRs tend to record their composition. There are some examples that can help us find the different between the positive and negative English ICRs.

Example 4-8

(1) I am having a wonderful experience [+reac]! Thank you for this app! I can interact with young people once more! was high school teacher! This has helped me stay sane at this time with the virus! Thank you!

(2) This app is so cool. [+reac]

(3) Its really entertaining [+reac] . Im a dancer in the making and this app helped me learn new dances and new moves [+comp] . But to top it all off always have fun doing it. Like no matter if you're famous or not or if you know how to dance or not it's all about having fun with your friends or whoever and that's what matters the most!!!

(4) helped [+val] me

The pieces of ICR of example 4-8 is selected from PEIC. We can analyze that the writer is very satisfied with this APP. For example, the writer can clearly get a perfect experience from it, or the APP helps the writer to some extent, or the APP teaches the writer a lot of things.

Example 4-9

（1）Ban [-reac] tiktok （2）This app is bull [-reac] （3）why we can't conecting?!!!!![-comp]

（4）The app used to be a 5 star but then around the end of 2019 a swarm of soft people came into the app and now no one can make a joke without getting canceled. Also they brought with them politics about blm and the government. If the app ever returns to the era when people could actually take a joke then I might change this review but until then the app just isn't good anymore [-comp]

The pieces of ICR of example 4-9 is selected from NEIC. We can clearly analyze that the writer is full of complaints and bad feelings about this APP. For example, they think that the APP is too boring, or they want to ban the APP, or they think that the APP is no longer able to entertain the user.

4.4 Appreciation in Chinese Internet Customer Reviews

In this section we will focus on analysing Appreciation in Chinese ICRs. The distribution of each Appreciation type is presented below.

Table 4.4 Distribution of Appreciation Types in PCIC and NCIC

Appreciation type	PCIC		NCIC	
	occurrence	percentage	occurrence	percentage
Reaction	46	90.19%	30	29.12%
composition	3	5.88%	60	58.25%
valuation	2	3.92%	13	12.62%
sum	51	100%	103	100%

According to the table 4.4, for the positive Chinese ICRs, we can see the most frequent type is 'reaction', taking up 90.19%. However, 'composition' and 'valuation' are both less than the 'reaction', at 5.88% and 3.92%. On the other hand, for the negative Chinese ICRs, the 'composition' become the most frequent part. It's more than the two of 'reaction' and 'valuation' put together, taking up a share of 58.25. 'reaction' is taking up 29.12% and 'valuation' is taking up 12.62%.

By this data, we found that Chinese customers tend to take aspects other than the App itself into consideration in their views. Those presented in Example 4-10.

Example 4-10：

(1) 从抖音里得到了好多知识和现实中的生活小妙招！［+comp］

(2)［+reac］［+hap］玩抖音真的会上瘾，一闲下来就想打开看看，甚至晚上上厕所都会忍不住点开看看，作品有没有人评论，有没有点赞，粉丝有没有增加不知道怎样才能被抖音粑粑发现或是得到抖音粑粑的恩宠

(3)［+reac］［+val］抖音平台简直就是人生的转折点

(4)［+reac］ 感谢抖音平台

The pieces of ICR of example 4-10 is selected from PCIC. We can see that the people who use the APP are genuinely grateful for the APP. They have learned a lot from the APP and it has been a turning point in their lives, or maybe the APP has a special quality for them that keeps them hooked.

