

**THE INTERNATIONALISATION OF FOOD RETAILING
AFFECTING LOGISTICS IN SOUTH EAST ASIA:
AN EXPLORATORY PERSPECTIVE OF CONSUMERS**

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ABSTRACT

Few studies have been carried out to determine consumer characteristics for food distribution in new and/or emerging markets and how they might influence logistics and supply chain solutions. This paper reports on a study investigating physical and demographic characteristics for food purchase and storage in the Southeast Asia countries of Malaysia, Thailand, and Vietnam. The study was undertaken at the consumer end with an exploratory e-mail survey about consumer food shopping preferences and storage, which yielded a total of 200 responses. The findings support the literature regarding supermarket diffusion into the Asian retail space, and price and quality were important purchase decision factors. However, wet markets continue to be important and food hygiene and safety appear to becoming more important. The study should provide guidance for Western food retailers, suppliers and 3PL service providers considering entry into these markets or already operating in them.

Keywords: *Food retailing; logistics systems design; internationalisation; consumer preferences; South East Asia*

บทคัดย่อ

การศึกษายูนิสซัยของผู้บริโภคเพื่อการกระจายสินค้าด้านอาหารในตลาดเกิดใหม่ และอิทธิพลของมันที่มีต่อการบริหารโลจิสติกส์และโซ่อุปทานยังมีไม่มากนัก บทความนี้เป็นการรายงานผลการสำรวจลักษณะทางกายภาพและประชากรที่เกี่ยวข้องกับการซื้อและจัดเก็บอาหารในประเทศแถบเอเชียตะวันออกเฉียงใต้ อันประกอบด้วย มาเลเซีย ไทย และเวียดนาม โดยเก็บข้อมูลจากผู้บริโภคทางอีเมล เพื่อถามความคิดเห็นเกี่ยวกับความพึงพอใจในการจับจ่ายและจัดเก็บอาหาร ซึ่งสามารถเก็บข้อมูลได้ 200 ชุด ผลที่ได้สนับสนุนงานวิจัยที่ผ่านมาเรื่องการขายตัวของซูเปอร์มาร์เก็ตในแวดวงค้าปลีกของเอเชีย ทั้งนี้ราคาและคุณภาพเป็นปัจจัยที่สำคัญต่อการตัดสินใจซื้อสินค้า อย่างไรก็ตาม ตลาดสดก็ยังคงมีบทบาทที่สำคัญต่อไป และสุขอนามัยของอาหารและความปลอดภัยกลายเป็นสิ่งสำคัญมากขึ้น การศึกษานี้ได้เสนอแนวทางให้แก่ผู้ค้าปลีกอาหารสดชาติตะวันตก ซัพพลายเออร์ และผู้ให้บริการด้านโลจิสติกส์ที่ต้องการเข้าสู่ตลาดเหล่านี้หรือประกอบการอยู่แล้ว

INTRODUCTION

Two recent press reports have noted that UK consumers enjoy lower food prices than other Western economies (Collinson, 2014; Collinson and Osborne, 2016). There are many reasons for this are primarily due to the UK's world-leading food retail logistics systems (Fernie and Grant, 2008). However, as highly-efficient UK and other Western grocery retailers have entered developing markets, such as South East (SE) Asia, this expertise has not necessarily been successful. Western systems are usually expected to contribute to retailing internationalisation through 'follow-sourcing' where retailers entering new markets will encourage existing suppliers to follow them into it, concentrating on procurement modernisation, the establishment of centralised distribution, and the use of third-party logistics (3PL) service providers.

Few studies appear to have been carried out to determine defining characteristics of new markets and explain how these might determine which logistics solutions are appropriate to implement. This paper reports on an exploratory research study from the consumer's perspective investigating physical and demographic characteristics of food purchase and storage in the SE Asia countries of Malaysia, Thailand, and Vietnam, which were selected according to their development of more mature to emerging markets respectively and the types of logistics systems likely to be appropriate to meet consumer needs in them. This study is important as SE Asia prepares to implement its ASEAN Economic Community (AEC) initiative in 2015, which will require standardisation for quality and processes for both domestic and foreign markets.

