Analysis of Brand Image Building of Chinese and US Agricultural Enterprises on Alibaba Based on a Corpus from the Multimodal Perspective

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Abstract: *Currently, China is vigorously boosting the development of e-commerce in rural areas and paying attention to the development of agricultural e-commerce. At the same time, many countries heavily relied on imports due to the crisis in the food supply chain during the COVID-19 pandemic. Based on the theoretical framework of multimodal discourse analysis (Zhang, 2009), this study analyzes the text of product promotion information used by Chinese and US agricultural enterprises on the Alibaba platform at the cultural level and meaning level, in order to compare and explore the similarities and differences of strategies for brand image building adopted by Chinese and US agricultural enterprises on different cross-border e-commerce platforms and provide a reference for the agricultural enterprises to enhance their brand power in the international context.*

Keywords: *multimodal discourse analysis, product promotion information, cross-border e-commerce, Chinese and US agricultural enterprises, brand image building of enterprises*

1. Introduction

Affected by the COVID-19 pandemic, cross-border e-commerce, as an important part of business model and innovation, has gradually become an important engine for accelerating innovative development of foreign trade and significantly increased economic growth in many areas. Agriculture is an important field of people's livelihood, besides, China and the US are typical agricultural countries, so the development of agricultural enterprises about e-commerce is very important.

At present, the competition in the cross-border market is not limited to the product itself, but gradually turns to the field of brand image and value, so it is of great significance to build an international agricultural product brand with characteristics. Compared with other platforms, there are more agricultural enterprises from different countries on Alibaba platform, with outstanding research advantages and abundant promotional information texts, which can reflect the image characteristics of relevant brands to a large extent.

According to this background, based on the theoretical framework of multimodal discourse analysis (Zhang, 2009) ,this study analyzes the text of product promotion information used by Chinese and US agricultural enterprises on the Alibaba platform at the cultural level and meaning level, in order to compare and explore the similarities and differences of strategies for brand image building adopted by Chinese and US agricultural enterprises on different cross-border e-commerce platforms and provide a reference for the agricultural enterprises to enhance their brand power in the international context.

2. Research Background

2.1 Research Objects

On Alibaba, a cross-border e-commerce platform, product promotion information, as an important information medium, enables Chinese and US agricultural enterprises to better convey product information, explain product attributes, and shape brand image to consumers through various modalities such as text and images, which have significant research value in promoting enterprise development and increasing market share[1]. Among them, text-based promotion information accounts for the largest proportion and is more widely used. Therefore, this study conducted a qualitative and

quantitative analysis of the product promotion texts of 57 Chinese and US agricultural enterprises on Alibaba in 2022 to compare how these enterprises use product promotion information to build their brand image and the characteristics exhibited in the process.

2.2 Overview of Relevant Theories

Brand Image, a creative concept proposed by David Ogilvy in the mid-1950s, is an important school in the theory of advertising creative strategy. Under the influence of this strategy theory, a large number of excellent and successful advertisements have emerged. Ogilvy believed that brand image is not inherent in the product, but is related to the quality, price, and history of the product as perceived by consumers. This idea holds that every advertisement should be a long-term investment in the entire brand[7][8][9][14]. Therefore, every brand and product should develop and project an image, which is sent to customers and potential customers through various promotion techniques, especially advertising.

Multimodal discourse analysis is the theoretical basis of this paper. Based on the theoretical framework of multimodal discourse analysis (Zhang,2009)[16], this study was conducted from the perspectives of both the culture and the meaning. In addition, taking the verbal resource system into account, this study explored and compared how the product promotion information used by Chinese and US agricultural enterprises on Alibaba helps consumers understand the characteristics of agricultural products, promote products, and establish brand image by grasping the modal form of language.

3. Research Questions and Methods

This study mainly examines the following questions:

(1)How do Chinese and US agricultural enterprises on the Alibaba platform shape their brand image through product promotion information? What characteristics do these enterprises exhibit when building their brand image?

