



## The impact of service quality on business commitment in B2B segment of agribusiness: An exploratory study of HORECA sector in Malaysia

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### Abstract

In competitive markets, agribusiness firms have embarked on improving their service quality for building and maintaining a profitable relationship with their customers. However, such impact of service quality on business commitment has not been empirically investigated. To fill this gap, this study explores the relationship between service quality and commitment, using a case of supplier selection of fresh produce by hotel, restaurant, and catering (HORECA) sector in Malaysia. Using SERVQUAL as the main component of the conceptual framework, the relevant information was collected from 195 random HORECA operators and analyzed using partial least squares. The results indicate that service quality explains little of HORECA's decision to stay with their current suppliers. While most service quality factors were insignificant, "responsiveness" in term of providing delivery service had a statistically significant positive impact on HORECA's contractual arrangement with their current suppliers. These findings imply that quality service is being seen as a supplement; economic factors (e.g., prices and their stability, credit term) are likely to be the key drivers affecting buyer-seller relationships. If suppliers want to stay on course, they have to improve their service quality and focus more on delivery service. In addition, more research is needed in this relatively new area.

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### Introduction

Agribusiness market is increasingly competitive. Survival in such landscape requires a quick response to market change (Juliá-Igual *et al.*, 2012). Prevailing market trend has largely been quality driven, seeking improved healthiness and safety in food products (Verbeke, 2005; Goddard *et al.*, 2013). Responding to this change, agribusiness firms have generally focused on developing or improving food (product) quality. More and more of them have invested in private standards or third party certification programs by conforming to stricter production and processing requirements. In addition, credence attributes (e.g., place of origin, locally grown, environment-friendly, fair trade, and *halal*) have been used to act as quality cues (Verbeke *et al.*, 2013).

There needs an additional effort to gain competitive advantage. Agribusiness firms have strived to improve their service quality, which is defined by a multidimensional perception held by customers (Brenes *et al.*, 2013). That is to build and maintain a long-term customer relationship (Gounaris, 2005a). A sustainable relationship is likely to keep sales coming (Reynolds *et al.*, 2009).

In the business-to-consumer (B2C) segment

of agribusiness, service quality is intended to create consumer loyalty. It is commonly used as a differentiation strategy, particularly in foodservice establishments and retail outlets (traditional and modern ones). Its popularity has resulted in an extensive agribusiness literature investigating a range of service quality issues using SERVQUAL model (Ha and Jang, 2010; Min and Min, 2011; Ryu *et al.*, 2012; Chin and Tsai, 2012; Oyewole, 2013). Many studies have suggested that quality service delivers additional value to satisfy the needs of consumers at a profit. In turn, consumers are likely to commit and patron a foodservice establishment or repurchase a food product (Qin and Prybutok, 2009; Hyun, 2010; Barber *et al.*, 2011).

Value creation through profitable relationship has begun to gain attention in the business-to-business (B2B) segment of agribusiness. A number of recent studies have investigated buyer-seller relationships between seed suppliers and farmers (Batt and Rexha, 2000); processors and farmers (Schulze *et al.*, 2006); farmers and exporters (Lu *et al.*, 2008); and food importers and exporters (Gyau and Spiller, 2009). Their findings suggest that a strong relationship between a buyer and a seller is likely to result in an efficient supply chain and superior market

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performance.

However, little is known about the role of service quality in B2B relationship management within agribusiness. Gunderson *et al.* (2009) have built a structure of service quality in agricultural inputs sector. Their results lend support to the applicability of SERVQUAL model in the B2B segment. In contrast, Ng (2010) has shown little indication that service quality is an important criterion in B2B supplier selection. It is obvious that these two studies have not provided an answer as to whether service quality leads to customer commitment, in terms of remaining and strengthening the ties with the current suppliers (Gounaris, 2005a).