LITERATURE REVIEW

Some third-party surveys independent from food retailers have pointed out that the UK population is enjoying food prices below those of many of its neighbours and other Western economies (Collinson, 2014; Collinson and Osborne, 2016). There could be many contributory reasons for this, including differences in tastes, demographics, shopping habits and trade balances, but some think that some of the difference is down to the UK's highly developed supply chain and logistics systems (Fernie and Grant, 2008). The

proposition that the UK food retail market may be an example for logistics efficiency, with unit costs and inventory levels significantly lower than most of the rest of the world was first put forward by Fernie (1995), however there are other factors at play including the fact that the UK is an island with an oligopolistic market structure in supermarket retail and significant trade association support from IGD (formerly the Institute for Grocery Distribution) and Efficient Consumer Response (ECR) UK (Fernie and Grant, 2008). Further, some collaborative efforts are either not embraced by retailers (Hingley et al. (2011) or are coercive in nature (Grant, 2005).

Logistics system developments in the last two decades, including horizontal collaboration, vertical integration and the vastly increased availability and capability of communications technologies, have had the potential to widen this differential and the growth of multi-national retailers whilst potentially contributing to the global spread of logistics best practice, may equally have led those retailers to adapt their logistics model to suit specific local markets and practices. Differences in logistics 'culture' and infrastructure in different territories are being challenged by the increasing internationalisation of retailing and the resultant transfer of operational practices from one market to others (Fernie, 2014).

Although the concept of the supermarket originated in the USA its rapid adoption as the main shopping format in the UK in the 1960s led to what has been described as a transformation in retail logistics. Highly efficient low cost systems have evolved to support freshness, availability and choice. As highly efficient grocery retailers have come to dominate their markets in the USA and Europe, so have they sought expansion into new markets, taking their expertise with them. However, take-up rates have varied around the world.

Cadilhon et al. (2006) reported that at the turn of the millennium modern retailers accounted for only 20% of food sales across the country in Malaysia, while in the cities of Thailand modern retailers' market share of food sales increased from 25% to 50% in just five years from 1995. Anecdotally, we were told that the opening day of a major modern retailer in the heart of Bangkok reduced sales value at a nearby traditional 'wet market' by more than 40%. In Vietnam, fresh food marketing has traditionally involved supply chains operating through a series of wholesale and retail markets scattered around cities. This was still the case in Ho Chi Minh City (HCMC) with over 200 markets to feed an estimated population of 8 million (Cadilhon et al., 2006). Although not as developed as in other countries in the region, modern food marketing outlets started to appear in HCMC with strong backing from the local authorities. Vietnamese supermarkets and modern department stores, at first restricted to a burgeoning middle class, began starting to attract local customers with different income levels. However, in all countries in the region sales of fresh food – fruits, vegetables, meat and fish – are still a stronghold of the traditional retail markets and itinerant retailers.

Regarding chronological aspects of internationalisation in SE Asia, Coe and Hess (2005) argued that:

- A first wave of diffusion occurred in the early to mid 90's. In countries such as Taiwan, South Korea, Philippines, Thailand and the Czech Republic the

supermarkets' share of the grocery market increased from 10% in 1990 to 60% by early 2000's, a pattern of diffusion in a single decade which had taken five decades in the UK and US.