(2) Are there significant differences in product promotion information between Chinese and US enterprises on Alibaba? If so, what strategies for brand image shaping do they respectively use?

This study uses a qualitative and quantitative research method combining corpus and discourse analysis to answer the above questions. This study is based on a comparative analysis of the use of language modal resources by Chinese and US agricultural enterprises on the B2C cross-border e-commerce platform Alibaba.

In the resource part of this study, tea, rice, vegetable, fruit, and meat were used as search terms. 130 sets of primary data on agricultural products from China and 124 sets of primary data on agricultural products from the United States before February 2022 (involving 30 Chinese agricultural enterprises and 27 US agricultural enterprises) as the corpus. According to where the enterprises were registered, the corpus was divided into two text corpora using the corpus software Antconc: Chinese enterprises and US enterprises. The Chinese enterprise corpus contains 27,938 characters and 3,876 types, and the US enterprise corpus contains 37,395 characters and 5,533 types.

4. Research Analysis

4.1 Analysis at the Cultural Level

Cultural context is the background feature from which social communication activities arise. Ideology, as the main form of cultural existence, is not only the main cultural factor that dominates linguistic communication but also the dominant factor in multimodal discourse communication[16]. Influenced by mainstream ideologies and Chinese and American cultures, these characteristics are also reflected in product promotion information. Therefore, cultural factors have an important impact on shaping the brand image of agricultural enterprises.

Through text mining and data analysis, it was found that the high-frequency words in agricultural product promotion texts used by Chinese and US agricultural enterprises include "cooperation", "international", "opportunity", "market" etc. Representative words were selected and a collocation table was generated. The tendency of the use of words in collocations was examined based on the context, and an attempt was made to interpret the discourse tendency.

*Example 1: High quality innovation, honest **cooperation**, mutual benefit and common development. Taking integrity, quality and service as the leading role will be the eternal goal of the sustainable development of China Stanley trade. (ZHONGSHEN Trading Co., Ltd, Chinese enterprise)*

An analysis of the high-frequency word "cooperation" revealed that some Chinese agricultural enterprises have strong aspirations for international cooperation in the field of agricultural science and technology. There is still a gap between China and some developed Western countries in the development of modern agriculture, especially between countries like the United States that are in a leading position in high-tech biotechnological agriculture. Therefore, seeking cooperation is an inevitable trend for sustainable development. On the other hand, China has vigorously implemented the concept of innovative, coordinated, green, open, and shared development and has long adhered to the policy of reform and opening up, providing a favorable environment for international cooperation between enterprises.

*Example 2: From the very beginning, the companys operations was oriented on **international** market. (JJH International USA LLC company, US enterprise）*

An analysis of the high-frequency word "international" showed that some US agricultural enterprises are highly willing to boost international cooperation by expanding their international markets and increasing exports. Agriculture in the Unitied States is mainly focused on commodity production, and the domestic market is limited. Agricultural enterprises are seeking opportunities to expand their international markets to address overcapacity and develop a capitalist economy.

According to Table 1 and Table 2, the establishment of brand image for Chinese and US agricultural enterprises reflects, to some extent, the tendency of economic globalization. Chinese enterprises focus on technological globalization, while their American counterparts pay more attention to trade globalization.

Table 1: Table of words used in collocations with "cooperation" (Chinese enterprises)

Words in collocations	Frequency	Likelihood	Effect value
technological	24	36.887	7.989
scientific	17	33.512	7.404
production	15	15.921	4.207
innovation	8	15.544	6.989
development	7	15.122	5.287

Table 2: Table of words used in collocations with "international" (US enterprises)

Words in collocations	Frequency	Likelihood	Effect value
market	14	35.982	3.109
retailers	12	74.114	5.774
business	9	23.986	3.189
distributor	6	23.013	4.096
cooperate	6	31.216	5.096

