Journal of the Asian Academy of Applied Business
Vol. 8 (December, 2023), 145-152
ISSN 1675-9869

Assessing Brand Switching Patterns of Malaysian Pepper Exports

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Received date: 30.6.2023 | Revised date: 20.7.2023 | Accepted date: 22.8.2023

ABSTRACT

This study provides an analysis of the competitive dynamics of pepper exports, focusing on key rival exporting countries: Malaysia, Indonesia, and Vietnam. The research encompasses vital export markets, including China and the USA, employing a structured brand-switching framework to identify shifts in consumer preferences for analogous products and brands. The brand-switching study operates under the assumption of consistent market dimensions throughout the study, where every customer transaction involves exposure to the complete array of evaluated products with a uniform transaction quantity. The forthcoming analysis aims to explore brand competitiveness in specific market contexts, acknowledging the term 'brand' to encompass exporting countries, in line with international trade conventions regarding pepper products. The research delves into two distinct forms of pepper products sourced from the *Piper* genus: neither crushed nor ground pepper (HS090411) and crushed or ground pepper (HS090412). These types wield significant influence in global trade. Furthermore, it presents a comprehensive overview spanning the entire temporal span from 2001 to 2018, enhancing the depth of analytical insights. For Malaysia to maintain its global competitiveness, it is imperative to minimize brand switching. Achieving this necessitates the implementation of a robust marketing strategy for pepper products, encompassing assertive publicity efforts and active participation in international trade shows.

Keywords: brand-switching, pepper, competitive dynamics, export markets, international trade

INTRODUCTION

The historical association between Sarawak, a region within Borneo Island in Malaysia, and pepper cultivation spans over a century (Fischer, 2018). The cultivation of pepper in this locale has roots dating back to 1619 when it commenced in Langkawi. The

Chinese Teochew introduced pepper cultivation to Sarawak in 1852, and its systematic development occurred under the governance of Rajah Charles Brooke in 1875. In conjunction with paddy and rubber, the local populace of Sarawak embraced pepper cultivation, evolving it into a significant spice source within Malaysia. Presently, Sarawak maintains its leading position as the primary state for pepper production, contributing approximately 90% to the nation's overall output.

While Johor and Sabah engage in pepper cultivation to a limited extent, their production volumes remain relatively modest. Typically, smallholders in impoverished rural areas undertake pepper planting. In Sarawak, pepper stands as the primary cash crop, supporting around 74,710 households actively engaged in this sector, as reported by the Department of Agriculture in 2005. These pepper farmers have refined their cultivation practices over an extended period, predominantly relying on chemical inputs, as detailed by Khalid et al. (2009).

Malaysia has historically played a crucial role as a trading nation, involved in the import and export of commodities to global markets. Although agriculture no longer occupies a central role in the Malaysian economy compared to the manufacturing and service sectors, it remains a pivotal component, contributing significantly to the nation’s Gross Domestic Product (GDP) with an annual contribution of 8%. Substantial quantities of agricultural products are exported to international markets, serving as a vital source of revenue for the country.

LITERATURE REVIEW

As delineated by the Cambridge Dictionary (2023), brand switching denotes the act of transitioning from purchasing one product brand to acquiring another. Sampaothong (2016) asserts that brand switching can be systematically analyzed through computer software, aiming to identify trends where: 1) the sales of one brand increase while those of another decrease over a specified number of consecutive periods, and 2) the sales variation between the two brands in each pair falls below a predetermined threshold value (Wakio et al., 2004).

Shinoj and Mathur (2008) characterize brand switching analysis as a quantitative technique to discern changes in the consumer base of products and brands within comparable product categories. This analytical approach emphasizes the detection of market share patterns to assess the competitive standing of various rivals in each sector (Michaelidou and Dibb, 2009). The principles outlined by Karani and Fraccastoro (2010) for brand-switching analysis mirror those mentioned earlier, underscoring its somewhat limited scope as a research method. Nevertheless, this approach proves insightful in uncovering product tastes and behavioral modifications within a specific set of consumers (Sonthaya, 2016).

