Analysis of Unexpected Halal Food Sales in Chinese Market during, pre and post Ramadan Period: A Route to Expand Thai-Soft Power with Digital and Faith Power Through 8P-Marketing Strategy

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Abstract **– An unexpected surge in halal food sales in China has been explored in this study, focusing on the periods before and after Ramadan. Despite China being a predominantly non-Muslim country, the rising demand for halal food indicates a shift in consumer preferences towards products associated with ethical and high-quality standards. This study aims to understand this phenomenon by analysing keyword trends, product attributes, and consumer sentiments through a data-driven approach. Key findings show that halal food sales peak during festive periods like Ramadan and Eid-ul-Fitr, driven by increased awareness of halal certifications and changing consumer behaviours. Results from keyword and sentiment analyses indicate that Chinese consumers associate halal certification with high-quality, clean, and ethical food, which drives trust and sales. An 8P-Marketing Strategy has been proposed, combined with digital, cultural, and religious aspects to position Thai halal products effectively.**

By using Natural Language Processing (NLP) tools like RoBERTa, consumer reviews, identifying preferences and sales trends have been analysed. The data revealed increased sales of products like processed foods and gifts during festive periods, confirming seasonality-driven demand. A focus on the Pareto Principle indicated that a small range of products significantly drove sales, aligned with targeted marketing efforts. Integrating digital power and halal certification into the marketing strategy emerged as a critical success factor for market penetration in China. These findings offer valuable insights for marketers and policymakers aiming to navigate the evolving global halal food market.

Keywords **– China e-commerce, halal food, 8P-marketing, Muslim market in China, data analytics.**

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1. Introduction

The global halal food industry has gained significant prominence in recent years, driven by the rising demand for halal products from Muslim and non-Muslim consumers alike. As of 2022, the global Halal food market is valued at approximately USD 1.4 trillion, with predictions estimating growth to reach USD 2.8 trillion by 2025 [1]. The industry has maintained a steady growth rate of 12.7% annually, making it one of the most promising sectors within the global economy [2]. As the world's Muslim population continues to grow, particularly in regions such as South and Southeast Asia, the demand for halal food has expanded beyond religious boundaries, appealing to a broader market [3], [4]. The growth of the halal food sector extends beyond Muslim-majority countries, with non-Muslim nations such as Thailand, China, South Korea, and Japan seeing a rise in demand for halal-certified products due to health and ethical concerns associated with halal food production [5].

Halal food is not only viewed as a dietary requirement for Muslims but is also increasingly perceived as a symbol of ethical, hygienic, and high-quality food production. This has contributed to its appeal among health-conscious consumers in both Muslim-majority and non-Muslim-majority regions, including countries like China and Thailand [6]. As a result, halal food is no longer confined to religious observance but has become a marker of global food standards, catering to diverse consumer needs.

In the South and Southeast Asian context, the relevance of halal food has grown significantly due to the presence of large Muslim populations in countries like Indonesia, Malaysia, and Thailand. These nations not only have substantial domestic markets for halal products but also play a critical role in exporting halal-certified goods to other parts of the world, including China [7]. Malaysia and Indonesia, being Muslim-majority countries, are dominant players in the production and export of halal food products. Malaysia, with 65% of its population adhering to Islam, has made halal food production a national priority [8], [9]. Thailand, despite being a predominantly Buddhist country, has embraced the production and export of halal food, recognizing the potential of halal certification as a symbol of quality and trustworthiness by exporting over USD 6 billion worth of halal products annually [10]. In contrast, China, with a relatively smaller Muslim population, has seen an unexpected rise in demand for halal food, particularly in its northwest provinces and metropolitan areas, navigates a shift in consumer preferences and the growing influence of global halal food trends [11].

In China, the demand for halal food is particularly intriguing given the country's cultural and religious diversity. While the Muslim population in China, primarily concentrated in Xinjiang, Ningxia, and Gansu, contributes to the demand, the consumption of halal food is expanding beyond Muslim communities. China has a Muslim population of about 26 million, with Hui and Uyghur Muslims being the largest ethnic groups. This population, although a minority compared to China’s overall population, represents a significant market for halal food. Non-Muslim Chinese consumers are increasingly purchasing halal food due to its association with clean, ethical, and safe production processes. The relevance of halal food in China is further underscored by the country's growing middle class, which seeks high-quality and internationally recognized food products as extensively described in [12], [13], [14], [15], [16].

This surge in demand has presented new opportunities for countries like Thailand, which already has a well-established halal certification system, to expand its reach and influence in the Chinese market by promoting halal products not just as religiously compliant but also as premium, trustworthy, and high-standard options.

This shift reflects the global potential of halal food, especially in markets where cultural and religious diversity intersect with changing consumer behaviors as depicted in [17], [18], [19].

The halal food industry has been rapidly expanding globally, driven by the increasing demand from Muslim consumers as well as non-Muslim populations who associate halal with ethical, healthy, and high-quality food standards explained in [20]. In recent years, China's halal food market has witnessed an unexpected surge, particularly around the periods before and after Ramadan. This phenomenon is intriguing, considering China’s predominantly non-Muslim population and its historically limited awareness of halal dietary practices [21]. The rise in sales not only highlights the growing appeal of halal food in non-Muslim-majority regions but also presents an opportunity for nations like Thailand to leverage their cultural influence, or "soft power," in promoting halal products on a global scale.

In this research, the unexpected sales patterns of halal food in the Chinese market during the pre- and post-Ramadan periods have been enlightened, focusing on geographical location and specific timeframes. By examining key factors such as keyword trends, product attributes, and the sentiments of Chinese and Thai consumers toward halal food, contributing factors behind the sales spike have been unveiled. Interestingly, the keywords analysis revealed the digital footprint and interest in halal products, while a comparison of product attributes will assess the alignment of Chinese consumer preferences with those of Thai markets. This comparison is crucial as it reflects the broader socio-cultural and religious sentiments attached to halal food in both regions.

Furthermore, the strategic role of the halal certification logo on food products in China has also been explored. As more Chinese consumers become aware of the logo’s significance, it could serve as a powerful tool to enhance consumer trust, positioning halal products as not only religiously compliant but also high-quality and ethically produced. The significance of the halal logo extends beyond mere branding; it represents the convergence of three critical aspects of influence: Digital Power, Faith Power, and Soft Power. Together, these "3Ps" form a potent marketing force that can reshape consumer behaviours and market dynamics, particularly in the Chinese context.