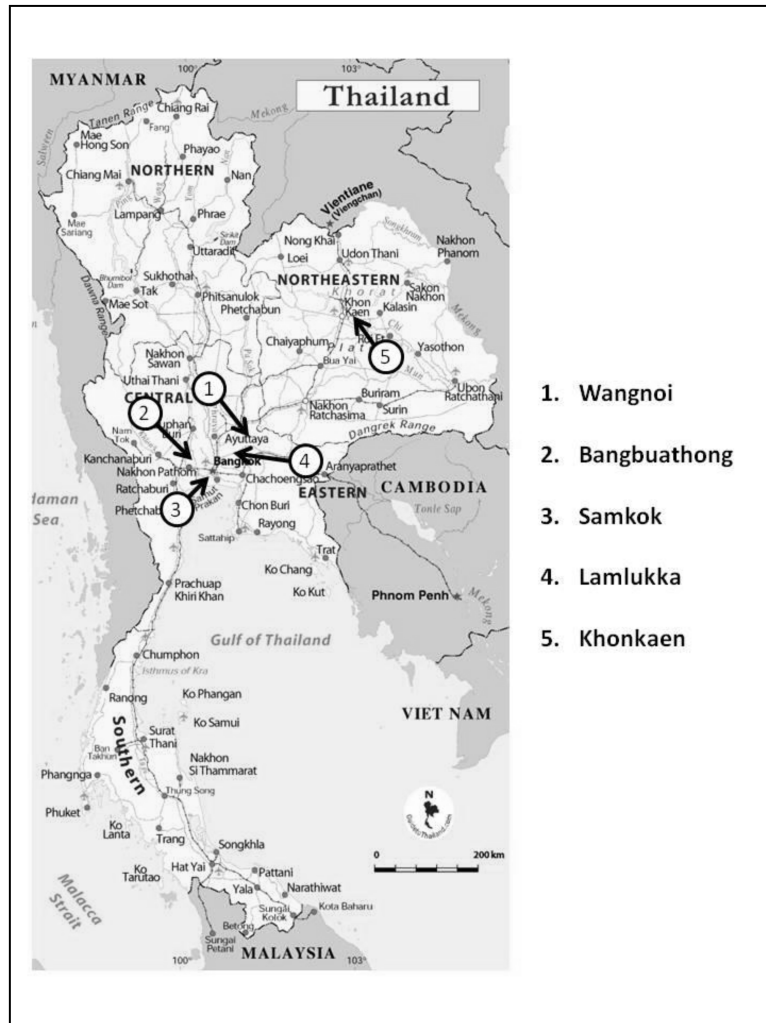
- A second wave of countries including Indonesia, Bulgaria and Central Southern Europe followed, with take off in the late 1990's giving rise to a rapid 30-50% share.
- A third wave, including Vietnam, China started later still in the early 2000's where a 20% share has not been achieved, triggered by release of specific market constraints, such as controls on inward investment or nationalisation of road transport.
- Progress in the so-called fourth wave countries, such as Cambodia, is likely to be slow because of very low disposable incomes.

Retail internationalisation can be attributed to some extent on the logistical transformation of UK retailing in the last three decades (Sparks, 2014). Western logistics systems might be expected to contribute to the internationalisation of retailing through 'follow-sourcing' (Reardon et al, 2007), whereby retailers encourage their existing supply base and service providers to follow them into new markets, essentially imposing existing strategy and practices on a new market. There has been some evidence of success based on this approach in more developed markets such as Thailand (Coe and Hess, 2005) and where there are concerns about security of supply and waste (Akkerman et al., 2010; Goldman, 2001) but few, if any, studies appear to have been carried out to quantify the defining characteristics of new markets and explain how these might determine which logistics solutions are appropriate.

Further, the types of retail formats and replenishment systems are also 'dropped-in' according to Western standards. For example, Tesco Lotus has the following store types in Thailand for food sales: Extra (5-10,000 sq m, over 22,000 stock keeping units or SKUs); hypermarkets (3-7,000, 17,000); department stores (1,000, 13,000); Talad or Metro-type stores (.5-2,000, 8,000); and Express (100-300, 4,000) across the country (Tesco Lotus, 2015). The Tesco Lotus distribution centre (DC) network also follows Western standard with DCs in Wangnoi (ambient for hypermarkets), Bangbuathong (ambient for Talads and Express); Samkok (cross-docking for hypermarkets); Lamlukka (fresh for all formats) and Khonkaen (ambient and fresh for over 300 stores in North East Thailand (see Figure 1).

Again anecdotally, we were told that the Khonkaen DC was developed after the 2011 floods which crippled distribution networks for Tesco and other retailers and could serve as an emergency back-up if flooding was to happen again. Figure 1 provides locations of the five Tesco Lotus DCs, four of which are clustered around Bangkok. We are not suggesting this location strategy is incorrect, but issues surrounding cold chain distribution in Asia are also important due to the warmer climate and the increased risk of spoilage for perishable foods may have been a factor behind the decisions made by Tesco Lotus, besides being close to the huge market of Bangkok and its surrounding area (Salin and Nayga, 2003).