The exploration of brand switching is frequently utilized to analyze consumer habits regarding a particular product. Bayus (1992), for instance, investigated brand loyalty and marketing strategy for four major home appliances. The findings demonstrated the efficacy of brand switching studies in determining a company's relative competitive position within primary customer markets. Cornelius et al. (2015) delved into switching rates within and between brand families, elucidating factors associated with brand and

brand style switching among smokers in the USA. Their study highlighted the significance of age, cost, and cigarette type in influencing brand switching. Indah and Elia (2018) examined the consumer behaviour of Generation Y smartphone users, revealing that lifestyle and a quest for variety could heighten brand switching tendencies. Furthermore, the study demonstrated that consumer confidence in a specific brand did not significantly reduce the inclination to switch, and advertising failed to significantly influence brand switching desires.

Beyond consumer behaviour, brand switching analysis proves valuable in scrutinizing export patterns, offering insights into market share and trade directions. Sampaothong et al. (2016) exemplified this utility by studying the brand switching dynamics of Thai and Vietnamese rice exports to China between 1995 and 2012. The investigation disclosed a decline in Thailand's market share of rice exports to China, contrasting with the stable market share of Vietnamese rice. Factors contributing to the latter's robust market share included increased output, lower production costs, farm support programs, competitive pricing, strategic marketing, and overseas rice storage.

This study employs Brand-Switching Analysis (BSA), extending its application from product items to countries viewed as product brands. The focus is on Malaysia and its competitor countries, conceptualized as brands exporting pepper to importing countries. The investigation of pepper as a commodity entails an examination of how brand switching in export destinations, such as China and the United States, could influence the competitiveness of Malaysian exports. The foundational principles guiding brand switching studies stipulate that market share remains constant throughout the analysis period, all consumers are exposed to all evaluated products each time they make a purchase, and each customer consistently acquires a fixed quantity of the product (Theil and Rey, 1966; Sampaothong, 2016).

MATERIALS AND METHODS

Source of Data

The present analysis utilizes secondary source data on pepper (HS060411 – Pepper of the genus Piper, neither crushed nor ground and HS090412 - Pepper of the genus Piper, crushed or ground) extracted from the UN COMTRADE database. Specifically, the focus was on export data concerning pepper from Malaysia, Indonesia, and Vietnam to China and the USA markets, covering the timeframe from 2001 to 2018.

Brand-Switching Analysis

Brand-switching analysis, introduced by Theil and Rey in 1966, is a methodological approach used to understand shifts in consumer preferences for products and brands within a similar product category (MM4XL, 2010). Identifying brand switching involves employing computer software to analyse patterns where over a specified number of consecutive periods, one brand’s sales increase while another brand’s sales decline. Additionally, the two brands in each identified pair must exhibit a sales difference below a predetermined threshold value (Wakio et al., 2004).

RESULTS AND DISCUSSION

Retention (Loyalty) and Switching Rates of HS090411 in China and the USA

The transitional probability matrix of exports from Malaysia, Indonesia, and Vietnam to the China market is presented in Table 1. *Diagonal values (retention or loyalty rates)* show that Others had the highest retention rate of 75.6% slightly greater than Malaysia which retained 72.1% followed by Indonesia's 64.2%. Vietnam retained 48% in the same period. *Row values (switch-to rates, outgoing sales)* show that Malaysia lost 17.9% to Indonesia, 10% to Vietnam and a zero percentage switching to Others. Most of Indonesia's share or 24.6% went to Malaysia, and zero percentage switching to Vietnam, however 11.2% went to Others. For Vietnam, 31.3% went to Malaysia but no percentage switched to Indonesia and 20.7% went to Others. Furthermore, 23.5% of Others went to Malaysia with zero percentage goning to Indonesia nonetheless only 0.9% went to Vietnam's shares. Finally, *column values (switch-from rates, incoming sales)* display that Malaysia gained 24.6% from Indonesia, 31.3% from Vietnam and 23.5% from Others. Whereas Indonesia got its shares of 17.9% from Malaysia, and a zero percentage from both Vietnam and Others. Additionally, Vietnam received 10% from Malaysia, but a zero percentage from Indonesia though a very small percentage of 0.9% from Others. Lastly, zero percentage from Malaysia was acquired by Others, but 11.2% and 20.7% were gained from Indonesia and Vietnam, respectively.

