



# A Study on the Spiritual Imagery of Chinese Overseas Chinese Yinxin in the Digital Humanities Perspective-Based on Neural Network and Text Mining Method Application

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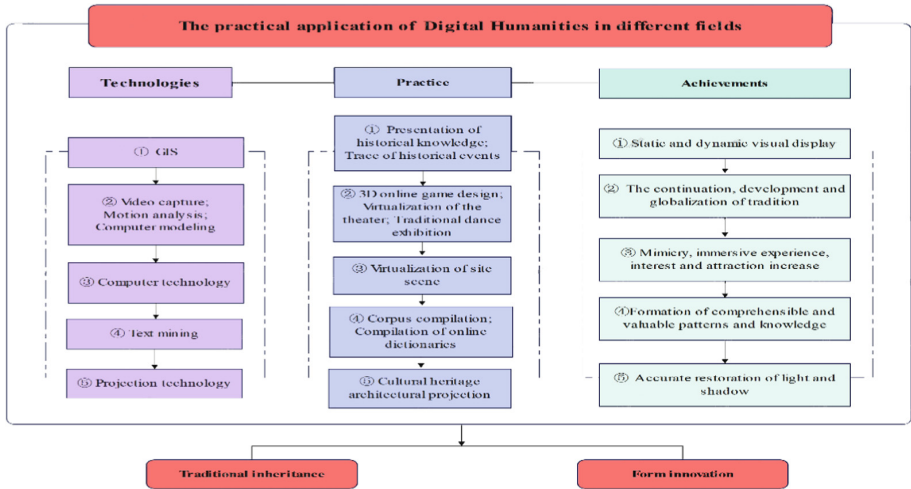
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**Abstract.** With the rapid development of the economy and technology, the construction of memory heritage resources is facing severe challenges. The continuation, inheritance, reproduction, and design of overseas Chinese bank letters are particularly important. To address the shortcomings and limitations of traditional text mining methods, this paper designs and implements a viewpoint mining method based on content analysis encoding sentiment model. Secondly, the constructed sentiment dimensions are improved, and the high quality sentiment imagery is obtained through the inconsistency processing of semantic and sentiment tendencies and the filtering of non-sentiment words; finally, based on the obtained sentiment imagery dimensions, the sentiment dimension values in the neural network are combined with the sentiment type. Finally, based on the obtained sentiment imagery dimensions, the 2 main sentiment types are generated by combining the sentiment dimension values with the sentiment types in the neural network. The experimental method shows that this method has obvious advantages in accessibility, interpretability and resonance.

**Keywords:** Digital humanities · Overseas Chinese bank letters · Content analysis · Memory heritage

## 1 Introduction

“The overseas Chinese bank letter is an important voucher for their relatives to withdraw the money sent back by overseas Chinese [1].” Besides, as the lifeblood connecting overseas Chinese and their family members are conducive to record the “emotional memory” handed down from generation to generation by overseas Chinese. Professor John Unsworth, the president of the University of Illinois at Urbana-Champaign, believed that Digital Humanities is a representative practice and modeling method, or a mimicry, reasoning, and ontology commitment [2]. With the joint support of various emerging technologies, Digital Humanities has conducted data storage and content integration of text resources, displayed the text overview of overseas Chinese bank letters online, and provided a diversified presentation platform for the integration and exploration of its



**Fig. 1.** Achievements of Digital Humanities Practice in Different Disciplines (Author's own drawing)

content. On the one hand, Digital Humanities provides an important guarantee for the content development and research of bank letters through massive. On the other hand, the development of bank letter content also injects a touch of humanity into the simplified numerical calculation with profound text sentiment. Hence, the complementarity between bank letters and Digital Humanities makes it possible to form a joint force and achieve cooperation. As shown in Fig. 1.

Despite the increasing depth and breadth of existing research reports, there are still deficiencies. In terms of research content, it mainly focused on a simple aspect of overseas Chinese bank letters, such as type, content elements, and value significance while lacking in-depth research on the digital development of content.

## 2 Content Research and Design of Digital Humanistic of Overseas Chinese Bank Letter

Taking content analysis as the main research method and investigating the collections of Taishan Bank Letter Museum and Wuyi overseas Chinese Museum, this paper compares, analyzes, and sorts out the status quo of relevant overseas Chinese bank letters obtained and makes a summary.