Figure 1: Tesco Lotus DC Locations



Source : Adapted from map at <http://www.maps-thailand.com>

Kamboj et al. (2011) contrasted the success of Carrefour in entering the Chinese market with the struggle faced by Wal-Mart, which they largely attribute to the former's strategy of trying to localise and to do things 'the Chinese way' rather than attempting to impose foreign culture and practices. Of eight potential hurdles to entry identified, different purchasing habits and diet are cited. In particular, they note that Chinese consumers shop frequently and in small amounts, appreciate freshness and do not necessarily have the same brand or store loyalty which underpins Western retail strategy.

Traditional 'wet markets' remain very popular in many parts of Asia (Goldman et al., 1999) although concerns about food quality and safety have to some extent driven consumers away from more of them (Chen and Sun, 2006). However, perceptions about

cost, sourcing and freshness remain important factors in understanding how and where Asian consumers choose to shop (Hu et al., 2003; He et al., 2005). Although models have been proposed to explain this (Bin, 2011), there is little published data in English on the actual effects of these attitudes.

It also appears that growing affluence and the easing of regulation have paved the way for an expansion of supermarkets and other forms of outlet in a so called 'retail revolution' but the extent to which entrenched attitudes and habits will limit this expansion is unclear (Wang, 2011). However, all consumers want to make informed decision regarding food quality and safety and make choices that support their lifestyle (Geetha and Naidu, 2014), particularly consumers in Asia as issues such as nutrition and health risks related to the consumption of processed or fast food will amend their concerns and behaviour to match those in developed countries (Baker and Friel, 2014).

This may also be manifested in a consumer's choice of retail location, i.e. are there certain formats that provide more assurance regarding the purchase of hygienic, safe and quality food. Extant research in this context reports that product assortment, store environment and atmosphere as well as location are not only important factors for shoppers' retail format choice (Carpenter and Moore, 2006) but also potential antecedents for satisfaction. In the same manner, Huddleston et al. (2009) found that price, product assortment, quality, and employee service influence store satisfaction

Established theories of retailing such as the 'wheel of retailing' (Hollander, 1960) or the 'retail accordion' (Hollander, 1966) suggest that new retail formats will tend to start as low cost or low margin and narrow range and then evolve into more complex businesses with higher costs and prices and broader ranges. This would suggest that a period of sudden expansion of formats and ranges may be followed by a return to more simple offerings. This has certainly been borne out by recent market changes in the UK and the influence of Aldi and Lidl in the grocery sector (Grant et al., 2014). Although some research has been carried out on the attitudes and practices of suppliers to the expanding retail formats (Chuang et al, 2011), the extent to which consumer habits and attitudes affect these cycles of retailing is far from clear.

The foregoing indicates international retail success is driven by consumers needs in the local markets and provides our impetus to investigate consumer preferences for food shopping and storage as a first-step to expanding research upstream in the food supply chain in SE Asia in the three target countries of Malaysia, Thailand and Vietnam. The rapid development and economic growth of these three countries as well as the emergence of an urban middle-class with higher purchasing power compared to rural areas has parallels with Western countries. Thus, our approach to investigate the consumer or sharp-end of the supply chain underpins a wider body of research into food shopping and supply chain management in SE Asia. It is also very timely for this region given the development of AEC 2015 and its members' intentions to modernise and update aspects of their respective economies and standards of living.

METHODOLOGY

We undertook exploratory empirical research through a self-completion survey shown in the Appendix. We approached academic and professional colleagues in the three countries of interest to assist in distributing and administering the survey during the early part of 2015. We acknowledge and thank these colleagues at the end of this paper and are grateful for their support and enthusiasm for this study.

Completed surveys were returned either to us or to our colleagues for batch submission to us, and we received 200 valid responses: 33 from Malaysia (16.5%), 129 from Thailand (64.5%) and 38 from Vietnam (19%). We were not advised by our colleagues of the number of surveys that were distributed so do not have a response rate, however we believe the survey went out to around 1,000 people.

The qualitative comments received on many surveys and the fact that a lot of our colleagues are in academia suggests that university students make up a large number of respondents. We are also aware that some of the Thai surveys were completed by Master's level students who study part-time in evening classes and work during the day. However, that lack of information is not troubling as student surveys as part of a methodology can highly benefit issues in logistics, SCM and retailing (Brown and Dant, 2008; Holmes and Paswan, 2012) and allow researchers to shake-up historical patterns of methodologies and provide additional insights into old retailing problems, including explicitly the retail supply domain. Further, today's students are tomorrow's household consumers and having a view on current preferences and behaviour is useful for forward planning, such as the Thai Master's students.

