

ONLINE SERVICE SENTIMENTS IN TRANSFORMATIVE SOCIETY: A CROSS-CULTURAL ANALYSIS

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ABSTRACT

This study examined the dual forces of national culture and rising consumerism on consumers' propensity to express their service sentiments and how intensely they do so. We text-mined online customer restaurant reviews from China, a transformative nation with rising consumerism (brought on by improved socio-economic conditions), and compared these with online restaurant reviews from Japan and the United States. Although Chinese and Japanese consumers share a similar set of Far Eastern cultural values, we found substantial differences in their online reviews. Chinese customers expressed a more significant number of sentiments with greater intensity than those in the US and Japan. Our findings demonstrate that Far Eastern cultures are not homogeneous and that subtle differences in cultural values can substantially impact customer expectations. The results also reflect the impact of rising consumerism in China and heightened consumer expectations. Overall, this study indicates that prevailing views of Eastern vs. Western consumer behaviors might no longer be valid.

Keywords: Cross-cultural; Hospitality service; Consumer sentiments; Online review; Consumerism

1. Introduction

Previous studies have firmly established that national culture influences consumers' service expectations and evaluations (e.g., Matilla, 1999; Crotts & Erdmann, 2000; Soares et al., 2007; Radojevic et al., 2019). Consumers from cultures that are characterized by low levels of power distance, for example, tend to expect responsive and reliable service (Donthu & Yoo, 1998), while those from cultures with higher levels of power distance are more likely to tolerate service failures (Furrer et al., 2000). These and similar findings have been consistently validated in the tourism and hospitality fields (e.g., Huang & Crotts, 2019; Jia, 2020; Stamolampros et al., 2020).

A keen understanding of national culture is particularly important in the global hospitality industry, as consumers from different backgrounds view their experiences from culturally unique perspectives and express their sentiments with varying degrees of intensity and emotion (Crotts & Erdmann, 2000; Hsieh & Tsai, 2009; Jahandideh et al., 2014; Kim et al., 2014; Nakayama & Wan, 2018; Radojevic et al., 2019). While the contrast between Eastern vs. Western

cultural values, in general, is well documented, it is important to recognize that neither set of cultures is homogeneous. Instead, there are subtle differences among consumers from Asian countries such as China and Japan, which in turn impacts their service expectations. Hospitality managers who ignore these cultural nuances and consider all Asian customers to be homogeneous could miss out on opportunities to fine-tune their service offerings. Accordingly, one objective of this study is to better understand how these cultural nuances impact consumer sentiments. Knowing that consumer sentiments are reflected in online user-generated content, this study should be of particular interest to electronic commerce researchers. Although many information systems (IS) studies have focused on consumer sentiments, few have explored this topic from a cross-cultural perspective (Chu et al., 2019).

It is also important to recognize that many Asian societies have become more Westernized over the years as improved economic conditions, rising wealth, and increased competition have altered consumers' expectations (Durvasula & Lysonski, 2010). Higher standards of living have led to an emergence of consumerism in many nations around the world, with consumers becoming more demanding and vocal. As in the US and other Western nations, information technology and social media have shifted the balance of power to consumers. These transformative changes, in turn, are upending traditional norms in many Asian countries and impacting consumer sentiments. For example, Patterson et al. (2016) found that incidents of customer rage in Eastern societies are on the rise. This finding is notable, contradicting prevailing views that consumers from Eastern cultures avoid expressing their sentiments emphatically or directly. Accordingly, another objective of this study is to explore whether improved socio-economic conditions and rising consumerism have impacted consumer expectations in China and the intensity with which customers express their sentiments.

Findings from this study can provide important insights to electronic commerce and information system researchers, as the proliferation of social network services has accelerated the rate at which societies are changing. This study could inspire more research in this field by revealing the impact of societal changes (i.e., rising consumerism) on IS-enabled services and user-generated content.

To address these issues, we text-mined consumer sentiments expressed in online restaurant reviews from three national cultures: Chinese, Japanese, and the United States. Consumers in China and Japan share a similar set of Far Eastern cultural values (e.g., collectivism, a long-term orientation, and moderate to high power distance). In contrast, those in the US embrace a Western set of cultural values (e.g., individualism, low power distance, and a shorter-term orientation). While consumers in the US and Japan have benefitted from strong economies for many years and expect a wide array of high-quality goods and excellent customer service, consumers in China have experienced similar gains only recently. By comparing consumer sentiment distributions across these three countries, we can better understand the dual forces of national culture and rising consumerism.

2. Literature Review and Hypotheses

2.1 National Culture

Scholars, in general, are in agreement that national culture encompasses a shared set of beliefs, attitudes, norms, and values; along with self-definitions and role expectations; which are passed on from one generation to another (Triandis, 1996). Schwartz (2006), for example, describes culture as a "rich complex of meanings, beliefs, practices, symbols, norms, and values prevalent among people in a society," while Hofstede et al. (2010) conceptualize it as a guiding set of values, societal norms, beliefs, and customs that distinguishes one group of people from another.