In addition to these insights, a novel marketing approach by upgrading the traditional 4P (Product, Price, Place, Promotion) and 4A (Acceptability, Affordability, Accessibility, Awareness) marketing mixes to an 8P-Marketing Strategy have been proposed (Figure 1).

Figure 1. A road to empower the soft powers of Thailand by integrating 4A and 4P to build 8P

1.1. Philip Kotler's Marketing 5.0: An Inspiration for 8P Marketing Mix

This new model, inspired by Philip Kotler's Marketing 5.0, integrates Digital Power, Faith Power, and Soft Power into a more holistic framework that better reflects the complex, interconnected nature of today's global markets. The 8P strategy will provide a comprehensive approach for Thai companies to effectively penetrate the Chinese halal food market by emphasizing cultural affinity, digital engagement, and religious values (Figure 2).

Ultimately, the unexpected growth of halal food sales in China has not only been justified, but also a strategic roadmap for expanding Thai soft power through the powerful combination of digital, cultural, and faith-based marketing has been highlighted. Through the lens of the 8P-Marketing Strategy, and the findings of this study offer valuable insights for marketers, policymakers, and businesses aiming to navigate the dynamic interplay between religion, culture, and consumer behavior in the context of global halal markets.

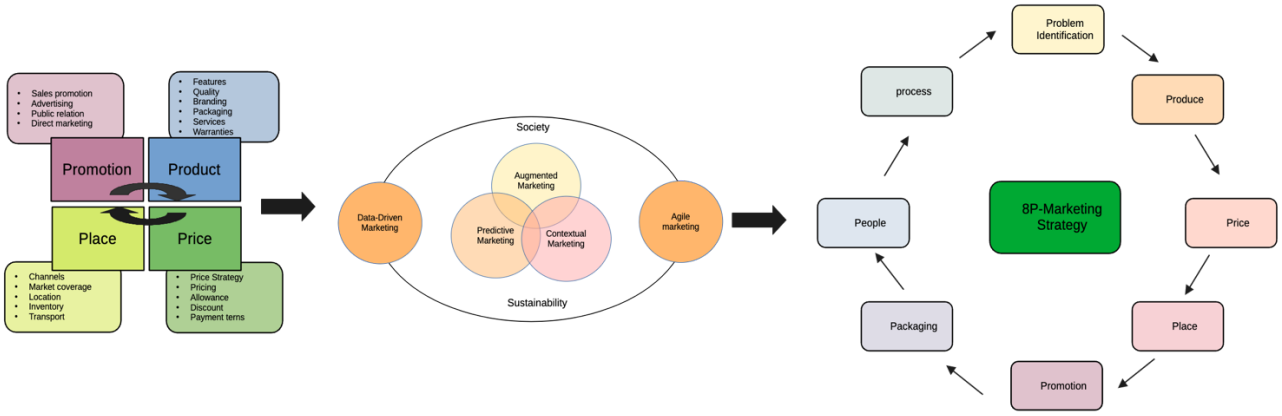

Figure 2. Philip Kotler's 5.0 inspired 8P-marketing strategy to strengthen Thai soft power

2. Methodology

This study aims to investigate the unexpected increase in halal food sales within the Chinese market, particularly during the Ramadan season, while exploring how Thai halal food can enhance Thailand's influence in this area. By employing an agile framework that integrates Natural Language Processing (NLP) techniques, specifically the RoBERTa model for sentiment analysis, the study uncovers customer preferences and identify unmet needs.

This research will provide a comprehensive analysis that combines sentiment and contextual analysis to refine marketing strategies and improve sales predictions for Thai halal products on e-commerce platforms.

Stage 4 of the study framework will be focused on, wherein a data-driven approach to predicting consumer demand is developed. This methodology is intended to support long-term growth in the halal food sector and to enhance cultural engagement between Thailand and China. By delivering actionable insights that are aligned with the preferences of Chinese consumers, Thailand's position in the halal market is aimed to be reinforced, as shown in Figure 3. First three stages have already been explored in previously reported work [20] in detail.

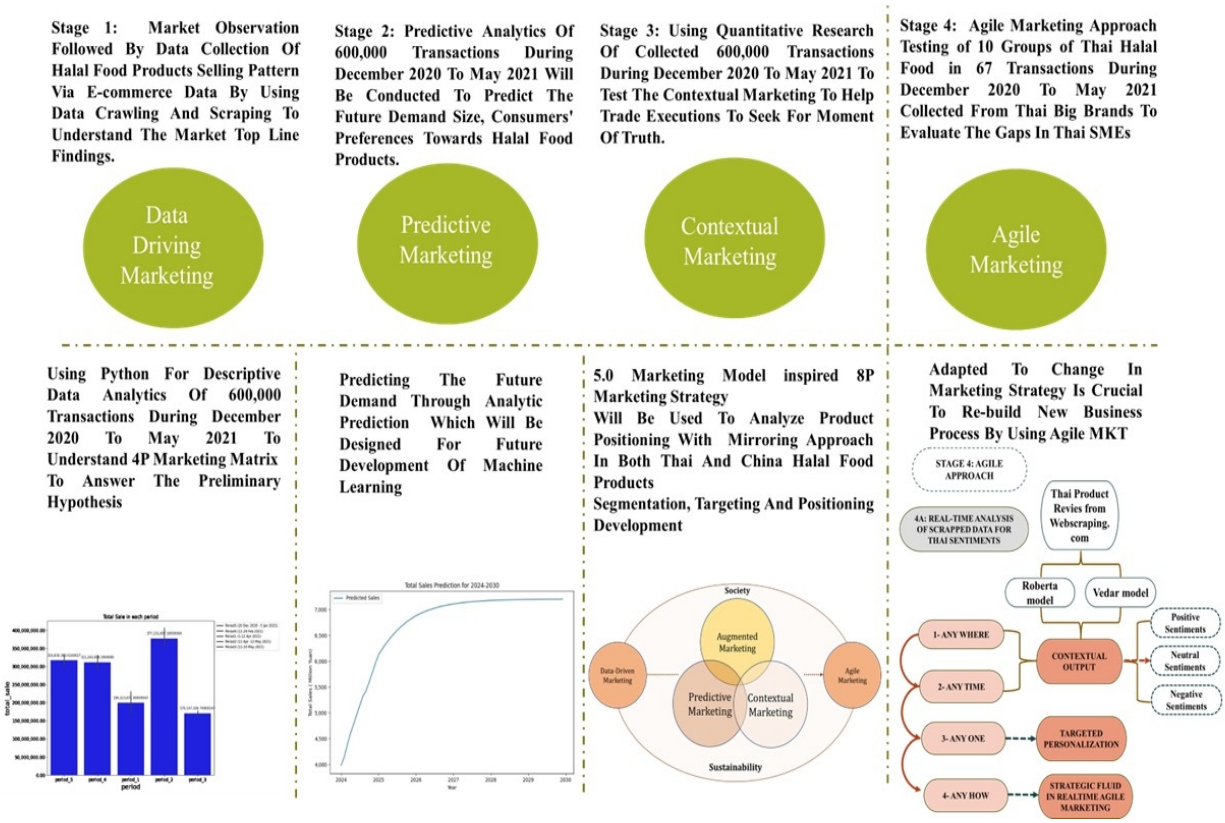

Figure 3. The model roadmap leads to the novelty stage1-4

The roadmap depicted in Figure 3 outlines a four-stage approach to marketing strategy for halal food products.