Example 4-11：

(1)抖音能适配一下横屏吗哎［-comp］

(2)账号莫名的829被陌生人登录上去，发布了几个黄视频，导致账号封禁，申诉了好久，提示申诉无效，什么平台么？啊，为什么陌生人可以登录，不用任何的信息的，怎么监管的？垃圾平台，果断卸载卸载！［-reac］

(3)这玩意下载次数这么多嘛？评分这么高？我不信，qq微信都没你零头多。我下了一次，来看看是啥样的，看了一会后只有一个感受:浪费时间；加点感受:毫无营养。老年人少看点，多去室外，多做些脑力活动，我感觉这东西会加速那啥。话说里面的人拍这些视频不尴尬吗？就真为了赚钱啥都不管了呗。还有里面的配乐，就硬怼上去dj，啥音乐火放啥，没有一点独特性。这东西真的是精神毒品，建议大家看好家里的小孩和老年人。多去室外走走，看这些有营养的东西。看小猪佩奇都比这好吧［-val］ (4)不利于身心健康［-val］

The pieces of ICR of example 4-11 is selected from NCIC. According to the comments of there writers, we can see that they are full of bad emotions about this APP, because they do not get a perfect experience in this APP, so in their opinion, this APP needs to be improved in function, and even they think that this APP is not conducive to physical and mental health and affects people's spiritual health.

4.5 Affect in English Internet Customer Reviews

We now analyze of Affect resources in English ICRs. The results of occurrence and percentage for each subtype of Affect resources are presented in Table 4.5.

Table 4.5 Distribution of Affect Types in PEIC and NEIC

Affect type	PEIC		NEIC	
	occurrence	percentage	occurrence	percentage
Dis/inclination	0	0.00%	4	16.67%
Un/happiness	65	95.59%	3	12.50%
In/security	0	0.00%	10	41.67%
Dis/satisfaction	3	4.41%	7	29.17%
sum	68	100%	24	100%

According to the table 4.5, in PEIC, 95.59% of Affect resources are distributed to Un/happiness. Another only 4.41% of Affect resources are distributed to Dis/satisfaction. Dis/inclination and In/security, none of them show in the data. In NEIC, however, the largest proportion (41.67%) of Affect resources is shared by In/security. Dis/satisfaction ranks the second place by holding 29.17% of all Affect resources. Dis/inclination and Un/happiness are the least frequently employed resources in NEIC, amounting to 16.67% and 12.50%.

Through the samples we collected, we can see the positive English ICRs writers to express their happy emotion in the review they submitted. There are some examples to express.

Example 4-12:

(1) [+hap] i love this app so much, pls dont delete it is the best thing to happen to me 2020, its my lifeline. (2) [+hap] Love this app. (3) [+sat][+hap]I genuinely enjoy. (4) [+hap]It's so addicting but I love it. When we I'm having a bad day it's always an app I go to, to laugh& smile.

The pieces of ICR example 4-12 is selected from PEIC. In this part, the ICRs of PEIC expressed their love for this APP through words like 'love', 'happy' and so on. TikTok keeps users engaged and addicted.

Example 4-13:

(1) [-des]It's horrible (2) [-sec]The app is toxic

(3) [-sat]I'm disgusted with this app after my 11 year old saw a man commit suicide and they left it up for days!!! Shame on you!

(4) [-des]This app has horrible users showing horrible content please ban Tik tok.

The pieces of ICR example 4-13 is selected from NEIC. Here the writers are very dissatisfied with the APP. They hate it. Through some bad words, such as 'horrible', 'toxic' and so on, to against the APP.

4.6 Affect in Chinese Internet Customer Reviews

Affect also has a strong presence in Chinese ICRs. This section is focused on the analysis of Affect resources in Chinese ICRs. We will begin, as usual, with a discussion of results in table 4.6 below.

Table 4.6 Distribution of Affect Types in PCIC and NCIC

Affect	PCIC		NCIC	
	occurrence	percentage	occurrence	percentage
Dis/inclination	0	0.00%	0	0.00%
Un/happiness	32	43.83%	6	4.00%
In/security	0	0.00%	7	46.67%
Dis/satisfaction	41	56.16%	2	13.33%
sum	73	100%	15	100%

In PCIC, 56.16% of Affect resources are distributed to Dis/satisfaction. Another 43.83% of Affect resources are distributed to un/happiness. However, in NCIC, the largest proportion (46.67%) of Affect resources is shared by In/security. Besides, there isn't dis/inclination in NCIC. Un/happiness and dis/satisfaction become the least proportion (4.00% and 13.33%) of Affect resources.