Multiple studies in IS have examined the impact of national culture on issues such as privacy, trust, and social capital (Guo et al., 2020); website design (Moura et al., 2016); the adoption of mobile commerce (Harris et al., 2005); selection of online payment method (Deufel et al., 2019); end-user satisfaction, security perceptions and behaviors, reporting bad news, user interfaces, and the effects of computer-mediated communication (for a review, see Chu et al., 2019); and helpfulness of online reviews (Fu, 2022). Studies have found that a user's cultural background affects their perceptions of and use of social network services.

The majority of cross-cultural studies in IS have adopted Hofstede's cultural values framework (Hofstede et al., 2010), which operationalizes national culture as a multi-dimensional construct consisting of power distance, individualism/collectivism, uncertainty avoidance, masculinity/femininity, long-term orientation, and indulgence/restraint. Power distance reflects the extent to which the lower-ranking individuals of a society accept that power is distributed unequally and are willing to question authority. Individualism/collectivism encompasses the extent to which members of society place group welfare above individual goals and interests, while masculinity/femininity reflects the extent to which a society values individual achievement, material success, and assertiveness versus modesty. Uncertainty avoidance refers to the degree to which the members of a society feel uncomfortable with ambiguity and thus create systems to promote conformity, while a long-term orientation encourages thrift and short-term sacrifice for future benefits. Finally, indulgence/restraint reflects a society's attitude

towards the gratification of basic human desires, such as enjoyment and fun. Whereas some societies encourage personal gratification, others regulate it through strict social norms.

As can be seen in the following table, the US, Chinese, and Japanese cultures are quite different from one another. The US culture is highly individualistic, with relatively low power distance, moderate masculinity, uncertainty avoidance, short-term orientation, and a high indulgence. In contrast, Chinese culture is collectivist and characterized by a high level of power distance, a moderate level of masculinity, and low uncertainty avoidance. Although Japan is also an East Asian country, its culture is distinct from that of China, as it is characterized by moderate levels of individualism/collectivism and power distance, with high levels of both masculinity and uncertainty avoidance. Whereas both cultures promote a long-term orientation, Japanese culture encourages moderate levels of indulgence, while Chinese culture exhibits more restraint.

Table 1: Culture Value Scores

	Individualism/ Collectivism	Power Distance	Masculinity	Uncertainty Avoidance	Long Term Orientation	Indulgence
United States	91	40	62	46	26	68
Japan	46	54	95	92	88	42
China	20	80	66	30	87	24

Source: <https://www.hofstede-insights.com/fi/product/compare-countries/>

2.2 Rising Consumerism

Consumerism has been described as the organized efforts of consumers seeking redress, restitution, and remedy for dissatisfaction they have accumulated in acquiring their standard of living (Buskirk & Rothe, 1970). Consumerism took root in the United States, Western Europe, Japan, and other countries many years ago. With standards of living rising substantially in the post-WWII era, consumers benefitted greatly, and their expectations increased accordingly. Accordingly, some firms began to adopt a more customer-centric approach to gain a competitive advantage, promoting consumer-friendly “satisfaction guaranteed” policies. Other firms soon followed, and this business philosophy eventually became standard. As a result, consumers in countries such as the US and Japan expect service providers to always cater to their needs.

This transformation was in direct contrast to what took place in centrally planned economies, such as the former Soviet Union and China. With little buying power and limited choice, consumers in these countries experienced a much lower standard of living. In recent times, though, China has shifted towards capitalism and has been undergoing an economic transformation. Since opening to foreign trade and investment in 1979, China has been among the fastest-growing economies globally, with real annual GDP averaging a growth rate of 9.5% through 2018. Forty years of rapid economic growth has brought rising wealth, resulting in a large middle class. With increased competition and greater choice, Chinese consumers have benefitted greatly, and thus, their expectations have increased, in turn giving rise to a new era of consumerism (Wang, 2014). In the last decade, the explosive growth of electronic commerce and social media has further fueled a wave of consumerism. Like in the US, Chinese consumers today can readily express their sentiments in online reviews (Gong, 2022; Tariq et al., 2019). With the balance of power shifting in their direction, it is expected that Chinese consumers today will more freely express their sentiments and emotions than in the past. Given socio-economic gains and rising consumerism, it is hypothesized that:

H1: There will be no difference, overall, between the online review sentiments (positive and negative) of customers from China, Japan, and the US..

Based on recent findings that consumers in China have recently been displaying more intense emotions and rage (Patterson et al., 2016), we also expect that sentiments expressed by consumers in China will be similar in intensity to those of US and Japanese consumers. We thus hypothesize that:

H2: There will be no difference in the intensity of online sentiments expressed by consumers from China, Japan, and the US.