4.2 Analysis at the Level of Meaning

According to systemic functional linguistics, "meaning is the core level of language."[4][13]Based on Halliday's metafunction theory(1984), from the perspective of lexical grammar, ideational function corresponds to ideational meaning, which can be reflected through the transitivity system; interpersonal meaning corresponds to the interpersonal function, which can be expressed through the choice and use of personal pronouns in discourse. Interpersonal meaning is the function of language used by speakers to participate in social activities, mainly achieved through semantic structures such as mood, intonation, modality, and tone[5][6]. Halliday mainly studied discourse from a grammatical perspective, and later Martin proposed an appraisal system from a lexical perspective to study the discourse tone. These two theories complement each other. The appraisal system consists of three sub-systems: attitude, graduation, and engagement, among which attitude resources are the core components of the system.[10][11][12]Therefore, we can analyze and study the application and expression of interpersonal meaning theory in the shaping of enterprises' brand image from the perspectives of personal pronoun resources and attitude resources.

4.2.1 Person Reference Resources and Social Image Building

Research on person reference mainly focuses on pronouns and social deixis. Pronouns include first-person, second-person, and third-person pronouns, and social deixis refers to social differences related to participants' roles, commonly expressed through pronouns, titles, honorifics, etc[15]. It is essential for companies to establish a good social relationship with consumers if they want to be bigger and stronger. Person reference is the most direct expression of interpersonal meaning. Therefore, this paper uses person reference resources to help analyze and compare the product promotion information of Chines and US agricultural enterprises and explores the characteristics of social image buildings of these enterprises on Alibaba.

According to Table 3, Table 4 and Figure 1, under the premise that the amounts of text data of Chinese and US agricultural enterprises are approximately equal, the frequency of person reference, especially first-person reference, used in promotion information by US enterprises is significantly higher than that of Chinese enterprises. This reflects, to some extent, the influence of social culture on enterprises' social image building. US enterprises hold typical Western values, emphasizing the importance of customers and establishing long-term relationships with them. In a sense, they aim to firmly establish the enterprise image in the minds of customers. The extensive use of first-person references, such as "we" and "us", makes US enterprises' promotion information more subjective and less stiff, bringing the enterprises closer to their consumers and thus better introducing products to consumers and establishing the social image of the brands and enterprises. *For Example 3*: *We provide various text from English, Texas, USA, French, Arabic, Dutch, Polish, Spanish and many more, please contact us for further inquiries on the product.(JJH International USA LLC company, US enterprise*〉

Table 3: Person reference resources in product promotion information used by Chinese and US agricultural enterprises on the cross-border e-commerce platform Alibaba

Person reference resources in product promotion information used by Chinese and US agricultural enterprises on Alibaba	First-person	I, me, we, us, our, etc.
	Second-person	you, your, etc.
	Third-person	It, they, them, he, etc.
	Other social deixes	Shop, customer, friend, buyer, etc.
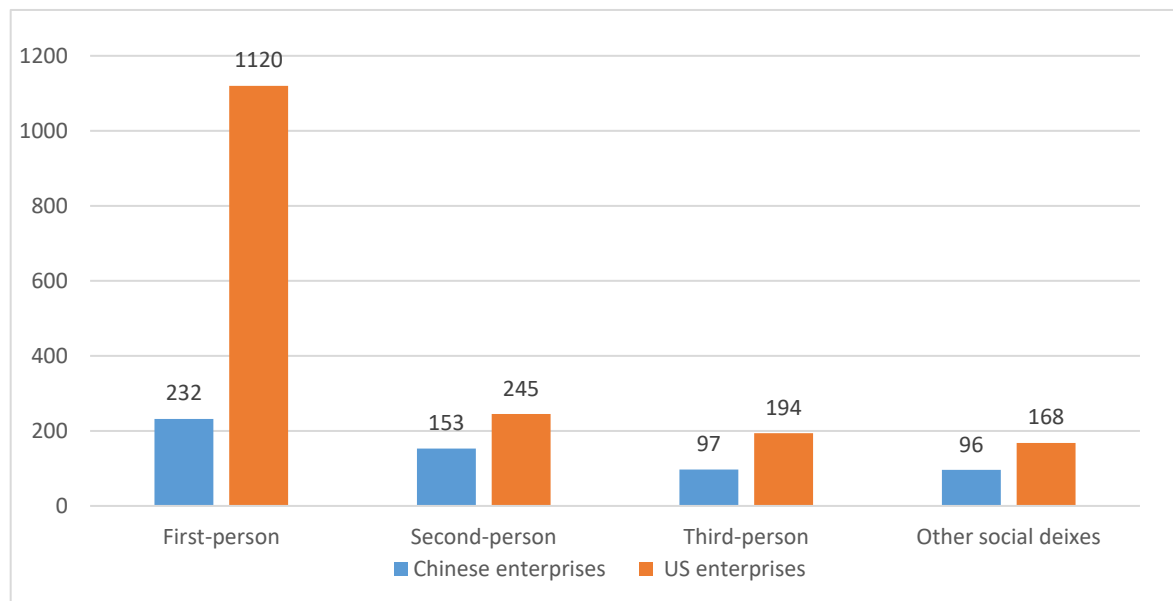
Figure 1: The histogram of the comparison of the frequency of person reference resources in product promotion information used by Chinese and US agriculture enterprises