Data-Driven Marketing: The first stage involves market observation and data collection from halal food product transactions using Python for descriptive analysis, aiming to understand key market trends and consumer behavior.

Predictive Marketing: The second stage focuses on predictive analytics using 60,000 transactions to forecast future demand, customer preferences, and market trends, leveraging AI and machine learning techniques.

Contextual Marketing: In the third stage, quantitative research guides a marketing strategy to create context-based engagements that appeal to consumers during their decision-making moments.

Agile Marketing: The final stage involves an agile marketing approach, testing marketing strategies on small groups, adapting to changes, and learning from major brands to fill gaps in the strategies of small and medium enterprises (SMEs). This roadmap integrates data analysis, predictive modeling, targeted engagement, and agile adaptability for effective marketing in the halal food sector. The overall framework of research methodology is depicted in Figure 4.

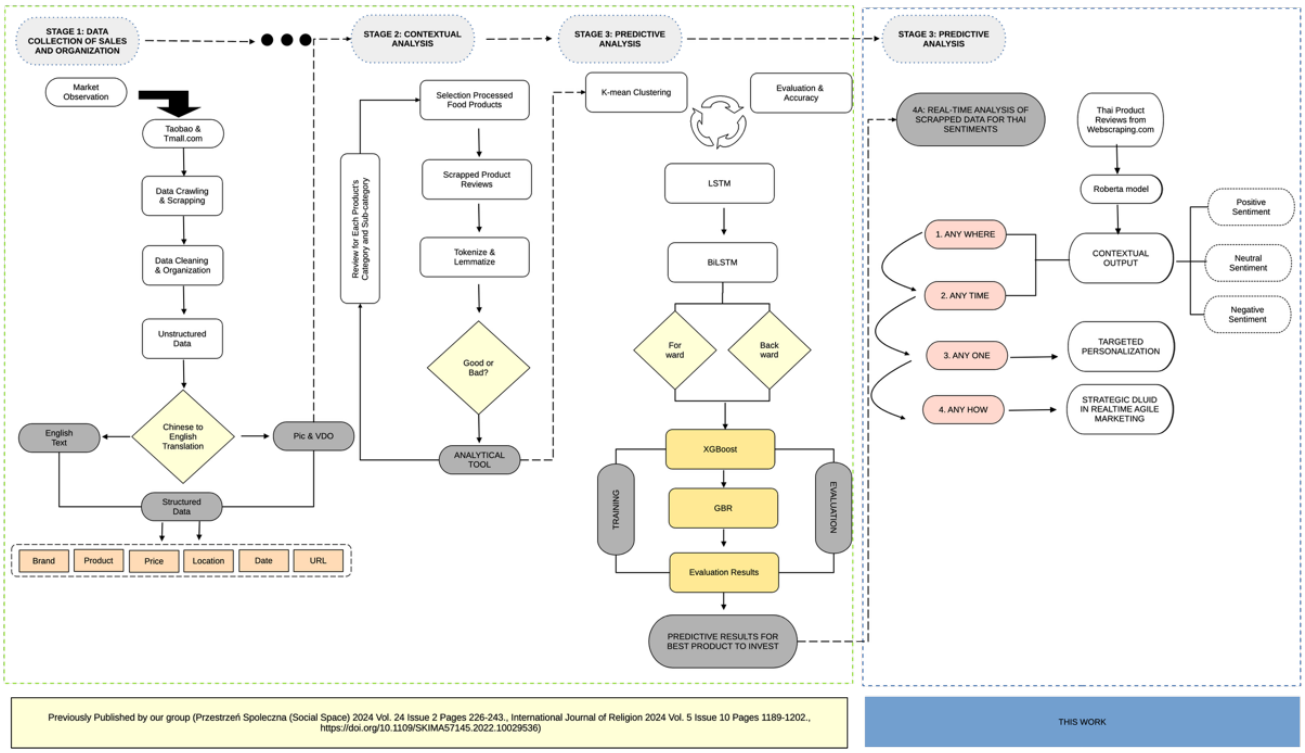

Figure 4. Framework of research methodology (stage 1-3 has been reported in the previous work [20], [21])

2.1. Data Collection via Web Scraping for Consumer Insights

To create an accurate dataset, web scraping techniques have been opted to collect consumer reviews and feedback on Thai halal items from multiple online platforms.

Identifying Relevant Sources: E-commerce websites like Taobao and Tmall, social media platforms, and consumer review sites were focused on, where discussions about Thai halal products were prevalent.

Web Scraping Process: Textual data was extracted using Python-based tools, ensuring a diverse representation of consumer opinions. This dataset was used as the primary resource for sentiment analysis.

2.2. Agile Framework: Focusing on Stage 4

Stage 4 of the Agile approach, which emphasizes responsiveness and iterative learning, is adopted in the methodology. This stage incorporates:

1. Anywhere: Ensuring that consumers can access Thai halal products across various online platforms, resonating with the place aspect of marketing.
2. Anytime: Monitoring consumer sentiments and sales patterns in real-time to adapt marketing strategies promptly, aligning with timely promotions based on consumer feedback.
3. Anyone: Personalizing marketing efforts to resonate with different consumer segments based on insights derived from sentiment analysis, thereby enhancing the targeting aspect of the strategies.
4. Anyhow: Maintaining strategic flexibility, enabling to quickly adjust marketing strategies in response to consumer feedback.

2.3. Applying the Pareto Principle for Sales Analysis

To identify the most popular products within the halal category, the Pareto Principle (80-20 rule) has been deployed. This analytical approach is particularly focused on the small percentage of products that generate the majority of sales.