2.3 The Hospitality Service Experience

The hospitality service experience, in general, stems from four basic attributes, i.e., the core content, personal interaction, ambiance, and pricing fairness (e.g., Kim et al., 2009; Pantelidis, 2010; Nakayama & Wan, 2019a; Radojevic et al., 2019). The *content* experience is derived from the core service provided, i.e., the food in a restaurant, a room in a hotel, a car from a rental company, a movie in a theater, etc. In many cases, it is the primary object of consumption by a customer of a hospitality business. The *interaction* experience is derived from personal interaction with staff; for example, the service by a waiter in a restaurant and the assistance of a hotel manager when a guest encounters difficulty. *Ambiance* embodies the character and atmosphere of a place and is designed to impart a particular impression on customers (Heide et al., 2007; Heung & Gu, 2012). It stems from a service provider’s tangible

physical surroundings and a mixture of intangible environmental factors. Exemplars include the decoration style and background music of a restaurant or the internal design of a boutique shop. *Price fairness* is an evaluation of the overall cost compared with the various benefits a customer receives. These four attributes do not necessarily have clear-cut boundaries, nor are they of equal importance in all service contexts. For example, in the hotel business, the room and the attentiveness of hotel staff are essentially integral parts of the guest experience. In a movie theater, the interaction and the ambiance may have less importance vis-à-vis the content, i.e., the movie itself.

Given the widespread use of the service experience framework throughout the hospitality literature, it was adopted for this study. To test our hypotheses, we examine consumer sentiments regarding the content, interaction, ambiance, and price-fairness experiences within a tricultural context and rising consumerism. See Figure 1.

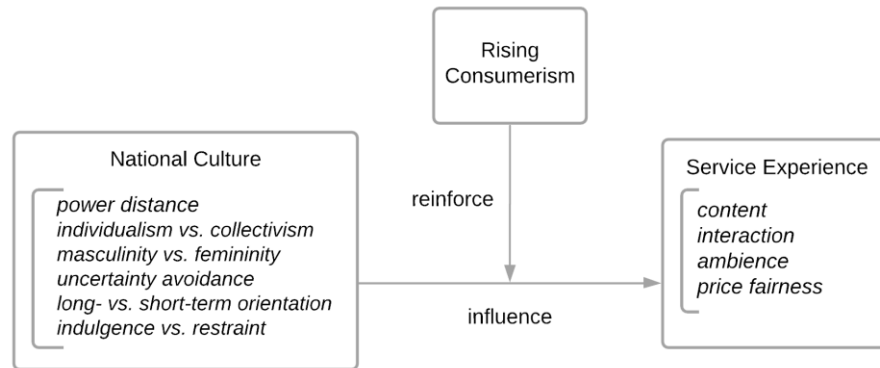


Figure 1: The Analytic Framework

2.4 Customer Service Sentiments

The hospitality business involves a high degree of interaction between customers and service personnel (Lovelock & Yip, 1996). The national culture of both sets of actors influences customer expectations and their evaluations of the service experience. The service facility itself is a cultural artifact in which the core content, customer interaction, ambiance, and pricing-making activities take place. These four service attributes are operationalized in the restaurant business as food quality, waiter/waitress service, ambiance/dining environment, and price fairness. In the restaurant industry, national culture impacts the importance placed upon these dimensions (Chatzopoulou et al., 2019; Jia, 2020; Kim et al., 2010; Mattila & Patterson, 2004; Nakayama & Wan, 2019b; Yoo, 2012).

2.4.1 Food Quality Sentiments

Food is the core content of any restaurant. Since most customers visit a restaurant first and foremost for food, this attribute generates numerous review sentiments across all cultures. Eastern cultures (such as China), however, generally put more emphasis on food quality than Western cultures and consider food quality one of the most important aspects of life (Newman, 2004). Confucius, the famous Chinese philosopher, attached great importance to food quality and described it as one of the three basic conditions, along with an army and trust, for founding a state (足食, 足兵, 民信之矣). Confucius also imparted many teachings regarding food preparation and table manners. He said, for instance, “Eat no rice but is of the finest quality, nor meat but is finely minced (食不厌精, 脍不厌细)” and “Don’t eat when the sauces and seasonings are not correctly prepared (不得其酱不食).” These teachings have had a long-lasting influence on Chinese culture.

Given the significance of food quality and the dining experience in Chinese culture, and with rising consumerism leading to heightened consumer expectations, we hypothesize that:

H3: Chinese consumers will express more sentiments regarding food quality than Japanese and US consumers.

2.4.2 Service Interaction Sentiments

Previous studies have found that consumers from an individualistic society, like the US, are more likely to express their opinions and share their sentiments regarding service interactions as compared to consumers from collectivist cultures. Indeed, Huang et al. (1996) found that US customers were more likely to complain than Japanese customers when dissatisfied with a high-end hotel service, while Dash et al. (2009) found that customers from collectivist cultures are less likely to share such experiences due to conformity concerns. Given that China and Japan are collective

societies, it thus is reasonable to expect that consumers from these countries would express fewer service interaction sentiments in their online reviews than US consumers.