Given the knowledge gap above, this study aims to explore the relationship between service quality and commitment in the B2B segment of agribusiness. This exploratory study is based on a project of the Food and Agriculture Organization (FAO) of the United Nations on Fruit and Vegetable Procurement Criteria used by Hotel, Restaurant, and Catering (HORECA) in Malaysia. Our findings will provide an answer to the earlier question through the lenses of HORECA operators on the quality of services that provided by their current fruit and vegetable suppliers. Fresh produce suppliers can use these results to improve their services and emphasize on important areas in their customer relationship management.

### Hotel, restaurant, and catering (HORECA) sector in Malaysia

In line with rising demand for food away from home, Malaysia's HORECA sector has grown at an unprecedented rate. It was estimated that 98% of Malaysians dine out at least once a week (New Zealand Trade and Enterprise, 2009). HORECA sector's sales jumped from RM14.4 billion in 2003 to RM23 billion in 2008 and was predicted to increase at between seven percent and 10 percent annually (USDA Foreign Agricultural Services, 2009). Consequently, the sector has increasingly become a significant contributor to the country's economy.

In HORECA sector, agribusiness activities are supported by supplies from upstream levels. In this B2B segment, HORECA operators are the buyers; upstream players are the sellers. The buyers have the right to choose their sellers and, in turn, creating a competitive platform in agribusiness markets.

Figure 1 illustrates supply sources of fresh produce that are available to HORECA establishments in Malaysia. These include domestic farms, middlemen (wholesalers and local suppliers), and retailers (conventional retailers and modern retailers). Domestic farms offer a farm-to-plate concept to

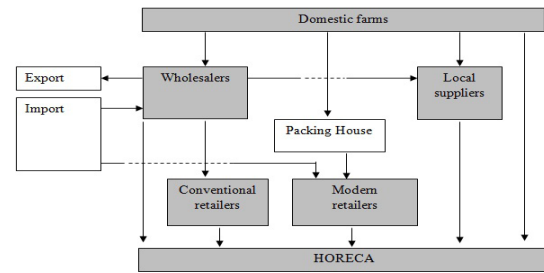


Figure 1. Supply sources of fresh produce for hotel, restaurant, and catering sector in Malaysia. Source: Adapted from Fatimah *et al.* (2006)

HORECA operators. Their farm-direct supplies are generally fresher and cheaper than other options. Middlemen provide local and foreign varieties at a competitive price range. Another intermediary group – wholesalers are centralized in cities; local suppliers serve specific suburb areas. Some local suppliers also obtain produce from wholesalers due to convenience and availability of imported produce.

Retailers group is formed by conventional retailers and modern retailers. They offer different varieties, prices, quantity, and quality of fresh produce. Conventional retailers (e.g., wet markets and sundry shops) act as a downstream to wholesalers and exist across rural and urban areas. In contrast, modern retailers (e.g., chain stores, supermarkets, and hypermarkets) largely operate in urban areas. They source fresh produce through contract arrangement with domestic farms. Some capital-rich modern retailers even import foreign varieties from international markets.

From the above, it is clear that HORECA suppliers share a similar business strategy, which embarks on choice (varieties), pricing, product quality, product quantity, and location. These typical emphases are likely to give them the fundamental to remain in the business.

Some HORECA suppliers have begun to improve their service quality as a differentiation strategy. Domestic farms do this by producing specified fresh produce (e.g., sizes, cleanliness, and packaging). Middlemen ensure quantity availability, quality consistency, and prompt delivery of fresh produce throughout the year. Retailers promise high quality standards. While these are just some examples, various initiatives aim to result in commitment for business continuity with HORECA operators. However, it is currently uncertain whether the outcome is favourable. Therefore, this study is valuable in providing the insights just in time.

### Conceptual framework

Parasuraman *et al.* (1988) posit that a prerequisite for a firm's success is its ability to deliver

superior service. To gain such knowledge, one must measure customers' perceived quality of provided services. Their SERVQUAL model is popular in the research within the B2C segment of agribusiness. In comparison, only few studies (e.g., McNeil and Wilson, 1997; Gunderson *et al.*, 2009; Wilson *et al.*, 2011) have accounted for the service quality in the B2B segment using the model. Nevertheless, the SERVQUAL model has worked well in such application and in B2B research of other industries (Pitt *et al.*, 1996; Durvasula *et al.*, 1999; Gounaris 2005a, b).