Mathematically:

$$P\ \boldsymbol{top} = \{\boldsymbol{p}\ \boldsymbol{\varepsilon}\ \boldsymbol{P}: \boldsymbol{S(p)} \geq \mathbf{0.8} \times \boldsymbol{S\ total}\}$$

(P) Is the set of all products, $S(p)$ is the sales volume of the product (p), and $S\ total$ is the total sales volume. This equation helps determine which products are most favored by consumers and how they align with specific categories.

By analyzing the sales data alongside sentiment insights, the key products that drive revenue and consumer engagement have been effectively identified.

2.4. Applying the RoBERTa Model for Collecting Consumer's Sentiment

Once the data was collected, the RoBERTa model was applied to analyze the sentiments expressed in the reviews. This step is considered crucial, as it provides insights into consumer attitudes and facilitates an understanding of market dynamics, ultimately ensuring alignment with key marketing principles such as product and promotion. Data Preprocessing: Cleaning the data by removing irrelevant content, standardizing formats, and preparing the text for analysis.

The RoBERTa mode was applied by categorizing sentiments into three distinct categories:

Positive Sentiments: Reviews expressing satisfaction and enjoyment. For example, comments like "This Thai halal chicken is incredibly flavorful!" indicate high product quality and can drive promotional efforts to highlight these features.

Neutral Sentiments: Reviews providing factual information or general observations, such as "The product arrived on time and was adequately packaged." These insights help shape inventory and logistics strategies, ensuring products are available when and where consumers want them.

Negative Sentiments: Reviews expressing dissatisfaction, such as "I found this product overpriced and not as tasty as expected." Identifying these sentiments allow to address pricing strategies and product development directly, leading to improvements in consumer perception and satisfaction. Sentiment analysis was conducted to understand how consumer perceptions of halal food changed during the critical periods. Sentiment analysis involves determining the emotional tone of text data, which, in this case, was the online reviews and comments on halal food products. For instance, a review stating, "This halal product is very clean and high-quality" would receive a high positive score, while a review like, "I don't trust this product's certification" would score negatively. These sentiment scores were then averaged over time to identify trends in consumer perception around key periods like Ramadan.

Given a consumer review, such as "This halal product is excellent!", the algorithm computes a compound sentiment score S

$$S = \frac{Positive\ Sentiment - Negative\ Sentiment}{\text{Total Sentiment}}$$

The result is a sentiment score between -1 (most negative) and +1 (most positive), which was then averaged across reviews. These sentiment scores were aligned with sales data over time to identify periods of high or low consumer trends around halal food specifically during the Ramadan periods.

By analyzing these sentiments, a clearer understanding of consumer preferences and areas needing improvement is gained, directly aligning with the objective to grow the halal market in China.

2.5. Findings from Sentiment and Sales Analysis

The sentiment analysis revealed significant insights into consumer behavior. For example, products that received high positive sentiment were often associated with quality and taste, leading to higher sales volumes. Comments praising flavors or experiences with Thai halal products can guide promotional strategies, such as social media campaigns highlighting these aspects.

Conversely, negative sentiments highlighted specific areas for improvement, such as packaging or pricing, which could deter potential buyers. For instance, if multiple reviews mention that a product is overpriced, it suggests a need for revising pricing strategies or offering promotions to enhance perceived value.

After key products were identified through Pareto analysis, they were categorized based on their attributes and aligned with the sentiments expressed by consumers. This correlation between sentiment and product performance in the market was observed, providing actionable insights for targeted marketing strategies.

2.6. Summary of Methodology

The methodology focuses on sentiment analysis using natural language processing (NLP) to better understand consumer needs in China's halal industry. The RoBERTa model is utilized to extract subtle insights into consumer sentiment, allowing for the identification of growth opportunities and improvements. The Pareto Principle is used to discover high-performing products and direct resources and strategic efforts to those that will have the biggest impact. This data-driven strategy improves decision-making by aligning product development and marketing strategies with consumer demand. The system is agile and optimal, allowing for quick adjustments to the changing halal food market. By remaining vigilant to consumer behaviors, trends, and regulatory changes, the business can proactively alter strategy to suit changing consumer demands. This method promotes long-term success in the Chinese market by addressing consumer values such as quality, taste, and health advantages.

This promotes brand loyalty and establishes the company as a halal industry leader. The insights obtained from the Chinese market can be extended to other regions, such as Thailand, where the halal market is quickly increasing.

Understanding consumer feelings can assist bridge the gap between old preferences and current ideas, adding value to the overall strategy.

In conclusion, the methodology serves as a comprehensive framework for navigating the complexities of the halal market in China. By emphasizing sentiment analysis, prioritizing popular products, and maintaining agility, the company is well-positioned to foster sustainable growth and engage with consumers in the evolving halal food landscape.

3. Results

An in-depth analysis of sales trends during festive periods, particularly Eid-ul-Fitr (post-Ramadan), reveals a significant impact on halal food product sales within the Chinese market, with a marked rise in demand for items like Tom Yum Noodles. This study confirmed the expected festive sales boost in processed foods, including Tom Yum Noodles, while also highlighting and justifying an unusual spike in sales that aligns with anticipated holiday demand.

By leveraging a data-analytics marketing model that examines transactional data from platforms like Taobao.com and Tmall.com, insights into halal food purchasing patterns in China are aimed to be gained, with a focus on aspects such as category preferences, seasonality, pricing dynamics, and real-time demand prediction. The analysis uncovers notable seasonal fluctuations in seasoning sales during major holidays and a strong consumer inclination toward chicken and meat in ready-to-eat formats. These insights guide product development strategies to cater to both local and international consumer needs. Key festive events—Ramadan, Chinese New Year, and the International New Year—generate the highest Halal food sales, underscoring the importance of tailored product customization for Chinese Muslim online shoppers. This data-driven marketing approach emphasizes the need for timely, season-specific, and culturally localized product offerings to effectively meet market demands [22]. This data-informed, customer-focused approach will form the foundation for strategic growth by aligning with the STP (Segmentation, Targeting, Positioning) marketing framework (Figure 5).