As in Table 2, *Diagonal values (retention or loyalty rates)* show that Vietnam had the highest retention rate of 85.1% and Malaysia's retention rate was 29.5% the lowest among all exporters. Both Indonesia and Others had 58.2% and 64.1% retention rates, respectively. *Row values (switch-to-rates, outgoing sales)* show that Malaysia has lost 70.5% of its market share to Others but has no losses to Indonesia or Vietnam. Indonesia lost a small 2.4% to Malaysia, but 21.9% and 17.5% of its total export shares went respectively to Vietnam and Others. Meanwhile, Vietnam had no loss of shares to Malaysia and Indonesia, but 14.9% went to Others. Others had a zero percentage loss to both Malaysia and Vietnam however they lost 35.9% to Vietnam. *Column values (switch-from rates, incoming sales)* suggest that Malaysia had no percentage gain from Vietnam and Others, but only secured 2.4% from Indonesia. Most of the gains for Indonesia came from Others with 35.9% but it did not gain from both Malaysia and Vietnam. Vietnam did not receive from either Malaysia or Others but profited from Indonesia alone by 21.9%. Others also earned 70.5% mostly from Malaysia, followed by 17.5% from Indonesia and 14.9% from Vietnam.

Table 1: Matrix of pepper (HS090411) exports of Malaysia, Indonesia, and Vietnam into China market.

	Market Share (%) switched to:				
	Malaysia	Indonesia	Vietnam	Others	Total (%)
Malaysia	**72.1**	17.9	10.0	0.0	100.0
Indonesia	24.6	**64.2**	0.0	11.2	100.0
Vietnam	31.3	0.0	**48.0**	20.7	100.0
Others*	23.5	0.0	0.9	**75.6**	100.0

*Other exporting countries

Table 2: Matrix of pepper (HS090411) exports of Malaysia, Indonesia, and Vietnam into the USA market.

	Market Share (%) switched to:				
	Malaysia	Indonesia	Vietnam	Others	Total (%)
Malaysia	**29.5**	0.0	0.0	70.5	100
Indonesia	2.4	**58.2**	21.9	17.5	100
Vietnam	0.0	0.0	**85.1**	14.9	100
Others	0.0	35.9	0.0	**64.1**	100

Retention (Loyalty) and Switching Rates of HS090412 in China and the USA

Illustrated in Table 3, *Diagonal values (retention or loyalty rates)* show that Others had the highest retention rate at 83.6% followed by Vietnam at 42.2%, Indonesia at 40.8% and Malaysia at 34.6%. *Row values (switch-to-rates, outgoing sales)* display that Malaysia lost 14.3% to Indonesia and 51.1% to Others but zero percent to Vietnam. Indonesia's shares lost to Malaysia at 12.3% and 46.9% to Others but no losses to Vietnam. Regarding Vietnam, the only loss was 57.8% for Others with no loss to either Malaysia or Indonesia. Meanwhile, Others' shares lost to Malaysia at 5.6% and Indonesia at 3.3% as well as 7.5% to Vietnam. *Column values (switch-from rates, incoming sales)* suggest that Malaysia gained 12.3% from Indonesia and 5.6% from Others but zero percentage from Vietnam. For Indonesia, 14.3% of the gain came from Malaysia and 3.3% from Others but there was no gain from Vietnam. Meanwhile, just 7.5% of Vietnam's gain comes from Others and there is no gain from Malaysia or Indonesia. Finally, Others gained 51.1% from Malaysia, 46.9% from Indonesia and 57.8% from Vietnam.