Given its flexible applicability, the SERVQUAL model is selected as the core component in the conceptual framework of this study (see Figure 2). According to Parasuraman *et al.* (1988), service quality is measured by five dimensions: (1) tangibles refer to physical facilities, equipment, and appearance of personnel; (2) reliability concerns about the ability to perform the promised service dependably and accurately; (3) responsiveness looks at the willingness to help customers and provide prompt service; (4) assurance describes the knowledge and courtesy of employees and their ability to inspire trust and confidence; and (5) empathy is about a firm's care and individualized attention provided to its customers.

Quality service should lead to commitment, either in the form of calculative commitment or affective commitment (Mathieu and Zajac, 1990). Both forms of commitment represent a stable supplier-customer relationship, but they are derived from different motivations. Calculative commitment is due to an anticipation of high switching cost after a cost-benefit calculation; affective commitment stems from a positive enjoyment of the partnership (Buchanan, 1974).

Among the two commitment forms, affective commitment is the point of interest in this study. This is because service is additionally provided to HORECA operators on voluntary basis. Switching to another supplier does not involve high transaction cost. The switch, at worst, could see its substitute unable to deliver a similar standard of service. In this case, affective commitment is measured as to whether HORECA operators prefer to remain with the existing suppliers and having a long-term contract with the current suppliers.

## Methods

### Data

To test our hypothesis, data were collected through a structured questionnaire. The questionnaire was

Table 1. Descriptive statistics of service quality and commitment items

Items	Statements	Mean	Standard deviation
V1.1	Current suppliers' produce is good looking <sup>^</sup>	3.98	0.714
V1.2	Current suppliers' produce is fresh <sup>^</sup>	4.02	0.764
V1.3	Current suppliers' produce is clean <sup>^</sup>	4.05	0.771
V2.1	Current suppliers provide a constant supply of produce throughout the year <sup>^</sup>	3.88	0.968
V2.2	Current suppliers have a wide variety of produce <sup>^</sup>	4.07	0.720
V2.3	Current suppliers' produce is safe <sup>^</sup>	4.11	0.715
V3.1	Current suppliers deliver produce to my outlet <sup>^</sup>	3.90	1.175
V4.1	Current suppliers know the source of their produce <sup>^</sup>	3.99	0.798
V4.2	Current suppliers take responsibility if produce has any problem <sup>^</sup>	4.27	0.728
V5.1	Current suppliers grade and pack their produce <sup>^</sup>	3.56	1.025
V5.2	Current suppliers wash/peel/cut their produce <sup>^</sup>	3.01	1.207
V6.1	I have a long-term contract with current suppliers*	0.31	0.465
V7.1	I need more qualified suppliers <sup>^</sup>	3.83	1.224

Note: <sup>^</sup>Statements were measured using 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree; \*The statement was measured by a binary answer (yes or no).

developed according to the conceptual framework vis-à-vis suggestions from a Thai university's researchers who were also carrying out a similar study. Questionnaire drafts were prepared in English and translated into Malay and Chinese languages. They were all pre-tested and improved accordingly.

In the questionnaire, a subjective approach was used to measure service quality. Its competing approach – objective approach is typically used in service quality research for measuring the gap between expectations and perceptions in established research areas (e.g., foodservice, hotel service, and banking service). Such approach requires a priori knowledge on items to be used for measurement and its statistical operation is also complex. On the other hand, the subjective approach focuses only on customer perception. Its measurement is relatively simple and psychometrically robust (Brady and Cronin, 2001). This approach is appropriate for understanding relatively new research areas (Keillor *et al.*, 2004), including the B2B service quality (Bolton *et al.*, 2008; Stanworth, 2012). Therefore, the subjective approach was taken to measure the B2B service quality as perceived by HORECA operators.