Example 4-14:

(1)［+hap］太喜欢抖音 (2)［+hap］喜欢 (3)［+sat］必须五星好评 (4)［+sat］大大大的赞

The pieces of ICR of example 4-14 is selected from PCIC. Writers express their love and satisfaction with the APP through comments like it or five-star reviews.

Example 4-15:

［-sat]抖音现在全是无脑喷人，还无缘无故封号，我认真做的视频播放量从来没上过五百。真的，不是我说，圈子越大越乱，对现在的抖音无语

［-sec]这种垃圾软件专业盗取个人信息，应该把张一鸣杀了！

［-hap]有钱就有流量，没钱就有寂寞。

［-sec]　搞不懂为什么抖音非要搞得跟聊天工具一样，学着加什么在线功能，休息的时候想要一点独处的空间没有，看一下抖音还会被别人看到然后就又不能看了，一点隐私空间都没有

The pieces of ICR of example 4-15 is selected from NCIC. We can infer from these statements that writers are annoyed that this APP has stolen personal information and violated their privacy.

4.7 Judgment in English Internet Customer Reviews

Judgment does not receive much attention in English ICRs. However, it still performs as an indispensable part of the system. Table 4.7 presents the occurrence and percentage of these types in PEIC and NEIC

Table 4.7 Distribution of Judgment Types in PEIC and NEIC

Judgment type	PEIC		NEIC	
	occurrence	percentage	occurrence	percentage
normality	0	0.00%	1	3.13%
capacity	4	44.44%	0	0.00%
tenacity	5	55.55%	0	0.00%
veracity	0	0.00%	4	12.50%
propriety	0	0.00%	27	84.37%
sum	9	100%	32	100%

In PEIC, there are only 9 Judgment resources identified, much less than the 32 Judgment resources identified in NEIC. Capacity and tenacity take up the whole Judgment resources identified with a percentage of 44.44% and 55.55%. In NEIC, propriety is the most important Judgment types. The proportion of veracity in PEIC is 12.50%. However, normality has a smaller share in NEIC, occurs for only 1 times in NEIC.

Example 4-16:

[+ten] Don't want to see e-girls dance? Just memes like me? Just work a little bit on your algorithm, like what you like and press not interested on what u don't like

[+cap] I think tiktok should add more guidelines for the younger people on this app by there dat they should add guidelines for that

[+cap]Let's me be me

[+ten]TikTok is my life I hope nothing ever happens to it

The pieces of ICR of example 4-16 is selected from PEIC. The writers believe that this APP has helped them a lot in life. It allows them to be themselves all the time, which is the hope of their life.

Example4-17:

[-norm] I was being normal on tik tok and then saw i guy live killing him self when it started from facebook .

[-ver] It's cringe and malware it will steal your information

[-prop] If musically was back these half naked boys and girls wouldent be here.

[-prop] Please do not download this app it shows a video of man killing himself do not recommend it is very awful and will be shut down soon if you have children do not let them download this app I and my mother do not recommend this app is very sad this app is supposed to be happy and fun for kids and adults for 12 and older but recently it has not been do not recommend this app please do not download if you see this show to friends.

The pieces of ICR of example 4-17 is selected from NEIC. The writers through a lot of language to express their dissatisfaction, and then, and advise others not to download the APP. A series of negative words against the APP.

4.8 Judgment in Chinese Internet Customer Reviews

The five subtypes of Judgment is also unequally distributed in Chinese ICRs. We provide the results of occurrence and percentage of Judgment types in PCIC and NCIC below in Table 4.8.