As demonstrated in Table 4, *Diagonal values (retention or loyalty rates)* show that Vietnam had the highest retention rate at 92% followed by Others at 85.8% and Indonesia at 44.6%. Nonetheless, Malaysia had a zero retention rate. *Row values (switch-to-rates, outgoing sales)* show that Malaysia lost 100% of its market shares to Indonesia. In addition, Indonesia's market shares of 55.4% went to Others and zero percentage went to Malaysia and Vietnam. Besides, just 8% lost to Others in Vietnam and no loss to either Malaysia or Indonesia. Market shares of Others lost to Malaysia at 0.1%, Indonesia at 6% and Vietnam at 8.1%. *Column values (switch-from rates, incoming sales)* suggest that Malaysia gained only 0.1% from Others and a zero percentage gain from Indonesia and Vietnam. For Indonesia, 100% of the gain came from Malaysia and 6% from Others but there was no gain from Vietnam. Additionally, just 8.1% of Vietnam's gain comes from Others and there is no gain from Malaysia or Indonesia. Others gained 55.4% from Indonesia and 8% from Vietnam but zero percent from Malaysia.

Table 3: Matrix of pepper (HS090412) exports of Malaysia, Indonesia, and Vietnam into China market.

	Market Share (%) switched to:				
	Malaysia	Indonesia	Vietnam	Others	Total (%)

Malaysia	**34.6**	14.3	0.0	51.1	100
Indonesia	12.3	**40.8**	0.0	46.9	100
Vietnam	0.0	0.0	**42.2**	57.8	100
Others	5.6	3.3	7.5	**83.6**	100

Table 4: Matrix of pepper (HS090412) exports of Malaysia, Indonesia, and Vietnam into USA market.

	Market Share (%) switched to:				
	Malaysia	Indonesia	Vietnam	Others	Total (%)
Malaysia	**0.0**	100.0	0.0	0.0	100
Indonesia	0.0	**44.6**	0.0	55.4	100
Vietnam	0.0	0.0	**92.0**	8.0	100
Others	0.1	6.0	8.1	**85.8**	100

The research underscores Malaysia's robust performance in the Chinese market for product HS060411, securing a loyalty rate of 72.1%. Conversely, in the USA market, the retention rates for the same Malaysian product (HS090411) were markedly lower at 29.5%, trailing behind Indonesia (58.2%) and Vietnam (85.1%). For product HS090412, Malaysia's retention rates in China were lower, standing at a mere 34.6% compared to Indonesia (40.8%) and Vietnam (42.2%). Malaysia lost market shares to Indonesia (14.3%) and other exporting countries (51.1%). Notably, in the USA market, Malaysia recorded zero retention rates for HS090412, with Indonesia monopolizing all of Malaysia's market shares.

China has become a significant destination for Malaysia's pepper exports due to its strong trade relations with Malaysia and its large market size. The bilateral trade between the two nations rose to RM487.13 billion in 2022, a 15.6% increase from the previous year (PMO, 2023). China's large population and growing demand for pepper in its food-related industries and the pharmaceutical and cosmeceutical sectors provide a substantial market for Malaysian pepper exporters (Entebang, 2020).

On the other hand, Malaysian pepper exports underperformed in the USA market due to factors such as price fluctuations, supply-demand dynamics, product quality, trade policies, and market preferences. To improve competitiveness in the US market, the Malaysian Pepper Board (MPB) needs to implement strategies such as enhancing pepper quality, developing premium product branding, modernizing production technology, fostering R&D and innovation, expanding market opportunities, improving smallholder capabilities through modern technology, and enforcing regulations to ensure exported pepper products meet international standards.

CONCLUSION

In assessing the export performance of Malaysian pepper, we utilized the widely adopted marketing tool known as Brand-Switching Analysis (BSA). In our approach, we conceptualized exporting countries such as Malaysia, Indonesia, and Vietnam as

distinct brands, while viewing importing countries as customers and pepper as the product. The objective of this research was to scrutinize potential shifts in customer preferences for analogous products and brands. Utilizing the transitional probability matrix, our analysis spanning the period from 2001 to 2018 reveals noteworthy insights into brand loyalty.

During this study period, Malaysia, designated as the brand, exhibited the highest degree of loyalty for the pepper HS090411 product in the Chinese market, its most devoted customer. Conversely, for Vietnam, the USA emerged as the most steadfast customer for the same product. Additionally, concerning the retention rate for pepper HS090412, our findings indicate that Vietnam's most loyal customers were China and the USA, although these markets did not exhibit similar loyalty to Malaysia. Interestingly, Indonesia did not exhibit a single most loyal customer. This can be attributed to the dominance of Malaysia and Vietnam in every market destination, despite Indonesia maintaining a consistent market share in those markets.