FINDINGS

Numerical survey results are presented in Table 1 for all three countries, and Table 2-4 for Malaysia, Thailand and Vietnam, respectively.

Table 1: Numerical Survey Results for All Three Countries of Interest (n=200)

Do you have 21 meals per week that is three times a day? Yes 97 No 102
If no, how many do you have per week? 15 on average
Of the total number of meals per week, how many are taken at home? 9 on average
Of the meals taken at home, how many are produced from ingredients 7 on average and how many are bought ready prepared? 5 on average
How many times per week does someone in your household shop for food to be eaten at home? 4 on average

Table 2: Numerical Survey Results for Malaysia (n=33)

Do you have 21 meals per week that is three times a day? Yes **23** No **10**
If no, how many do you have per week? **13 on average**
Of the total number of meals per week, how many are taken at home? **11 on average**
Of the meals taken at home, how many are produced from ingredients **10 on average** and how many are bought ready prepared? **5 on average**
How many times per week does someone in your household shop for food to be eaten at home? **3 on average**

Table 3: Numerical Survey Results for Thailand (n=129)

Do you have 21 meals per week that is three times a day? Yes **52** No **77**
If no, how many do you have per week? **15 on average**
Of the total number of meals per week, how many are taken at home? **7 on average**
Of the meals taken at home, how many are produced from ingredients **4 on average** and how many are bought ready prepared? **6 on average**
How many times per week does someone in your household shop for food to be eaten at home? **4 on average**

Table 4: Numerical Survey Results for Vietnam (n=38)

Do you have 21 meals per week that is three times a day? Yes **23** No **15**
If no, how many do you have per week? **15 on average**
Of the total number of meals per week, how many are taken at home? **13 on average**
Of the meals taken at home, how many are produced from ingredients **12 on average** and how many are bought ready prepared? **4 on average**
How many times per week does someone in your household shop for food to be eaten at home? **5 on average**

Overall, as shown in Table 1, there were 97 respondents who noted they had 21 meals a week, or three meals a day, and 103 who said they had less than 21 meals per week. The average number of meals per week for this latter group was almost 15 (14.8, $\sigma=1.6$). The average number of meals eaten in the home was almost 9 (8.7, $\sigma=4.8$), while average meals prepared were almost 7 (6.9, $\sigma=4.5$) and average meals purchased, i.e. takeaways were just over 5 (5.1, $\sigma=3.4$). The average number of weekly shops was about 4 (3.8, $\sigma=2.2$) with wet markets, supermarkets and convenience stores dominating the retail formats used with well over 100 consumers selecting each of them.

The predominant factors for choice of shop were convenience, price, quality and distance from home or work. Only 10 respondents selected online shopping as a format choice with 6 from Thailand, 3 from Malaysia and 1 from Vietnam, suggesting an underdeveloped food online shopping environment.

Sixty-six respondents (33%) have changed their food shopping habits during the last five years with an interest in more quality and safe food being the predominant reason, followed by changes in life stages i.e. becoming married or going to university.

Only ten respondents did not own a refrigerator/ freezer. The most popular food items kept in them for the 190 who do own one were meat-chicken-pork, fresh vegetables, fruit and various beverages including water, juice and beer. Interestingly, 19 respondents from Thailand (almost 15% of Thai responses) noted that they keep chocolate or sweets in the fridge while another half-dozen (about 5%) responded that cosmetics and medication were kept chilled.

However, there were no real significant differences among the three countries as shown in Tables 2-4 and thus we infer that purchasing behaviours are about the same across all nations.

CONCLUSIONS

The findings of our exploratory survey appear to support the literature as regards to:

- Supermarkets diffusing into the retail space and becoming a more popular format in Asia (Coe and Hess, 2005; Cadilhon et al., 2006; Wang, 2011) while wet markets continuing to play an important role (Goldman et al., 1999); and
- Food hygiene and safety becoming more important (Carpenter and Moore, 2006) while price and quality remain important purchase decision factors (Huddleston et al., 2009).