As previously mentioned, Chinese and Japanese cultures are not homogeneous. Japanese culture, in particular, is characterized by much higher levels of uncertainty avoidance than that of China; see Table 1. Moreover, research has shown that customers from high uncertainty avoidance cultures are reluctant to express their concerns publicly. Before doing so, these individuals try to anticipate the response from the service provider and assess the possibility of open conflict (Jahandideh et al., 2014). Thus, it is reasonable to expect that Japanese customers will be less likely to express waiter staff and other service interaction sentiments than Chinese customers. Accordingly, we hypothesize that:

H4a: US customers will express more sentiments regarding service interactions than Chinese and Japanese customers.

H4b: Chinese customers will express more sentiments regarding service interactions than Japanese customers.

2.4.3 Ambiance Sentiments

Within national cultures characterized by high power distance or masculinity, the ambiance is closely associated with social status (Pantelidis, 2010). Accordingly, the décor of a restaurant should match its star rating standard. When there are inconsistencies between customer expectations and the ambiance experience, many customers express their sentiments via online reviews. Given that Chinese culture maintains a high level of power distance (Han & Ryu, 2009) and knowing that Japanese culture rates high on masculinity (Duran et al., 2016; Karen, 2007), it is reasonable to expect consumers from these countries to express more sentiments regarding ambiance as compared to consumers in the US..

It is further expected that Chinese customers will emphasize ambiance more than those from Japan. In Chinese culture, ambiance is considered an essential component of *Feng-Shui* (风水), an ancient practice of looking at our built environments and living in harmony with the natural world (Bruun, 2008). For a hospitality service provider, such as a restaurant, the form school of Feng Shui emphasizes location, design, layout, fixtures, and fittings, which are considered essential for the prosperity of a business (Mak & Ng, 2005). Many hotels and restaurants in the Asia-Pacific region have been specifically designed using Feng Shui principles (Hobson, 1994). With rising consumerism and enhanced expectations, Feng Shui has become even more important to Chinese consumers. Consequently, we expect a higher ambiance sentiment correlation among Chinese customers versus those from Japan. We thus hypothesize that:

H5a: Chinese and Japanese customers will express more ambiance sentiments relative to US customers.

H5b: Chinese customers will express more sentiments than those from Japan.

2.4.4 Price Fairness Sentiments

Price fairness is related to thriftiness. Persons from a culture that emphasizes thriftiness tend to limit their indulgence and are more sensitive to price. Existing studies support this observation. For example, in a cross-culture survey of fast food restaurant service evaluations, both Koreans and Filipinos viewed menu price as the most critical attribute (Baek et al., 2006). Knowing that Chinese and Japanese cultures exhibit a longer-term orientation and lower levels of indulgence as compared to the US, it is expected that customers from these two Asian countries will be more attuned to price than US customers and thus will express more sentiments regarding price fairness. It is also reasonable to expect an even greater emphasis on price fairness in a society with rising consumerism, such as China. It is thus hypothesized that:

H6a: Chinese customers will express more price-fairness sentiments relative to Japanese and US customers.

H6b: Japanese customers will express more price-fairness sentiments relative to US customers.

3. Research Method

3.1 The Dataset

To test the hypotheses, we employed a text analytic method to analyze data collected from online review sites in China, Japan, and the US. Text analytics allows researchers to capture details embedded in raw user-generated data, such as reviews or blogs, in the users' native language. Large data sets are preferred to capture society-wide sentiment patterns because they can cancel out relatively minor individual differences within the same cultural group. Fortunately, leading online review sites provide such an opportunity, with an unrestricted spectrum of service attributes buried in reviews that can be quantitatively identified and summarized with big data analytical methods.

This study obtained Chinese restaurant review data from Dianping.com, a top Chinese hospitality review site. Dianping.com was launched in 2003 as a rating service to allow diners to share reviews. It covers 4.4 million merchants in all major cities of China and had 310 million monthly unique visitors by 2018. Dianping.com hosts reviews of all restaurants in mainland China and offers searches based on city and restaurant categories. For this study, we downloaded 88,881 Japanese restaurant reviews in Shanghai, the largest metropolitan in China.

Reviews from Japanese and American consumers were downloaded from Yelp US and Yelp Japan. Launched in 2004, Yelp.com is a leading online portal for hospitality businesses that allows customers to share their experiences. Yelp expanded into Europe and Asia in 2010 and had 145 million monthly unique visitors and 184 million reviews as of 2019. The Yelp.com site hosts reviews from multiple nations in their native languages. The Yelp US (yelp.com) is the flagship website of Yelp, the company, and the dataset we obtained contains reviews in English from the United States (80.4%), Canada (16.2%), the United Kingdom (2.9%), and Germany (0.5%). We used the US data only, however, to represent Western culture. Altogether, we obtained 76,704 Japanese restaurant reviews from Yelp US and 56,159 from Yelp Japan.