Despite Malaysia's nearly two-century history in pepper cultivation, Vietnam, having entered the industry merely 15 to 20 years ago, has ascended to the position of the world's leading pepper producer. Thus, it is imperative for the Malaysian government to emulate Vietnam's strategy of inviting foreign investment in the pepper industry, including the provision of land for cultivation. This approach could potentially augment exports and stimulate local employment.

To maintain competitiveness in the global trade arena, it is incumbent upon Malaysia to address the issue of brand switching. This necessitates the deployment of potent marketing strategies for pepper products, which entails a proactive stance through promotional activities and active engagement in international trade exhibitions. Furthermore, the strategy of market matching is of paramount importance, ensuring congruence with authentic consumer preferences, thereby highlighting the crucial role of exhaustive market research. In the realm of regulatory supervision, Malaysian pepper exporters are required to consistently provide high-quality products while simultaneously establishing a competitive advantage for their products.

REFERENCES

Bayus, B. (1992). Brand Loyalty and Marketing Strategy: An Application to Home Appliances. Marketing Science, 11(1), 21-38.

Cambridge Dictionary (2023). Retrieved 11 November 2023, from https://dictionary.cambridge.org/dictionary/english/brand-switching.

Cornelius, M., Cummings, K., Fong, G., Hyland, A., Driezen, P., Chaloupka, F.J., Hammond, D., O'Connor, R.J., and Bansal-Travers, M. (2015). The prevalence of brand switching among adult smokers in the USA, 2006–2011: Findings from the ITC US surveys. Tobacco Control, 24(6), 609-615.

Entebang, H, Wong, S.K., and Zehnder, A-M. (2020). Development and Performance of the Pepper Industry in Malaysia: A Critical Review. International Journal of Business and Society. 20. 1402-1423.

Fischer (2018), Cultivating Sarawak Pepper. Retrieved 6 August 2019, from https://www.malaysia-insights.com/cultivating-sarawak-pepper/.

Indah Fintikasari and Elia Ardyan. (2018). Brand Switching Behaviour in The Generation Y: Empirical Studies on Smartphone Users. Jurnal Manajemen Dan Wirausaha, 20(1): 23-30.

Karani, K.G. and K.A. Fraccastoro, (2010). Resistance to brand switching: The elderly consumer. Journal of Business and Economics Research, 8: 77-84.

Khalid, A.B., Wong, S.K. and Audrey, L. (2009). Competitiveness with Sustainable Agriculture: Win, Lose or Draw? International Journal of Economics and Management, 3(1): 87-99.

Michaelidou, N. and S. Dibb. (2009). Brand switching in clothing: The role of variety-seeking drive and product category-level characteristics. International Journal of Consumer Studies, 33: 322-326.

MM4XL. (2010). Aptrio. Marketing Manager for Excel. Retrieved 14 November 2023, from http://www.aptrio.com/Business/Spreadsheets/mmxl-marketing-manager-for-excel-full-edition-1478.html.

PMO. (2023). https://www.pmo.gov.my/2023/03/china-is-an-important-trade-partner-for-malaysia-anwar/. Retrieved 11 November 2023.

Theil, H and Rey, G. (1966). A Quadratic Programming Approach to the Estimation of Transition Probabilities. Management Science, 12(9).

Sampaothong, S., Zhou, Y., Han, J. and Pruetthichat, P. (2016). The Brand Switching Analysis of Thai Rice in China: A Comparison with Vietnam. The International Journal of Business and Management, Vol.4, Issue 1.

Sampaothong, S. (2016). Factors Affecting Export Performance of Thai Rice Exporter in the Chinese Market. Research Journal of Business Management, 10: 74-85.

Shinoj, P. and V.C. Mathur (2008). Comparative advantage of India in agricultural exports vis-a-vis Asia: A post-reforms analysis. Agricultural Economics Research Review, 21: 60-66.

Wakio, K., Yoshibayashi, T. and Akaboshi, N. (2004). Early detection of changes using Event Sequence Extractor. Fujitsu Scientific and Technical Journal, 40(1): 54–60.