The descriptive information on service quality and commitment are presented in Table 1. Respondents were asked to rate his or her degree of agreement on the five dimensions of service quality, using a 5-point Likert scale. Tangibles dimension was measured by outlook, freshness, and cleanliness of fresh produce. Reliability dimension was represented by supply consistency, variety choice, and product safety of fresh produce. Responsiveness dimension was captured solely by a supplier's ability to make delivery to HORECA outlet. Assurance dimension was denoted by asking whether the origin of fresh produce is known and a supplier takes responsibility for food safety issues. Empathy dimension was characterized by whether a supplier grades and packs as well as wash, peel or cut fresh produce. Affective commitment was measured in two ways: (1) a binary choice of having a long-term contract with the current

suppliers and (2) a 5-point Likert scale on the extent of needing new qualified suppliers.

Due to budget and time constraints, a mixed-mode survey was conducted in Malaysian from September to October 2009. The survey was carried out through face-to-face interview, online survey, and mail survey. As each of these methods has its own strengths and weaknesses, they complement each other and work better in combination. For example, both online and mail surveys are cost effective in covering a wide area; face-to-face interview is relatively costly and efficient in getting primary information.

A total of 195 completed questionnaires were received from random HORECA owners or head chefs or heads of purchasing department. They spanned across hotels, restaurants, catering, schools, hospitals, and food courts. Guest houses were not included because they do not provide meals to their accommodation guests.

#### Estimation procedures

The collected data were used to estimate the structural equation model of Figure 2, using partial least squares through SmartPLS 2.0 (Ringle *et al.*, 2005). This statistical method is appropriate for exploratory studies (Hair *et al.*, 2010). It also works flexibly with a small sample size and does not have a strict requirement on residual distribution (Chin, 1998; Gefen *et al.*, 2000). The estimation procedures of PLS entail two stages (Hair *et al.*, 2013).

In the first stage, measurement model was evaluated. The latent constructs of “tangibles” (F1), “reliability” (F2), “responsiveness” (F3), “assurance” (F4), “empathy” (F5), “contract” (F6) and “supplier” (F7) were measured by their respective items. We write:

$$V1.1 = F1 + e_{1,1}; \quad (1.1)$$

$$V1.2 = F1 + e_{1,2}; \quad (1.2)$$

$$V1.3 = F1 + e_{1,3}; \quad (1.3)$$

$$V2.1 = F2 + e_{2,1}; \quad (2.1)$$

$$V2.2 = F2 + e_{2,2}; \quad (2.2)$$

$$V2.3 = F2 + e_{2,3}; \quad (2.3)$$

$$V3.1 = F3 + e_{3,1}; \quad (3.1)$$

$$V4.1 = F4 + e_{4,1}; \quad (4.1)$$

$$V4.2 = F4 + e_{4,2}; \quad (4.2)$$

$$V5.1 = F5 + e_{5,1}; \quad (5.1)$$

$$V5.2 = F5 + e_{5,2}; \quad (5.2)$$

$$V6.1 = F6 + e_{6,1}; \quad (6.1)$$

$$V7.1 = F7 + e_{7,1}; \quad (7.1)$$

where fresh produce outlook (V1.1), freshness (V1.2), and cleanliness (V1.3); supply consistency (V2.1), variety choice (V2. 2), and product safety of fresh produce (V2.3); ability to make delivery to HORECA outlet (V3.1); the origin of fresh produce

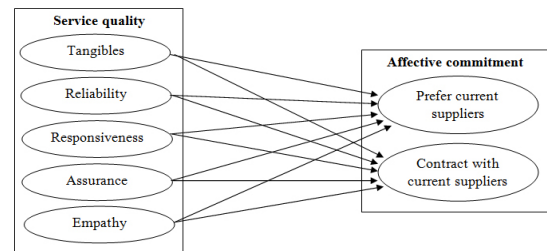


Figure 2. The potential effect of service quality on commitment

is known (V4.1), a supplier takes responsibility for food safety issues (V4.2); a supplier grades and packs fresh produce (V5.1) and wash, peel or cut fresh produce (V5.2); a long-term contract with the current suppliers (V6.1); the extent of needing new qualified suppliers (V7.1); and  $e_i$  is the error associated with item  $V_i$ .