Text is the carrier of external memory, which provides a "cross time and space" communication and dissemination platform for future generations to understand the times through individuals, families, and countries [3]. Combined with the previous literature review, the current overseas Chinese collective memory research mostly takes major events as the research object to analyze the impact of a specific important factor on collective memory. ① Emotional appeal: By studying the bank letters sent by witnesses, victims, and survivors of Southeast Asian Chinese diaspora in the Pacific War, Huifen Shen discussed the experiences and emotions of the Chinese diaspora in the War and

**Table 1.** Classification of Research Content (Author’s own drawing)

Category1	Category2	Code	QTY	Ratio (%)
Emotional Appeal	Homesickness	A1	25	45%
	Economic Relief	A2	9	16.4%
Identity	Patriotic Ambition	B1	7	41.8%
	Hometown Belonging	B2	14	
	National Rejuvenation	B3	2	

the impact of the war on them, thereby revealing the collective memory construction in the war [4]. ② Identity: Many scholars have put forward meaningful theoretical ideas for this. For instance, Zhaohui Liu used the concept of “social memory” to explore the construction of identity of returned overseas Chinese [5].

### 3 Research Result Analysis of the Content of Digital Humanistic of Overseas Chinese Bank Letter

By coding and counting the text of overseas Chinese bank letters based on the design of statistical coding. To automatically construct the sentiment dimension value table, high frequency words were first selected as sentiment dimension value seed words based on ROST CM 6.0. As the initial sentiment dimension dictionary input, a formula based on sentiment appeal is used to evaluate the extracted sentiment dimension words. And summarizes the emotional characteristics of the sender, the content coding system and summary of results can be found in Table 1.

$$\text{Ratio} = \frac{\text{code}}{\text{QTY}(A1 + A2 + B1 + B2 + B3)} \tag{1}$$

#### 3.1 Emotional Appeal

In the process of experiencing things, people will produce corresponding emotions and store the memory content in the brain. When “recognizing memory”, people will render, strengthen, or inject new emotions, which reflects the non-static and deconstructive characteristics of collective memory. This paper analyzes the emotional appeal of the sender by using the emotional analysis function of the content analysis software ROST CM 6.0, and summarizes the emotional characteristics of the sender, as shown in Table 2.

Through the emotional classification of the overseas Chinese bank letters, it can be found that the words expressing positive emotions account for 66.67%; Neutral words such as worry, helplessness, and thrift account for 33.33%, while negative emotions are usually eliminated. Therefore, the positive emotional characteristics embodied by the memory subject are also an important factor for the positive maintenance of the collective memory of overseas Chinese bank letters.

**Table 2.** Emotional Analysis of Collective Memory (Author's own drawing)

Emotional characteristics	Words and phrases	Ratio
Positive	Joy, blessing, safe and sound, prosperous, goes well, etc.	66.67%
Neutral	Worry, Helplessness, Thrifty	33.33%
Negative	/	0.00%

**Table 3.** Word Frequency of Identity of Collective (Author's own drawing)

High-frequency Words	Times
Home	35
Silver Dollar	24
Safety	23
Go home	22
Early	20

### 3.2 Identity

The social selectivity of collective memory is reflected by the formation of self-identity and the degree of identification. By processing the text content of bank letters, it can be formed into fields that can be extracted and recognized; and by summarizing the high-frequency words, Table 3 can be obtained.

In Chinese traditional ethics, family and country are inseparably interconnected. In Table 3, overseas Chinese from Wuyi are deeply influenced by Confucianism such as "Four Books and Five Classics". Family-Country collective consciousness takes strong root. Preserving and inheriting family memory is a kind of active memory, but also the most important factor to encourage future generations and maintain the family fortunes.

## 4 Content Design Practice of Bank Letter from the Perspective of Digital Humanities

Combining the key points in designing the emotional appeal. The text content of bank letters is reserved and applied to the album in the form of words. On the one hand, it integrates identity into people's daily life. On the other hand, it is endowed with nostalgic emotional appeal (high-frequency words and patterns adopted on the cover imply profound emotional meaning). In terms of visual sense, a calmer font shape and color with full of charm are more likely to evoke memories. The case is committed to guiding users to supplement the symbolic connotation, metaphor, and historical significance of traditional culture consciously, and expose them to history and cultures.

Adhering to the design concept of emotional appeal and identity, by re-combining the content elements of bank letters and taking the album as a carrier, it strengthens

and reproduces the history and culture in people's daily life. It exerts a subtle influence on people's character by reading, using, and other sensory experiences, deepening their identity and arousing emotional resonance.

## 5 Conclusions

The digitization of overseas Chinese bank letters is a means to promote the development of world memory heritage. This paper studies the text of overseas Chinese bank letters through content analysis, studies the content design of bank letters from the perspective of collective memory. Based on the understanding of the external characteristics and the abstract text content of bank letters, modern design means are used to arouse emotional resonance and identity and better inherit and carry forward traditional culture.

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