Table 4.8 Distribution of Judgment Types in PCIC and NCIC

Judgment type	PCIC		NCIC	
	occurrence	percentage	occurrence	percentage
normality	0	0.00%	1	16.67%
capacity	0	0.00%	0	0.00%
tenacity	3	100%	0	0.00%
veracity	0	0.00%	0	0.00%
propriety	0	0.00%	5	83.33%
sum	3	100%	6	100%

The table indicates that, in PCIC, tenacity is the major Judgment types, accounting for 100%, although it only presents 3 times in PCIC. In NCIC, propriety is the major Judgment types, accounting for 83.33%. Normality takes up 16.67%. it only presents 1 time in NCIC.

Example 4-18:

[+ten]希望抖音粑粑适度投放我的作品让我开心快乐每一天！！！

[+ten]为抖音而努力

The piece of ICR of example 4-18 is selected from PCIC. Writers here to record their own wishes for the APP.

Example 4-19:

[-prop]不太推荐学生用这个玩意不仅脏还很浪费时间

[-ver]理都不理一下反馈，发什么都要申诉，真的不想玩了问题那么多，说了反馈也没人回复

[-prop]之前刷抖音是有趣。现在刷的是习惯！现在全是广告消费你的受众开始割韭菜了是么？

The piece of ICR of example 4-19 is selected from NCIC. The writers here believe that while the APP is a waste of time. There are also many problems with it, especially in the lack of response and the rich of ads.

5. Discussion

5.1 Similarities between Attitude Resources in English and Chinese Internet Customer Reviews

First of all, both English and Chinese ICRs are loaded with a large number of Attitude resources. Each piece of English and Chinese ICR contains an average of 4.68 to 7.08 Attitude resources. Among all the ICRs studied, Appreciation resource focusing on the evaluation of things ranks first in terms of incidence; Affect resource, the embodiment of personal emotions, is the second most important Attitude resource in English and Chinese ICRs. As an assessment of people and their behaviors, Judgment resources are the least used Attitudes in English and Chinese ICRs. Only in negative Chinese ICRs, its number is slightly more than Affect resources.

Secondly, the total number of positive Attitude resources and negative Attitude resources are dominant in positive English-Chinese ICRs and negative English-Chinese ICRs respectively. Nevertheless, negative resources of certain Attitude subtypes may exceed its positive resources in positive ICRs, or may be replaced by them in negative ICRs. For instance, in NEIC and NCIC, negative security resources will exceed positive security resources in positive ICRs of English and Chinese, and inclination exceeds disinclination.

Finally, ICR writers of English and Chinese generally use indirect knowledge to induce negative Attitudes, such as dissatisfaction, negative propriety and negative veracity.

Compared with previous studies, it is obvious that both English and Chinese online evaluations do contain a large number of attitude resources, which are effective text resources for evaluation theory research. [8] The difference lies in the previous studies that the detail and quantity of negative resources in the evaluation texts are greater than that of positive resources. However, in this study, the number of negative resources and positive resources is equal. And previous studies believe that Chinese people tend to express

their negative attitude in euphemistic ways. However, it is found in this study that both Chinese and English online evaluation texts prefer to use indirect ways to express negative attitudes.

5.2 Differences between Attitude Resources in English and Chinese Internet Customer Reviews

First, although English and Chinese ICRs are consistent with each other in the overall allocation of attitude resources, they do differ in certain subtypes of Attitudes. Un/happiness, dis/satisfaction and in/security situations in PEIC and PCIC are typical examples. We find that in positive ICRs, English writers tend to use happiness resources to express their positive emotions, while Chinese writers tend to use satisfaction resources that are not as fervent as happiness. In addition, positive Chinese ICRs have a larger share of insecurity resources than English ICRs. This seems to indicate that Chinese writers of ICR pay more attention to safety issues than English writers.