In the measurement model, we checked for convergent validity and discriminant validity. A convergent validity exists when an item is significant as its factor-loading is more than 0.5. Then, construct reliability was calculated to check for the internal consistency of various constructs. A construct value of 0.7 and higher indicates good reliability. Finally, average variance extracted (AVE) was calculated for all constructs in order to test for discriminant validity. Discriminant validity exists when the correlation between two constructs is smaller than the square root of AVE value of each construct.

In the second stage, the structural model was tested to seek the impact of each construct of service quality on business commitment, in terms of having a long-term contract with the existing suppliers (V6) and a need for new suppliers (V7). Their regressions can be written as:

$$F6 = a_{8,1}F1 + b_{8,1}F2 + c_{8,1}F3 + d_{8,1}F4 + f_{8,1}F5 + e_{8,1}; \quad (8.1)$$

$$F7 = a_{8,2}F1 + b_{8,2}F2 + c_{8,2}F3 + d_{8,2}F4 + f_{8,2}F5 + e_{8,2}; \quad (8.2)$$

where “tangibles” (F1), “reliability” (F2), “responsiveness” (F3), “assurance” (F4), “empathy” (F5), “contract” (F6), and “supplier” (F7).

In the structural model, path coefficients represent the standardized beta weights in regression analysis. A model is deemed fit when the r-square value is high and t-values are statistically significant. To evaluate the statistical significance of path coefficients, a bootstrapping method was conducted. A path coefficient is significant when its 2 t-tailed value is greater than 2.326 at 0.01 level; 1.96 at 0.05 level; 1.645 at 0.10 level.

#### Findings

In this exploratory study, results of the

measurement model are presented in Tables 2 and 3. All of the factor loadings are above 0.5, indicating that all single-items were statistically significant. They provide the initial evidence of convergent validity. The reliability for all constructs is consistently above the required level of 0.7, adding to the support of convergent validity. In addition, the value of average variance extracted for each construct is above 0.5. Their corresponding square root value is larger than the correlation between constructs. Discriminant validity is achieved for all the constructs. These evidences suggest that the constructs of service quality were well represented by individual items.

Followed the valid measurement model, results of the structural model are presented in Table 4. Given that this is an exploratory study, it is not unexpected that the R-square values are low. The five constructs of service quality explained only 8.6 percent of variance in HORECA’s contractual relationship with their current suppliers and 4.7 percent of variance in HORECA’s need for more new qualified suppliers. These results are supported by those found by Ng (2010), suggesting that service quality has yet to play a critical role in supplier selection within B2B segment in agribusiness.

It is obvious that most factors were not significant in relation to the establishment of a long-term contract with current suppliers and the need for more qualified suppliers. Nevertheless, most of their signs were as expected. Their insignificance can be attributed to the exploratory nature of this study.

Among all factors, “responsiveness” was the only one having statistically significant relationship with in HORECA’s contractual relationship with their current suppliers. This finding suggests that its underlying item (delivery of fresh produce to outlet) was the most valued service in consideration of establishing a long-term contract with current suppliers. Its standardized regression coefficient (0.178) reveals that this factor had a moderate impact on that decision-making.

**Conclusions and managerial implications**

In competitive markets, managing a profitable relationship is increasingly emphasized for value creation and business sustainability. However, little is known about the impact of service quality on business commitment between a buyer and a seller within the context of agribusiness. For filling this knowledge gap, it has been the objective of this study to explore the relationship between service quality and commitment in the B2B segment of agribusiness. In this exploratory study, a dataset consisting 195