Table 4: The table of the comparison of the frequency of person reference resources in product promotion information used by Chinese and US agriculture enterprises

Enterprise Frequency and Reference	First-person	Second-person	Third-person	Other social deixes
Chinese enterprises	232	153	97	96
US enterprises	1120	245	194	168

4.2.2 Attitude Resources and Product Image Building

Martin's appraisal system (2005)[11] mainly supplements the study of interpersonal meaning from the lexical perspective, filling the gap in Halliday's research perspective(1985)[3]. The system mainly consists of three subsystems: attitude, graduation, and engagement. Attitude, the core of the system, is composed of three basic variables: affect, appreciation, and judgment, with affect as the core. As enterprises' promotion information is essentially subjective and positive, negative attitude resources are scarce in the corpus. Therefore, positive attitude resources were selected to analyze product images to interpret the characteristics of the product image created by both Chinese and US agricultural enterprises.

Table 5: Attitude resources in product promotion information used by Chinese and US agricultural enterprises on Alibaba

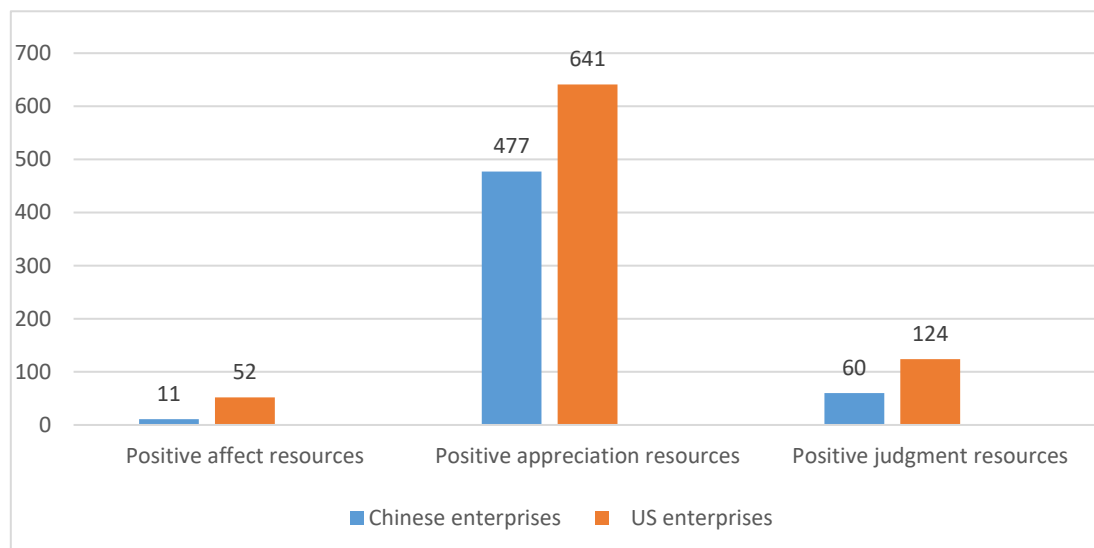| Attitude resources in product promotion information used by Chinese and US agricultural enterprises on Alibaba	Positive affect resources	Happy, recommend, satisfied, joy, active, positive, content, proud, outstanding, etc.
	Positive appreciation resources	Good, organic, best, fresh, healthy, competitive, natural, green, etc.
	Positive judgment resources	Guarantee, help, promise, accept, improve, standardization, certificate, nutrition, honesty, etc.