The datasets we obtained contain Japanese restaurant reviews from five cities across the three nations (Shanghai, Tokyo, Osaka, Phoenix, and Las Vegas). Knowing that many Japanese restaurants in the US also serve a mix of Chinese and Korean dishes, we focused on the top 10 most popular Japanese entrée items (bento, curry rice, fried rice, gyoza, miso soup, ramen, soba, sushi, tempura, and udon) in the Yelp reviews. They are also among the most popular Japanese food entrée on Dianping.com. We then used the association between these ten entrée items and the four attributes of services (food quality, service, ambiance, and price fairness) as the proxy for sentiments of Japanese restaurants.

3.2 Procedures and Analytical Tools

The flow of the analytical procedure is shown in Figure 2.

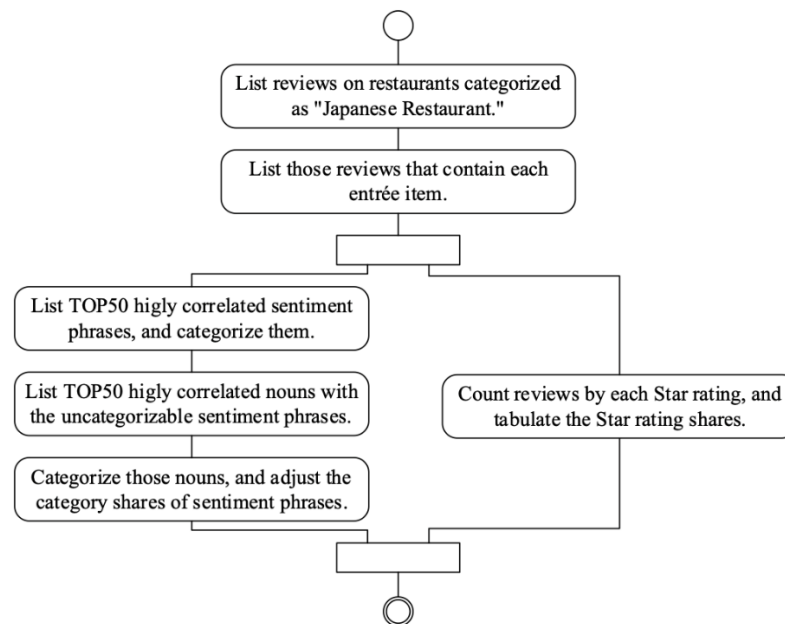


Figure 2: Analytical Flowchart for Text Analysis

The key steps of the procedure are as follows:

1. We first used text mining to identify the top 50 positive and negative sentiment phrases in online reviews for each of the ten dishes. A group of subject experts then classified each sentiment phrase into one of the four service attribute categories, i.e., food quality, service, ambiance, and price fairness. This expert panel consisted of faculty and graduate students from three universities, each with a native language in Chinese or Japanese. Phrases such as "service is great" were categorized as customer service sentiments, while those such as "tasty" (e.g., 美味しいです in Japanese) were considered to be food quality sentiments, and those such as "good ambiance" (e.g., 环境挺好的 in Chinese) were classified as ambiance sentiments.
2. The next step was to account for ambiguous phrases, such as "It was great!" (which may pertain to food, service experience, ambiance, price, or the overall experience). To do so, we used text mining to identify the top 50 nouns that correlated with each phrase. The same group of subject experts then classified these nouns into one of the four attribute categories. The correlations of each dish's ambiguous sentiment phrase and related nouns were aggregated as in step 3.

3. We then calculated the overall correlation of both positive and negative sentiment in each attribute category of these ten dishes. The final aggregations of service category correlations were then normalized based on their sentimental classification into percentage distribution for cross-nation comparisons.

IBM Watson Explorer Content Analytics 11.0 (WCA) was used to conduct the analyses. This analytical tool uses TAKMI (Text Analysis and Knowledge Mining) with an accurate sentiment detector combined with a document processor based on the Unstructured Information Management Architecture (UIMA) standard, and can analyze content in different languages, including Chinese, English, and Japanese (Zhu et al., 2014). Given that Chinese, Japanese, and English are three distinct languages, and knowing that direct translation oftentimes results in a loss of subtle meaning, the IBM WCA allowed us to analyze each data set separately and thus capitalize on the richness of each data set.

WCA provides two sentiment estimations, the *correlation* and the *frequency*, with its algorithm for each keyword (in this case, the ten Japanese dishes). The frequency counts in WCA represent the total number of documents contributing to a particular keyword. While frequency is a commonly used metric, it can be misleading when corpus sizes vary. The correlation measures how strongly a facet value is related (correlated) to the current query or selection criteria. For example, in a facet pair (*sushi, good price*), the frequency indicates how many times “sushi” and “good price” both appeared in a particular data set. The correlation, in turn, indicates how strongly these two facets are associated with each other. Figure 3 shows how WCA recognizes positive and negative sentiment facet pairs.