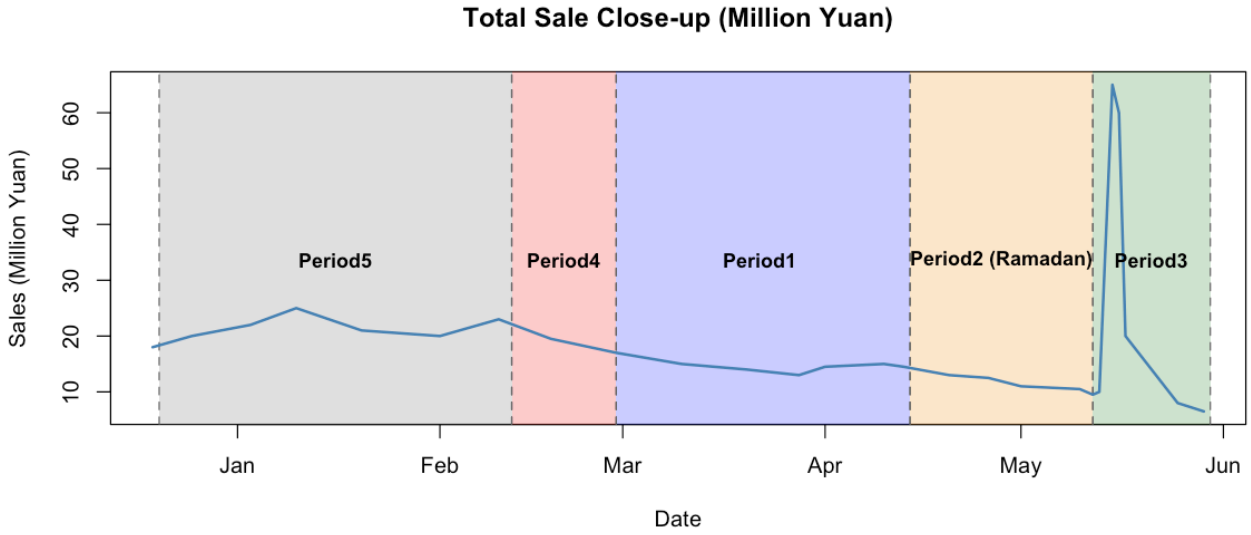

Figure 5. Comparison of sales close-up before Ramadan and after Ramadan with New Year and Chinese New Year

The results (Table 1) show that total sales of halal products reach a high point just before Ramadan starts, yet there is a noticeable drop in daily sales throughout the month of Ramadan itself. The unexpected post-Ramadan sales boost in China, especially during the seven days following Eid al-Fitr, is attributed to the festival's cultural and religious significance. Effective promotional strategies, such as targeted promotions, limited-time offers, and culturally relevant campaigns, significantly contributed to this surge.

Contextual and keyword analyses confirmed that this sales spike aligns with well-planned agile marketing strategies tailored to the festive period. The figures presented in Table 3.1 illustrate the effectiveness of contextual marketing within the Chinese market. The strong sales numbers, along with high sentiment scores, provide clear evidence of this sales increase and offer a reasonable explanation for any unexpected outcomes (Figure 6).

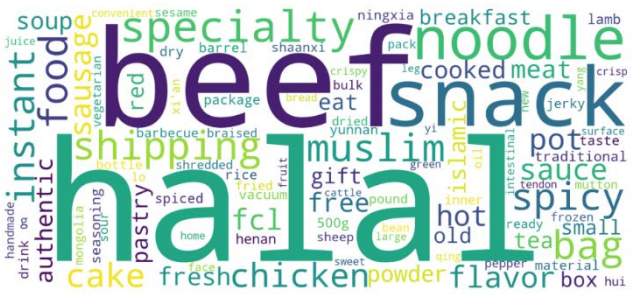

Figure 6. Illustration of most mentioned keywords

This keywords analysis aligns with the 4A marketing framework, emphasizing consumer preferences for convenience and accessibility. **Anywhere** is supported by 5G technology, allowing seamless shopping experiences, while **Anytime**, reflects the demand for 24/7 availability, particularly during festive periods. **Anyone** underscores the diverse consumer base, with preferences spanning processed foods to fresh ingredients. Finally, **Anyhow** highlights the need for an integrated online and offline strategy to meet consumer expectations.

Table 1. Most mentioned keywords analysed by contextual analysis of Chinese consumers

Word	Frequency	Word	Frequency	Word	Frequency	Word	Frequency
Halal	530803	**meat**	82826	**henan**	49163	**sheep**	36109
beef	324622	**fresh**	77870	**spiced**	46735	**bulk**	36072
snack	278630	**cooked**	73724	**material**	46482	**mongolia**	35327
noodle	276034	**soup**	72376	**vacuum**	46200	**ready**	35277
specialty	263957	**authentic**	70560	**dry**	45525	**fried**	34908
shipping	214840	**islamic**	68495	**rice**	44844	**frozen**	33824
food	214290	**powder**	64521	**package**	44667	**xi'an**	33295
bag	210657	**tea**	64520	**yunnan**	44123	**hui**	32571
muslim	199543	**eat**	61746	**taste**	43829	**vegetarian**	32171
spicy	197485	**pastry**	60888	**ningxia**	43049	**braised**	31802
instant	192079	**red**	58932	**barrel**	42415	**oil**	31464
cake	148876	**gift**	57898	**500g**	42165	**shredded**	31396
chicken	148178	**old**	56229	**jerky**	40998	**pepper**	31046
flavor	118133	**breakfast**	53932	**inner**	40847	**dried**	30629
pot	117241	**box**	53632	**drink**	40780	**new**	30049
sauce	116017	**small**	52320	**pound**	39501	**mutton**	29164
sausage	115729	**traditional**	52053	**sour**	38628	**pack**	29043
fcl	108445	**seasoning**	51822	**shaanxi**	38427	**sesame**	28427
hot	108045	**g**	51439	**barbecue**	38127	**lo**	27938
free	87632	**lamb**	50717	**bottle**	37210	**handmade**	27739
face	26705	**bean**	26251	**intestinal**	26155	**convenient**	26027
crisp	25679	**juice**	25620	**sweet**	25457	**tendon**	24887
home	24450	**fruit**	24153	**green**	23995	**yi**	23813
crispy	23667	**qing**	23249	**bread**	22602	**surface**	22289
leg	20995	**cattle**	20787	**large**	20761	**yang**	20679

After getting the most mentioned keywords for the halal food in consumer's contextual analysis, the food products were categorized based on their major top selling categories and the number of their unique products in each category (Figure 7).

It was strange to notice that itself category was not the responsible factor for high sales revenue, in-fact it was the volume of unique item in each categories contributing the most to escalate unexpected sales surge.