Figure 2: The histogram of the comparison of the frequency of person reference resources in product promotion information used by Chinese and US agriculture enterprises

Table 6: The table of the comparison of the frequency of person reference resources in product promotion information used by Chinese and US agriculture enterprises

Enterprise Frequency and Attitude Resources	Positive affect resources	Positive appreciation resources	Positive judgment resources
Chinese enterprises	11	477	60
US enterprises	52	641	124

According to Table 5, Table 6 and Figure 2, under the premise that the amounts of text data of Chinese and US agricultural enterprises are approximately equal, the proportion of positive appreciation resources used in product promotion information is the highest in the attitude resources of both Chinese and US enterprises, with positive affect resources and positive judgment resources less frequently used. US enterprises use all three resources more frequently than Chinese enterprises. This reflects, to some extent, that both Chinese and US enterprises attach importance to using positive appreciation resources to describe the characteristics of agricultural products in order to establish product image, enhance consumer understanding, and increase consumer purchasing power. In particular, American enterprises pay great attention to using positive affect resources to guide consumers, give play to the emotional value of products, strengthen the stickiness between brands and

consumers, and use positive judgment resources to boost consumer confidence, give play to the guarantee function of products, and show the responsibility and commitment of enterprises. *For example4:30 Days Money-Back Guarantee: If you're not completely **satisfied**, we'll refund your purchase in full up to 30 days after ordering, no questions asked.*（SLT Foods, US enterprise）

4.2.3 Transitivity Processes and Environmental Image Building

Table 7: The transitivity processes and the verbs commonly used to express these processes in product promotion information used by Chinese and US agricultural enterprises on the cross-border e-commerce platform Alibaba