Table 2. Results of the measurement model

Constructs	Items	Factor loadings	Construct reliability	Average variance extracted
Tangibles	V1.1	0.880	0.951	0.778
	V1.2	0.832		
	V1.3	0.931		
Reliability	V2.1	0.600	0.862	0.562
	V2.2	0.916		
	V2.3	0.697		
Responsiveness	V3.1	1.000	1.000	1.000
Assurance	V4.1	0.501	0.813	0.615
	V4.2	0.989		
Empathy	V5.1	0.902	0.925	0.767
	V5.2	0.849		
Contract Supplier	V6.1	1.000	1.000	1.000
	V7.1	1.000		

Source: Authors’ calculations

Table 3. Results of discriminant validity – correlation between constructs

Constructs	Tangibles	Reliability	Responsiveness	Assurance	Empathy	Contract	Supplier
Tangibles	0.882 <sup>^</sup>						
Reliability	0.702	0.749 <sup>^</sup>					
Responsiveness	0.175	0.156	1.000 <sup>^</sup>				
Assurance	0.513	0.330	0.388	0.784 <sup>^</sup>			
Empathy	0.108	0.159	0.309	0.240	0.876 <sup>^</sup>		
Contract	0.078	0.103	0.239	0.128	0.228	1.000 <sup>^</sup>	
Supplier	-0.014	-0.150	0.021	0.074	-0.029	-0.025	1.000 <sup>^</sup>

Note: <sup>^</sup> represents the square root of average variance extracted

random HORECA respondents was analyzed using partial least squares.

The findings indicate that service quality explains only a small portion of HORECA’s decision to stay with their current suppliers. Indeed, the central of their business relationship is the fresh produce. While its quality counts, economic factors (e.g., prices and their stability, credit term, and purchase with purchase discount) are likely to matter more. In many cases, HORECA respondents solely looked at the prices of fresh produce. In order to compare prices, they hopped from one place or supplier to another. As long as the fresh produce has an acceptable quality, their good cooking skills can turn it to an appealing dish. Therefore, quality service is still being seen as a supplement in buyer-seller relationships; profit remains the key that drives business sustainability.

Most service quality factors were not significantly related to business commitment in forms of contract and the need for more qualified suppliers. Statistically, this could be because services were not highly rated in their subjective measurement. In fact, providing services to HORECA sector is a relatively new initiative. As suppliers have little experience in this area, it is not surprising that their services have not been delivered at a high standard. Consequently, suppliers of fresh produce need to improve their services if they continue using it as a tool to gain competitive advantage. For new ventures, future research is needed to identify which dimension of service quality is the most meaningful to HORECA enterprises and do the best at what matters most.

“Responsiveness” was the only factor that had a statistically significant positive impact on HORECA’s contractual arrangement with their current suppliers. As this factor was solely represented by the delivery

Table 4. Results of the structural model

Constructs	Have a long-term contract Standardized regression weights (Standard errors)	Need more new suppliers Standardized regression weights (Standard errors)
Tangibles (F1)	-0.015 (0.1673)	0.123 (0.157)
Reliability (F2)	0.056 (0.172)	-0.267 (0.165)
Responsiveness (F3)	0.178 (1.891)*	0.010 (0.109)
Assurance (F4)	0.009 (0.113)	0.102 (0.157)
Empathy (F5)	0.164 (0.112)	-0.0276 (0.1605)
R-square	0.086	0.047

Note: \* significant at 0.10 level.

of fresh produce to outlet, it implies that this particular service is influential to such commitment. The reason behind it could be attributed to opportunity cost between self-purchase and delivery. In the case of self-purchase, HORECA enterprises spend more time and money on travelling. When fresh produce is delivered by suppliers, HORECA enterprises save more time for preparation and cooking. While the delivery cost is often embedded in fresh produce prices, it is shared by many of their customers. Therefore, it is not a significant additional cost and HORECA enterprises are willing to pay for delivery service. This implication is important for fresh produce suppliers who have embarked on insignificant dimensions of service quality and those who consider expanding their marketing strategy.

However, the findings of this study should be used with care. Given that service quality is relatively new in the context of agribusiness, this exploratory study has used a limited number of items to measure its dimensions. Future studies should overcome this limitation by expanding the measurement items and identifying the new services provided by HORECA suppliers.

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