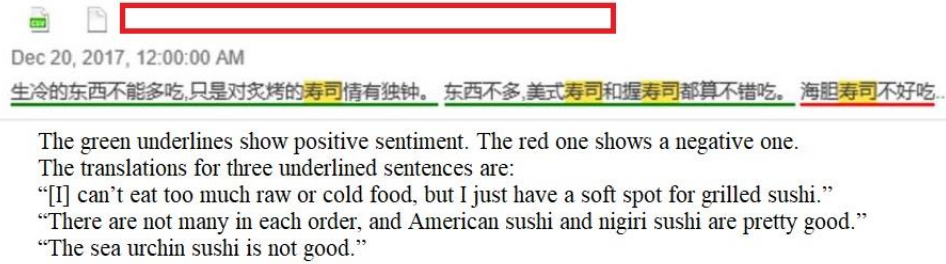


Figure 3: Positive and Negative Sentiment Facet Pairs

Correlation is defined as the ratio of (a) the proportion of reviews containing a particular entrée item given a sentiment expression over (b) the proportion of reviews containing a particular entrée item given all the reviews (Nakayama & Wan, 2019c). This metric is suitable for comparing sentiment strengths across corpora. Thus, correlation is used as the measurement for this study. Because ten dishes are being measured, we have to aggregate Correlation(*C*) with an estimation of each phrase in step 1 and a proportional estimation of related nouns in step 2 for each service dimension *i* (food quality, service, ambiance, price fairness):

$$C_{Service\ Dimension\ i} = \sum_{within\ i} C_{phrase} + \frac{N_i}{N_{total}} \sum_{with\ i} C_{noun}$$

Subsequent analyses revealed that words such as delicious, tasty, excellent, good, fresh, flavorful, and yummy were common positive adjectives among the sentiment phrases (e.g., “sushi was delicious,” “fish was fresh”). Specific words, however, varied by food item and whether we focused on food, service, price fairness, or ambiance sentiments. For positive sentiments for food, words meaning delicious, tasty, yummy, etc., were seen in all three countries. There were also examples of ambiguous sentimental phrases. For example, in “It was good,” the word “it” may refer to the overall experience or to something specific.

4. Data Analysis and Results

To test H1 (i.e., that there will be no difference, overall, between the online review sentiments of customers from China, Japan, and the US), we recorded the correlations of each service attribute across each of the three data sets and then aggregated them to arrive at the overall sentiment distributions; see Table 2. As expected, the overall sentiment correlation of Chinese customers was similar to that of US customers. Unexpectedly, however, the data revealed that both US and Chinese customers expressed more positive and negative sentiments than their Japanese counterparts. Thus, the evidence regarding H1 is mixed.

Table 2: Sentiments Distribution

	Overall	Positive	Negative
China	2169.9	746.0	1423.9
Japan	1145.6	571.1	574.5
The US	2195.3	933.1	1262.2

To test H2 (i.e., there will be no difference in the intensity of online sentiments expressed by consumers from China, Japan, and the US), we calculated and compared the positive and negative sentiment correlation with 5-star and 1-star ratings. Somewhat surprisingly, the findings revealed that the online reviews of Chinese customers were more extreme than those of both US and Japanese customers; see Table 3. Among the Chinese reviews, the 5-star rating resulted in an 83.6% positive sentiment correlation compared to 79.86% and 44.99% among US and Japanese online reviews. Similarly, the Chinese 1-star reviews resulted in 54.39% negative sentiments compared to 18.54% and 17.85% among US and Japanese online reviews. Overall, the evidence regarding H2 was mixed, with the data revealing some interesting findings.

Table 3: Sentiments and Extreme Star Ratings

	5 Star Rating			1 Star rating		
	Positive Sentiment	Rating Frequency	Rating Percentage	Negative Sentiment	Rating Frequency	Rating Percentage
China	320.7	39924	83.60%	522	2355	54.39%
Japan	177.6	7721	44.99%	149.1	131	17.85%
The US	293.2	25014	79.86%	462.7	1204	18.54%

To test hypotheses 3 – 6, we drilled down into the four service attributes and compared the distribution of sentiment correlations across the three cultures. See Table 4. As hypothesized (H3), we found that Chinese reviews included significantly greater positive and negative sentiments related to food than Japanese and US customer reviews. This finding reflects the highly ingrained Confucian philosophy regarding food preparation and dining. Although similar in overall numbers, the fact that Japanese customers expressed slightly fewer food sentiments – both positive and negative – than US customers could possibly result from their higher levels of collectivism and uncertainty avoidance.