| Process	Meaning	Verbs commonly used in promotion texts to represent the process
material process	the process of something happening	Establish, sell, get, make, cook, pack, engage, etc.
mental process	the process of inner activity	Feel, think, know, thank, like, love, assume, etc.
relational process	the relationship between entities	Are, is, include, cover, own, etc.
verbal process	the process of exchanging meanings of words and sentences	tell, contact, ask, etc.
existential process	the process of the existence of something	Be, exist, etc.
behavioral process	the process of human physiological activity	Eat, smell, look, taste, etc.
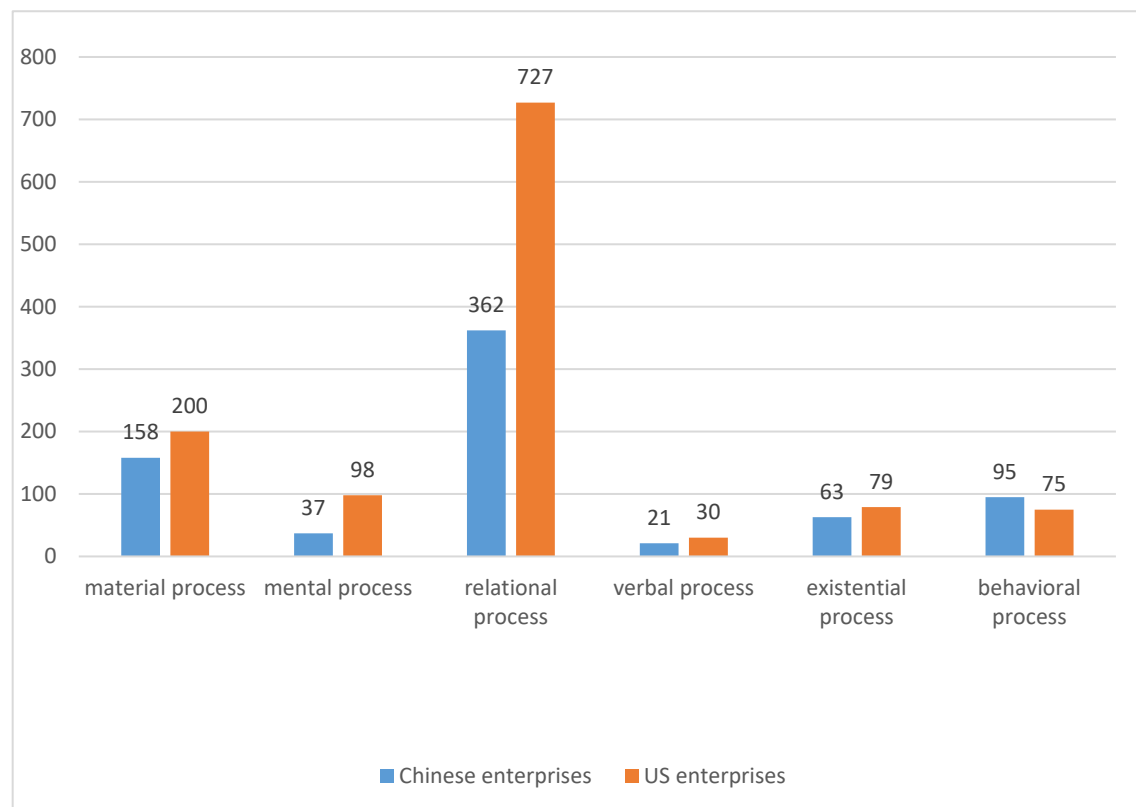
Figure 3: The histogram of the comparison of the frequency of the various transitivity processes in product promotion information used by Chinese and US agricultural enterprises

According to Halliday's metafunctional theory, the ideational function corresponds to conceptual meaning at the grammatical and lexical level, mainly reflected through transitivity processes, including actor, goal, environment, and other functions[2]. Transitivity processes can show the semantic system in which the speaker or the listener selects various processes to compose or interpret sentences, which can serve as a bridge offered in product promotion information for communication between enterprises and

consumers. Therefore, it has important research value for building environmental images. Transitivity processes are divided into six processes based on experiential categories[3]: material process, mental process, relational process, behavioral process, verbal process, and existential process. This paper studies the environmental images of brands based on the high-frequency verbs commonly used to represent these processes.

Table 8: The table of the comparison of the frequency of the various transitivity processes in product promotion information used by Chinese and US agricultural enterprises