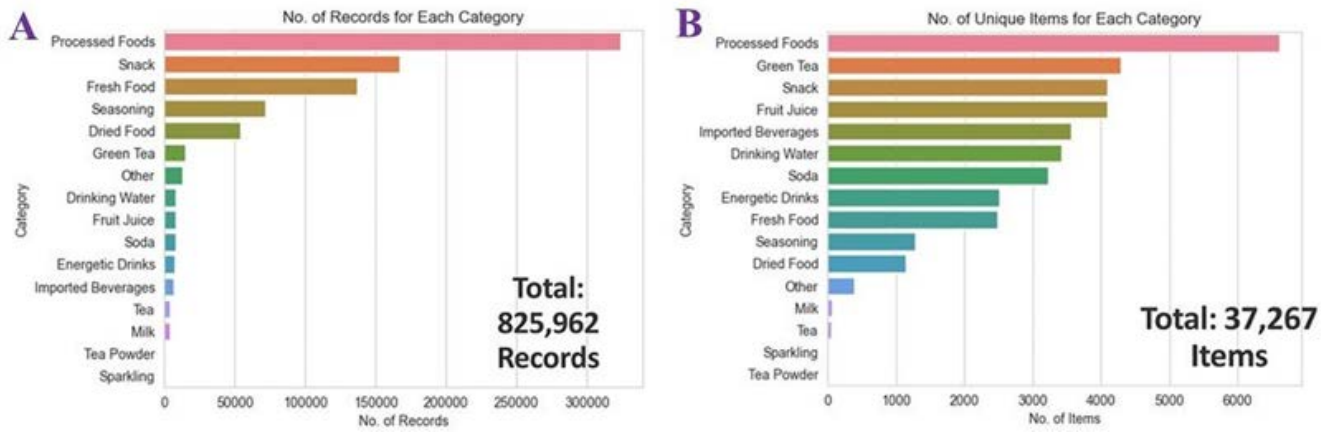

Figure 7. A) Number of categories recorded from big data set of 825,962 transactions, B) total number of unique item in each category 37,267

A relationship between the abundance of product's category and its price density could be a helping factor to expidate the role of selling price in sales volume of any product.

This linkage was found very much relevant to the hypothesis of why a specific category is contributing a lot in an upsurged sales booster (Figure 8).

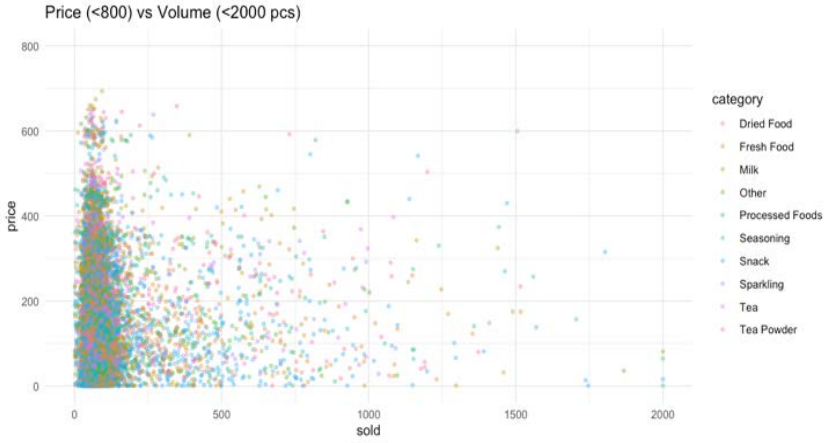

Figure 8. Price density chart of food categories V/S unit sold in an optimum price

To achieve the best duration limit, the sales of various products under processed food category based on each month of festive span were analyzed. Amazingly, the Chinese New Year time in the month of february and the Eid-ul-Fitr duration of one week in April, reported the highest sales (Figure 9).

It could be explained relatively higher than any other week in festive span because of high sales volume of halal food and gifts in Muslim community.

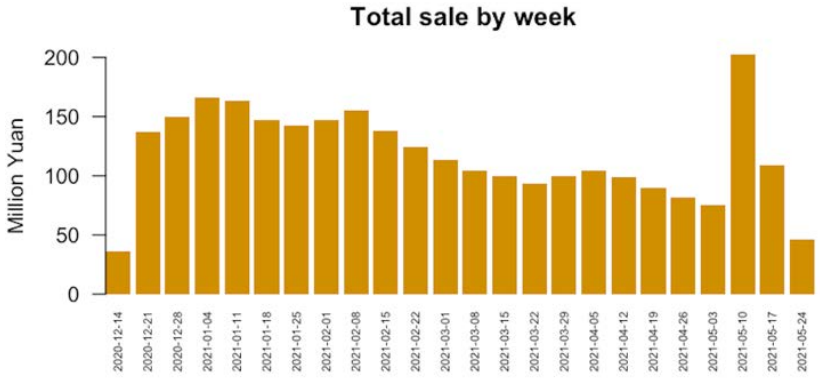

Figure 9. Weekly sales during festive period December to May

Later, the best sold product based upon the keywords analysis by following the Pereto's Rule of 80-20 was examined. Pereto's rule helped the best to understand why there is an unexpected spike in sales of halal food specifically in some selected regiospecific products.

An interesting relationship between the best selling products with the specific location where they have been sold out was found (Figure 10).

Pereto charts illustrate that only few products categorized under processed food categories have bursted sales in pre, during and post-Ramadan period. This analysis not only helped to understand the location and time dependant sales, but also provided a solid guidance to choose the best product to invest on.

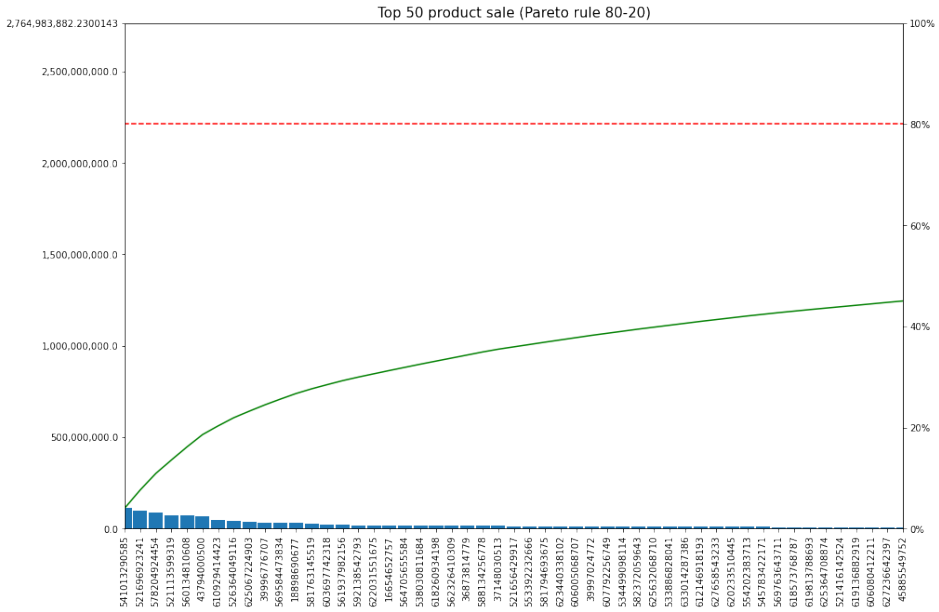

Figure 10. Total sales of top 50 products and prediction of best selling product by Pereto rule 80-20

The results of above stated Pereto's rule were further supported by the analysis of sales volume with respect to specific location (Figure 11), shows the distribution of top-selling products by sales volume across different locations, with clear peaks in certain categories. The taller bars represent products or locations with the highest sales, likely correlating to specific festive periods such as Ramadan and post-Ramadan.