Second, Attitude resources in Chinese and English ICRs may have different assessment concentrations, which are statistically similar to each other or share similar realizations. For example, valuation is usually used by Chinese writers specifically to determine the authenticity of products, rather than evaluating value (that is, the attention of English writers). When Capacity is realized in the form of "negative words plus positive ability", it is often used by negative Chinese ICR writers to make negative judgments on the ability of manufacturers. At the same time, English writers usually use the same form of capacity to judge their own abilities. Tenacity is a subtype of Judgment. It is usually a manifestation of support in English and Chinese ICRs. It has also been used many times in NCIC to judge the efforts of authors to protect their consumer rights.

Compared with previous studies, the commonality lies in the rich emotional resources in the comment sentences. [9] English and Chinese ICRs are the same in the overall allocation of attitude resources, but there are differences in some attitude subtypes. But previous studies have found that Chinese customers prefer to express their negative emotions in indirect ways. However, this study shows that both foreign customers and Chinese customers prefer to use indirect ways to express their negative emotions.

6. Conclusion

This research aims to compare the differences in the allocation of Attitude resources between Chinese and English Internet customer reviews from a linguistic perspective, thereby providing insights into English and Chinese ICRs and Appraisal Theory.

Our research shows that in Internet customer reviews, Chinese writers tend to consider more aspects than English writers, because they often mention after-sales service in their reviews and so on. This shows that Chinese customers strongly demand that manufacturers and other service providers provide better services.

Our research also shows that security is the main concern of Chinese online shopping customers. This concern may be caused by improper behavior of the seller recorded in their reviews by other customers. When customers encounter problems in their Internet application download activities, they may be disappointed at the way the manufacturer treats them. Chinese Internet application manufacturers should abide by social ethics and create a safer environment for Chinese customers. As the English ICRs shows, honest manufacturers can attract a large number of loyal customers.

On the other hand, Appraisal Theory has been proved to be an effective theory for analyzing Attitudes of Chinese and English Internet customer reviews in this study. The classification of Attitude types and subtypes is comprehensive and convincing. Nevertheless, in our coding process, we sometimes got confused due to the overlap or blurry boundaries between certain subcategories. For example, veracity and propriety are regarded as two subcategories of Judgment related to social morality. Since dishonest behavior must also be inappropriate, Propriety may overlap with veracity. In addition, we also find that capacity can be further divided into the judgment of ability and the judgment of capability. However, we need further researches to test the feasibility of this classification.

References

[1] Doane D. Howard."Appraisal Theory and Practice." Journal of Farm Economics 19.1(1937):doi.

[2] "Condemnation Awards and Appraisal Theory." Journal of ASFMRA 28.2(1964):.doi:.

[3] Thomas E. Brown."The evolution of an appraisal theory for automated records." Archives and Museum Informatics 1.3(1987):.doi.

[4] Terry Cook."Building an Archives: Appraisal Theory for Architectural Records." The American Archivist 59.2(1996):.doi.

[5] Udomkrit Srinon."Evaluation of Textbook "The Language of Evaluation: Appraisal in English" from the Perspectives of Thai EFL Students: Implications of Systemic Functional Linguistics and Appraisal Theory." Studies in English Language Teaching 8.2(2020):. doi:.

[6] Chen Yanping, and Chen Juan. "A comparative study on the interpersonal meaning of attitude resources of news commentary between China and South Korea based on Appraisal Theory -- Taking anti-corruption news commentary as an example." Northeast Asia Foreign Language Research Journal, 8.03 (2020): 40-46 doi:10.16838/j.cnki.21-1587/h.2020.03.008.

[7] Chen Mingyao. "Evaluative Analysis of attitude resources in news discourse and its translation." Shanghai Translation. 01 (2007): 23-27 doi:.

[8] Xiong Zhan, Hu Qijun. "Attitude resource analysis of English commercial advertisements based on appraisal theory." Sci tech Information. 18 (2010): 172 + 174 doi:.

[9] LAN Xiaoyan. "An analysis of evaluation strategies of English academic book reviews -- an attitudinal perspective of evaluation theory." Shandong Foreign Language Teaching Journal, 32.02 (2011): 13-20 doi:10.16482/j.sdwy37-1026.2011.02.008.