Process	material process		mental process		relational process		verbal process		existential process		behavioral process	
Enterprise	Chinese	US	Chinese	US	Chinese	US	Chinese	US	Chinese	US	Chinese	US
Frequency	158	200	37	98	362	727	21	30	63	79	95	75
Total Frequency	358		135		1089		51		142		170	
Percentage	18%		7%		56%		3%		7%		9%	
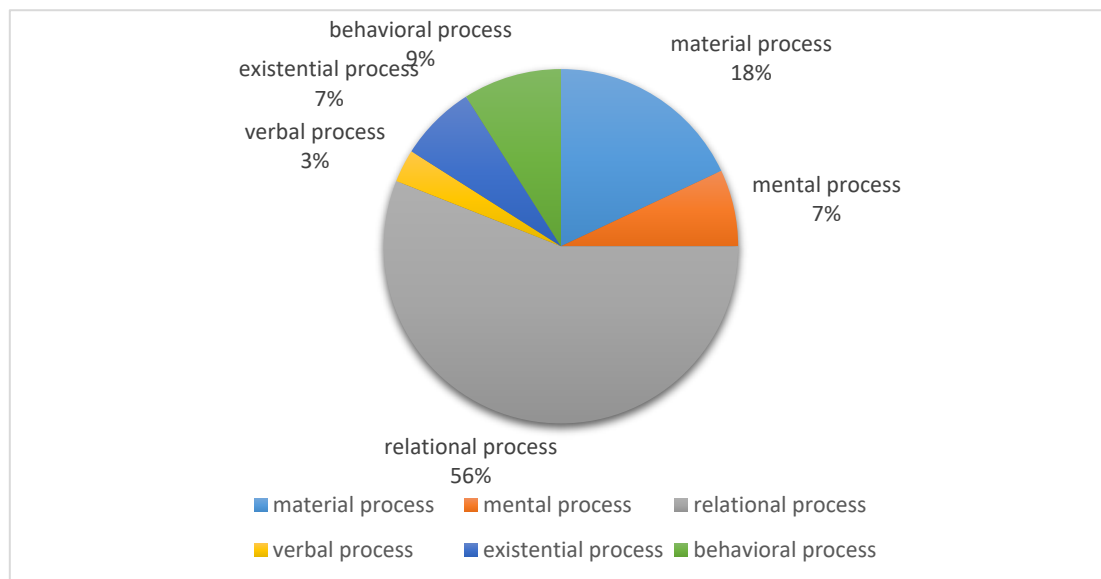
Figure 4: The proportions of the various transitivity processes in product promotion information used by Chinese and US agricultural enterprises

According to Table 7, Table 8, Figure 3 and Figure 4, under the premise that the amounts of text data of Chinese and US agricultural enterprises are approximately equal, Chinese and US enterprises attach more importance to using material and relational process discourse in product promotion information to shape the production and sales environmental image of enterprises, with verbal and mental process discourse less frequently used. Environmental image is one of the tangible elements of brand image, which has objectivity and authenticity, and this may be the main reason why material processes play a dominant role. The relational process only represents the relationship between two entities, lacking negotiability between individuals. The use of the relational process strengthens the objectivity of the environmental description in promotion information, indicating an objective standpoint and a focus on facts. Conversely, mental and verbal processes can better reflect interpersonal meaning due to their characteristics, indicating a polite and customer-oriented service attitude.

Compared with Chinese enterprises, US enterprises are more likely to use transitivity processes to introduce their production and sales environment in promotion information, which reflects, to some extent, that US enterprises focus on using a combination of subjective and objective methods to shape their brand image, objectively describing their environments and subjectively strengthening the interpersonal relationship with consumers. Do like this clarifies the meaning of the text and enhances the relationship with consumers at the same time, thereby achieving the ultimate goal of establishing the brand image of the enterprise and expanding sales.

5. Conclusion

This study used the corpus tool Antconc to analyze the brand images established by product information used by representative Chinese and US agricultural enterprises on Alibaba.

The study found that Chinese and US agricultural enterprises hope to build a brand image focusing on openness, cooperation, attention to economic globalization, customers, and corporate responsibility through product promotion information, and the difference is that Chinese enterprises focus more on technological globalization, while their US counterparts pay more attention to trade globalization.

In terms of the methods for image building, both Chinese and US agricultural enterprises use the verbal resource system to highlight their social image, product image, and environmental image, thus realizing the building process of their brand image. The difference is that US enterprises use the system more frequently and attach greater importance to it.

In terms of the effects of image building, attitude resources help shape social image, person reference resources facilitate product image shaping, and transitivity processes benefit the shaping of environmental image. Therefore, attitude resources, person reference resources, and transitivity processes play an important role in successfully shaping the brand image of Chinese and US agricultural enterprises.

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