Table 4: Sentiment and Service Attributes

	Positive Sentiments				Negative Sentiments			
	Food	Service	Ambiance	Price	Food	Service	Ambiance	Price
China	542.24	25.64	47.78	41.20	396.66	13.73	34.37	27.08
Japan	276.46	10.76	19.92	25.23	111.29	7.47	33.57	6.79
The US	335.15	75.56	9.34	4.25	130.54	20.67	3.82	11.34

The data also supports H4a and H4b. We found that US customers were more likely to express service interaction sentiments than their Chinese and Japanese counterparts and that Chinese customers were more likely to do so as compared to Japanese customers. The latter finding is most likely due to higher levels of uncertainty avoidance in Japanese culture and rising levels of consumerism in China.

H5a, regarding ambiance sentiments, was also supported. As shown in Table 4, Chinese and Japanese online reviews contained more positive and negative ambiance sentiments than US reviews. The evidence regarding H5b, however, was mixed. Whereas the Chinese reviews revealed a greater number of positive reviews than those from Japan (47.78 vs. 19.92), they had similar levels of negative reviews (34.37 vs. 33.57) regarding ambiance.

Finally, the findings regarding price-fairness sentiments were also mixed. As hypothesized (H6a), Chinese customers expressed more price-related sentiments – both positive and negative – relative to Japanese and US customers. However, while Japanese online reviews contained a greater number of positive sentiments related to price fairness, they unexpectedly contained fewer negative price-fairness sentiments relative to US customers.

Table 5 provides a summary of the findings. Overall, the results reveal the subtle effects of culture and rising consumerism on consumer sentiments expressed in online reviews.

Table 5: Summary of Results

Hypotheses	Findings
H1: There will be no difference, overall, between the online review sentiments (positive and negative) of customers from China, Japan, and the US..	H1 mixed
H2: There will be no difference in the intensity of online sentiments expressed by consumers from China, Japan, and the US..	H2 mixed
H3: Chinese consumers will express more food quality sentiments than Japanese and US consumers.	H3 supported
H4a: The US customers will express more sentiments regarding service interactions than Chinese and Japanese customers.	H4a supported
H4b: Chinese customers will express more sentiments regarding service interactions than Japanese customers.	H4b supported
H5a: Chinese and Japanese customers will express more ambiance sentiments relative to US customers.	H5a supported
H5b: Chinese customers will express more sentiments relative to those from Japan.	H5b mixed
H6a: Chinese customers will express more price fairness than Japanese and US customers.	H6a supported
H6b: Japanese customers will express more price-fairness sentiments than US customers.	H6b mixed

5. Discussion

In Western individualistic cultures, the freedom to express one's opinion is highly valued, and thus individuals in these societies are more apt to voice their sentiments. In contrast, in Eastern cultures with moderate to high levels of collectivism (and sometimes Confucianism), members tend to express information either in a physical context or internalize them without emotion, using little explicit messaging (Rubin, 1998). Indeed, traditional cross-cultural studies have found that customers in Eastern cultures typically avoid expressing their sentiments emphatically or directly (Ngai et al., 2007). In conflict situations, customers from Eastern cultures tend to use abstract and indirect ways to let others make inferences from the context so that they can protect interpersonal relationships from embarrassment or disagreement (Yau, 1988).

However, in our cross-cultural comparison of sentiments expressed in online reviews, we found that individuals from China expressed just as much sentiment regarding the dining experience as those from the US, and that individuals from both countries expressed more sentiments than those from Japan (Table 4). Interestingly, Chinese customers expressed the most extreme ratings among the three groups, with many more 1-star ratings than both US and Japanese customers. Chinese customers also expressed the greatest number of positive and negative sentiments regarding food, ambiance, and price. We believe these findings are due not only to subtle cultural differences but also rising consumerism in China. The result is that customers today more readily voice their thoughts and emotions. Our study provides new evidence that prevailing views that Chinese consumers are reluctant to express their sentiments and to complain when dissatisfied may be out of date.

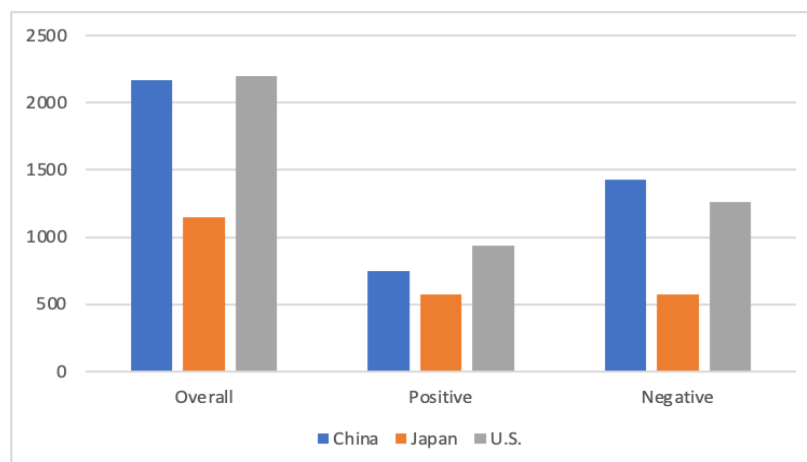


Figure 4: Cross-cultural Sentiment Correlation Comparison

6. Contributions

6.1 Theoretical Contributions

This study highlights the fact that subtle differences among cultural values can have a substantial impact on consumer behavior. Although China and Japan share a similar set of Far Eastern values, Chinese culture reflects higher levels of collectivism and power distance and lower levels of uncertainty avoidance. Moreover, its emphasis on Confucianism emphasizes food quality, ambiance, and the dining experience. This study provides one example of how these subtle differences can manifest into actual behaviors.