The data indicates that consumer spending is concentrated around key events like Ramadan, where demand for specific halal products in certain locations surges, leading to a sales spike. The higher demand during these times, especially in top-performing locations, reflects how religious festivals and regional consumer behavior significantly impact sales. These findings support the conclusion that a combination of festive periods, location targeting, and specific products drive sales increases.

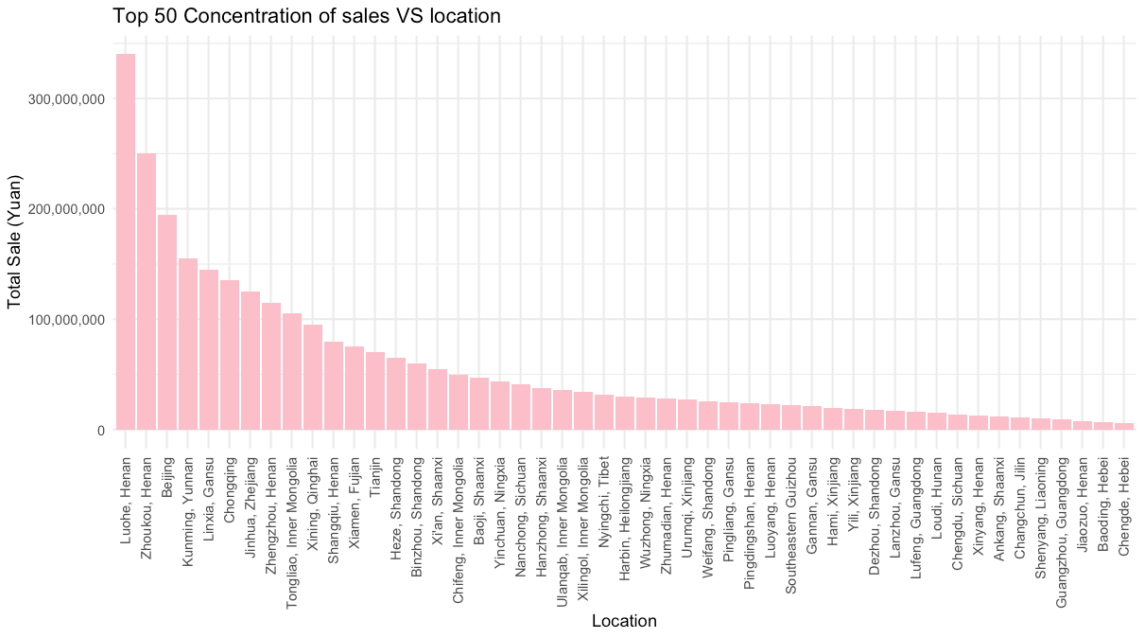

Figure 11. Top 50 concentrations of areas and their sales in hala food

To find out the specified justification, a sentiment analysis by following NLP programing tool to reach out the conslusion was run to destinguish, is it its product, price or location which drives the unexpected sales or is there another factor. To have a fair comparison for Thai halal food by Chinese consumers, the sentiments of 6693 data transactions "processed food category" out of wich 1500 unique products were samplized to specify the best-selling product to invest in, were analyzed. After analyzing the reviews, This study found a link between the package labeling and consumer's sentiments. Since the Thai halal food products are labeled with halal logo, hence consumer is satisfied and comment about the taste and other product's features regardless of his locality (Figure 12).

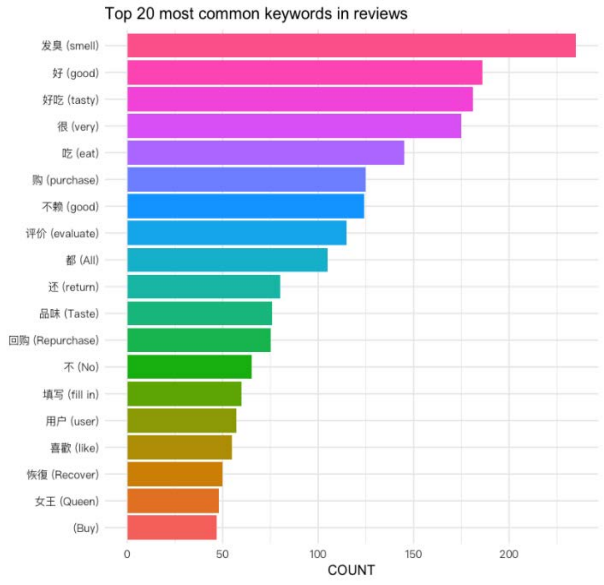

Figure 12. Most mentioned keywords about product's attribute by Chinese consumer for Thai Halal food

To have an approperiate comparison, the consumer's sentiments for top 30 Thai big food products have been studied. It was interesting to know that Thai consumers are not much caring about halal logo or halal word in food because of an established consumers satisfaction level due to an easy availability of halal food (Figure 13).

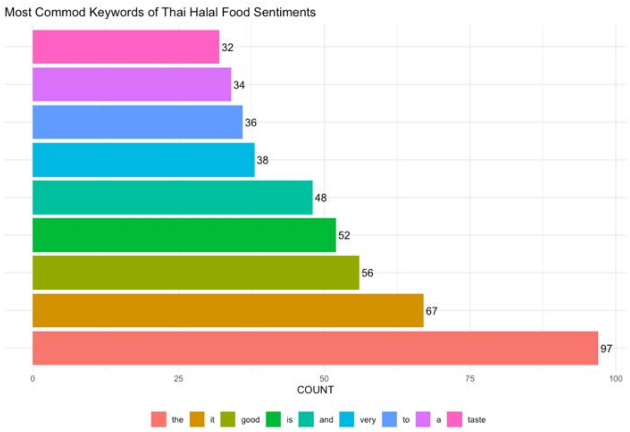

Figure 13. The most common keywords in Thai halal food sentiment analysis by Thai consumers

A comprehensive analysis of sentiment and sales data shows that Chinese consumers place significant importance on halal certification, which is prominently displayed on all halal food products in China. In contrast, Thai consumers tend to focus more on ingredient lists to determine if a product meets their dietary needs. However, incorporating the Thai halal logo alongside the Chinese halal certification could increase satisfaction and confidence among consumers in the Chinese market (Figure 14).