Our results have also allowed us to understand some perceptions and resulting consumer behaviour in these countries as regards shopping for food (Hu et al., 2003; He et al., 2005) however our survey instrument did not allow us to tap into attitudes underlying this behaviour.

There are some limitations to this exploratory work however it gives us a start to probe consumer attitudes more deeply in a larger and more penetrating study. We did not anticipate that we would receive the number of responses we did and thus an opportunity was missed to have a more detailed and expanded survey with different and more revealing questions. However, the collaborative support of our colleagues has encouraged us to consider developing such a survey and applying it in another survey round to reveal even more insights. Longer term, we want to move upstream from consumers to investigate issues in retail and distribution in this region affecting how consumers purchase food to determine if food distribution is properly aligned with consumer needs and wants and if not where efficiency and effectiveness can be improved.

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REFERENCES

- Akkerman, R., Farahani, P. and Grunow, M. (2010), "Quality, safety and sustainability in food distribution: a review of quantitative operations management approaches and challenges", *OR Spectrum*, Vol. 32, pp. 863-904.
- Baker, P. and Friel, S. (2014), "Processed foods and the nutrition transition: evidence from Asia", *Obesity Reviews*, Vol. 15, pp. 564-577.
- Bin, C. (2011), "The choice behaviour in fresh food retail market: a case study of consumers in China", *International Journal of China Marketing*, Vol. 2 (1), pp 68-76.
- Brown, J.R. and Dant, R.P. (2008), "Scientific method and retailing research: A retrospective", *Journal of Retailing*, Vol. 84 (1), pp. 1-13.
- Cadilhon, J.J., Moustier, P., Poole, N.D., Tam, P.T.G. and Fearne, A.P. (2006), "Traditional vs. modern food systems? Insights from vegetable supply chains to Ho Chi Minh City (Vietnam)", *Development Policy Review*, Vol. 24 (1), pp. 31-49.
- Carpenter, J.M. and Moore, M. (2006), "Consumer demographics, store attributes and retail format choice in the US grocery market", *International Journal of Retail and Distribution Management*, Vol. 34 (6), pp. 434-452.
- Chen, G.W. and Sun, G.J. (2006), "The food safety KAP investigation of Nanjing consumers", *Journal of China's Public Health*, Vol 22, pp 604-608.
- Chuang, M.L., Donegan, J.J., Ganon, M.M. and Wei, K. (2011), "Wal-Mart and Carrefour experiences in China: Resolving the structural paradox", *Cross Cultural Management*, Vol. 18 (4), pp. 443-463.
- Coe, N.M. and Hess, M. (2005), "The internationalization of retailing: implications for supply network restructuring in East Asia and Eastern Europe", *Journal of Economic Geography*, Vol. 5 (4), pp 449-473.
- Collinson, P. (2014), "Why the UK's food prices aren't so high after all", *The Guardian*, 26 July, <http://www.theguardian.com/money/2014/jul/26/uk-cities-food-prices-survey/>.
- Collinson, P. and Osborne, H. (2016), "The surprising fall in the cost of the UK's food", *The Guardian*, 7 May, <https://www.theguardian.com/money/2016/may/07/surprising-fall-cost-food-uk-eggs-bread-meat>.
- Fernie, J. (1995), "International comparisons of supply chain management in grocery retailing", *Service Industries Journal*, Vol. 15 (4), pp. 134-147.