This study also contributes to our understanding of the impact of changing social and economic conditions on consumers' willingness to express both positive and negative sentiments in online reviews. We found that Chinese customers demonstrated stronger overall sentiments regarding their service experience than Japanese customers. They also voiced stronger negative sentiments than the US customers, which is counter to the prevailing understanding of Asian customers. As previously discussed, rising consumerism in China is likely a contributing factor to this phenomenon. To better understand if that is the case, future research might extend this investigation to other Asian countries where increased wealth has similarly given rise to consumerism, such as Vietnam and India. To better assess the generalizability of these findings, additional studies could also focus on other hospitality sectors, such as hotels and airlines.

The analytical approach employed is another contribution of this study. Though sentiment analysis has been applied in multiple research domains (Feldman, 2013; Liu, 2012), few studies have explored cultural influences on consumer service sentiments across three languages with the same measurement standard. This study is unique in that we directly compared sentiments regarding four hospitality service attributes *across* Eastern and Western consumers (the U.S. vs. Japan and China), as well as *within* Eastern cultures (Japan vs. China).

6.2 Managerial Implications

This study has implications for hospitality businesses using customer reviews as inputs for their service adjustments. A hospitality business will be more successful when its service provisions are in tune with the national culture. As previously discussed, Chinese and Japanese consumers often are viewed as similar, as both groups share a similar set of Far Eastern cultural values. However, our findings reveal substantial differences in how they express their service experience sentiments. Hospitality managers should consider this when assessing satisfaction and fine-tuning their service offerings. In addition to having a keen understanding of cultural values, hospitality managers should also be aware of changes brought about by improved economic, social, and economic conditions and how these might impact consumer expectations.

Our study should also be of interest to international travelers and travel industry professionals. Online reviews have always been of interest to travelers and industry professionals due to the international nature of online travel review portals, the experiential qualities of hospitality services, and the geographic nature of international tourism. This is especially true since the advent of Web 2.0 and mobile Web-enhanced geolocation information. This study shows that consumer sentiments are not influenced solely by service quality and that one should not underestimate the impact of cultural values. Thus, the understanding that cultural and social differences have an impact on travelers' sentiments and other user-generated content is especially important to website designers for global firms.

7. Limitations

Our study utilized online review data, which reflected consumers' online sentiments. The online behavior of consumers, though, may differ from their offline behavior, including their attitudes on pleasant or negative dining experiences. Therefore, the external validity of this study in the physical environment requires further evaluation. Another potential drawback is that we studied Japanese restaurants and their reviews, which are considered foreign ethnic restaurants in China and the US but are mainstream in Japan. As a result, consumers in these nations may have different expectations of an international restaurant vs. a "domestic" restaurant, which may distort the expression of opinion. In addition, participation in an online review is a self-selected decision and may be led by intrinsically biased motivation. Thus the more severe attitude shown in this study may not be triggered or fully expressed in a typical circumstance. We expect that future studies can address these limitations.

Another limitation of this study is that, given our methodology, we examined culture strictly at a country level and were not able to drill down to its various dimensions. Additional studies are needed to better understand the extent to which each of the various dimensions of culture (i.e., power distance, individualism/masculinity, etc.) impact consumer sentiments. Future studies could also incorporate other cultural frameworks, such as that of Schwartz (1999); or adopt a socio-cognitive systems approach (Nisbett et al., 2001); as doing so might uncover additional insights. For example, in studying users' perceptions of issues pertaining to privacy, trust, and social capital, Guo et al. (2020) utilized Schwartz's polar dimensions; and in a cross-cultural analysis of online reviews, Brand et al. (2022) utilized a

socio-cognitive systems theory to better understand how consumers from different cultures process information. We encourage future studies to use alternative theories like these to extend our findings.

8. Conclusion

Are prevailing views of Eastern vs. Western cultural values and their impact on consumer behavior still valid? The results are mixed. On the one hand, findings from this study were consistent with previous research that has found that consumers from Western cultures put more emphasis on personal interactions than those from Eastern cultures (Donthu & Yoo, 1998; Furrer et al., 2000). It also provides further support for the influence of long-term orientation on consumers' price fairness (Baek et al., 2006). On the other hand, we found that Chinese customers today are expressing their service sentiments more readily and with greater intensity, much like consumers in the US. It is hoped that this study will spark further research examining the dual forces of national culture and rising consumerism.

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