Figure 14. Thai-Chinese halal food logo for the satisfactory sentiment of Chinese consumer

The integration of 4A (Anywhere, Anytime, Anyone, Anyhow) and 4P (Product, Price, Place, Promotion) marketing mixes forms the 8P marketing strategy, providing a comprehensive approach for businesses. This new strategy leverages speed, agility, and consumer-centric methods to enhance product development, pricing, accessibility, and promotions. By incorporating **Faith power** (Halal certification and cultural relevance), **Soft power** (Thai cultural appeal), and **Digital power** (5G and e-commerce platforms), Thailand can strategically position its Halal food products in the Chinese market. This approach not only enhances Thai soft power but also ensures market penetration and sustained growth through real-time data and predictive analytics, especially in high-demand categories like processed and fresh foods.

4. Discussion

The study revealed a comprehensive understanding of consumer behavior and sales patterns in the Chinese market for halal food products, with a special focus on festive periods such as Eid-ul-Fitr and Ramadan. These insights align with the 8P-Marketing Strategy, which combines Philip Kotler's 5.0 model with the 4A and 4P frameworks. This strategy leverages real-time marketing analysis, beginning with "problem identification," to uncover market scope and optimize targeted marketing. The data highlights that halal food sales peak around Ramadan and other cultural festivals like Chinese New Year. Products such as Tom Yum Noodles exhibit significant demand surges, particularly during Eid-ul-Fitr. This seasonal spike can be attributed to increased awareness and demand for culturally relevant halal products. Analysis of transactional data from major e-commerce platforms, Taobao and Tmall, identified key demand factors, including category preference (processed foods, meat-based ready-to-eat items) and pricing trends that help businesses tailor product offerings to consumer needs during high-demand periods. Keyword frequency analysis, showing a high mention of "halal," "meat," "beef," "snack," and "convenient." These keywords emphasize Chinese consumers' preference for accessible, high-quality, and culturally aligned halal products. Sentiment analysis using the RoBERTa NLP model further validated consumer expectations, linking halal certification with trust and perceived quality.

This analysis revealed that halal labeling directly impacts consumer satisfaction, leading to higher sales. Positive sentiments expressed in consumer reviews suggest that the halal logo serves as a mark of quality and cultural alignment, crucial for fostering trust among Chinese consumers.

By integrating Kotler's 5.0 model, the 8P-Marketing Strategy was developed, combining traditional 4Ps (Product, Price, Place, Promotion) with the 4As (Anywhere, Anytime, Anyone, Anyhow) framework. This strategy focuses on "problem identification" as the initial step in real-time market analysis, facilitating targeted marketing through product localization and price optimization. The analysis, supported by Pareto's 80-20 rule, reveals that a small number of products drive most sales, indicating where investments should focus, especially around religious festivals. It identified the top-performing products and regions with the highest demand. The data showed that a limited range of products contributes disproportionately to total sales, supporting a targeted marketing approach. By focusing on these high-demand items, businesses can allocate resources more efficiently and maximize returns. Location-based sales insights further highlight regions with concentrated demand, particularly during Ramadan and other festive periods, where halal food sales experience significant spikes.

Comparative sentiment analysis revealed different consumer expectations in Thailand and China. Chinese consumers place a strong emphasis on halal certification, perceiving it as a symbol of quality and safety. Conversely, Thai consumers show less concern for the halal label, as halal products are more readily available and trusted in Thailand. This difference highlights the importance of incorporating a Thai halal logo alongside the Chinese halal label to reinforce quality and authenticity, enhancing consumer trust in the Chinese market.

The 8P strategy also leverages "Faith power" (halal certification), "Soft power" (Thai cultural appeal), and "Digital power" (enhanced by 5G and e-commerce) to strengthen Thai halal products' market position in China. This comprehensive model provides a consumer-centric method, agile marketing approach, ensuring Thai brands cater to the Chinese Muslim population's specific preferences and seasonal demands, maximizing product visibility and customer satisfaction.

It has been demonstrated that combining consumer insights, real-time analytics, and an integrated marketing strategy can enhance the market potential of halal products in non-Muslim majority regions like China.

The 8P-Marketing Strategy, supported by seasonal sales data and sentiment analysis, is presented as a robust framework for Thai brands to establish a strong, culturally resonant presence in the Chinese halal food market.

5. Conclusion

This study has explored the unexpected surge in halal food sales in China, particularly around key festive periods such as Ramadan and Eid-ul-Fitr. Despite being a predominantly non-Muslim country, China has shown a notable shift in consumer preferences toward halal products, driven by perceptions of quality, cleanliness, and ethical standards. Through a data-driven approach incorporating keyword trend analysis, product attribute classification, and sentiment analysis using NLP tools like RoBERTa, the critical drivers of demand and consumer trust have been identified.

The findings highlight the seasonality of halal food purchases, with increased sales of items such as processed foods and gifts during festive periods. The application of the Pareto Principle further revealed that a small selection of products contributed significantly to overall sales, indicating the importance of targeted marketing. The proposed 8P-Marketing Strategy—integrating digital, cultural, and religious elements—presents a strategic framework for effectively positioning Thai halal products in the Chinese market. Overall, the integration of digital tools and halal certification has emerged as a key success factor for market entry and expansion. These insights provide valuable guidance for marketers and policymakers seeking to navigate and capitalize on the evolving dynamics of the global halal food market.

Conclusively, the unexpected rise in halal food sales in China during Ramadan, reveals a shift in consumer preferences towards halal products as symbols of quality, cleanliness, and ethical standards. Using sentiment analysis with NLP tools and keyword trends, it was found that Chinese consumers strongly associate halal certification with trust. The research proposes an 8P-Marketing Strategy combining 4A and 4P frameworks, emphasizing digital, cultural, and religious aspects to target this market effectively. This strategy aims to leverage Thailand's soft power through halal certification, enhancing Thai halal food market penetration in China during high-demand festive periods.

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