- Fernie, J. (2014), "The Internationalization of the retail supply chain", in J. Fernie and L. Sparks (Eds.) *Logistics and Retail Management: Emerging issues and new challenges in the retail supply chain (4th Ed.)*, Kogan Page: London, pp. 59-76.
- Fernie, J. and Grant, D.B. (2008), "On-shelf availability: The case of a UK grocery retailer", *International Journal of Logistics Management*, Vol. 19 (3), pp. 293-308.
- Geetha, M. and Naidu, G., (2014), "Attributes and retail format preference for branded pulses", *South Asian Journal of Global Business Research*, Vol. 3 (2), pp. 190-208.
- Goldman, A. (2001), "The transfer of retail formats into developing economies: The example of China", *Journal of Retailing*, Vol. 77, pp 221-242.
- Goldman, A., Krider, R. and Ramaswami, S. (1999), "The persistent competitive advantage of traditional food retailers in Asia: Wet markets' continued dominance in Hong Kong", *Journal of Macromarketing*, Vol. 19 (2), pp. 126-139.
- Grant, D.B. (2005), "The transaction–relationship dichotomy in logistics and supply chain management," *Supply Chain Forum: An International Journal*, Vol. 6 (2), pp. 38-48.
- Grant, D.B., Fernie, J. and Schulz, B. (2014), "Enablers and barriers in German online food retailing", *Supply Chain Forum: An International Journal*, Vol. 15 (3), pp. 4-11.
- He, J., Ji, Y.Q. and Wu, H.J. (2005), "Consumer behaviour mode of fresh food – comparison of supermarket and free market of agricultural products"; *Journal of China Agricultural University*, Vol. 3, pp 67-71.
- Hingley, M., Lindgreen, A., Grant, D.B. and Kane, C. (2011), "Using fourth party logistics management to improve horizontal collaboration among grocery retailers", *Supply Chain Management: An International Journal*, Vol. 16 (5), pp. 316-327.
- Hollander, S.C. (1960), "The wheel of retailing", *Journal of Marketing*, Vol. 25 9 (1), pp 37-42.
- Hollander, S.C. (1966): "Notes on the retail accordion"; *Journal of Retailing*, Vol. 22, pp 29-40.
- Holmes, G.R. and Paswan, A. (2012), "Consumer reaction to new package design", *Journal of Product and Brand Management*, Vol. 21 (2), pp. 109-116.
- Hu, D.H., Yu, H.F. and Reardon, T. (2003), "The fresh food management of Chinese supermarket and the purchase behaviour"; *Journal of China's Rural Economy*, Vol. 8, pp. 13-14.
- Huddleston, P., Whipple, J., Mattick, R.N. and Lee, S.J. (2009), "Customer satisfaction in food retailing: comparing specialty and conventional grocery stores", *International Journal of Retail and Distribution Management*, Vol. 37 (1), pp. 63-80.
- Kamboj, R., Kalia, S. and Kalra, U. (2011), "Case study Wal-Mart – India versus China", *Practices and Research in Marketing*, Vol. 2 (1), pp 19-30.
- Reardon, T., Henson, S. and Berdegue, J. (2007), "Proactive fast-tracking' diffusion of supermarkets in developing countries: implications for market institutions and trade", *Journal of Economic Geography*, Vol. 7, pp 399-431.
- Salin, V. and Nayga, R.M. (2003), "A cold chain network for food exports to developing countries", *International Journal of Physical Distribution and Logistics Management*, Vol. 33 (10), pp. 918-933.
- Sparks, L. (2014), "Tesco's supply chain management" in J. Fernie and L. Sparks (Eds.) *Logistics and Retail Management: Emerging issues and new challenges in the retail supply chain (4th Ed.)*, Kogan Page: London, pp.149-178.

Tesco Lotus (2015), <http://www.tescolotusthailand.com/en/about-us/our-business/retail-business>.

Wang, E. (2011), "Understanding the 'retail revolution' in urban China: A survey of retail formats in Beijing", *Service Industries Journal*, Vol. 31 (2), pp 169-194.

APPENDIX: SURVEY INSTRUMENT

1. Do you have 21 meals per week that is three times a day? Yes ___ No ___
2. If no, how many do you have per week ___ and when do they occur, that is morning, midday and/or evening? ___
3. Of the total number of meals per week, how many are taken at home? ___ Which meals? ___
4. Of the meals taken at home, how many are produced from ingredients ___ and how many are bought ready prepared? ___
5. How many times per week does someone in your household shop for food to be eaten at home? ___
6. How many of the following different types of shop are visited in a typical week?

Wet market ___	Convenience store ___
Supermarket ___	Specialist retailer ___
Bought online ___	Other (please name) ___
7. Which three factors primarily influence where you choose to shop? ___
8. Have your food shopping habits changed in the last five years? Yes ___ No ___
9. If yes, how? ___
10. Does your household have a refrigerator and/ or a freezer? Yes ___ No ___
11. If yes, what do you keep in it? ___
12. If no, how do you keep any perishable or chilled foods cool? ___