

Determinants of trust and business performance: the case of tuna fishery industry in Semporna, Sabah

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Abstract

Buyer and seller relationship has been one of prominent issues of discussion especially in an emerging country's economy. In many ways, both parties interact with each other and over time will create long term relationships which may benefit them. This study focuses on the dynamic of trust between the fisherman (seller) and their buyer and the relationship of trust towards business performance. A total of 98 hook and line tuna fisherman in Mabul Island, Semporna were interviewed using guided-completion questionnaires. The data collected was tested using SmartPLS. The study reveals that communication was the strongest variable influencing trust followed by price satisfaction, interdependency and information sharing. On the same note, cultural similarities and flexibility were found non-significant towards trust. The study also found that trust has no direct influence towards business performance. From a managerial perspective, in order to be successful, channel members need to develop, maintain and seek improvements on communication, information sharing, interdependency and price satisfaction variables within the supply chain. It will be beneficial for members in the value chain to adopt the usage of information technology gadgets to boost communication and information sharing within the industry thus strengthening interdependency among members of the tuna fishing industry. From a theoretical perspective, the findings were consistent with previous researchers who also found that communication, information sharing, interdependency and price satisfaction variables were the main actors in the buyer-seller relationship context specifically on the trust dynamic. .

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Introduction

Malaysia's Tuna industry is predominantly consisting of small-scale fisherman. For the case of Sabah, these fishermen can be located in the rural areas. Based on the official data, most of tuna landings in Malaysia were recorded at the district of Semporna, Sabah, Federal Territory of Labuan and the state of Penang. In 2010, the estimated tuna landings were 1,987 tons valued at RM 6.53 million (based on gate prices). Malaysia's tuna catches are expected to surge up to 80 percent by 2020 (Department of Fisheries Malaysia, 2014). It was recorded that majority of tuna catches are exported to Europe and Japan, only a small percentage of the catches were consumed by Malaysian (Department of Fisheries Malaysia, 2014). The Malaysian government through the Department of Fisheries Malaysia has been continuously

monitoring the industry especially in relations to the fishing regulations and fishing methods. However, to the best of the researcher's knowledge, little is known about the tuna's supply chain activities especially in business to business relationship context.

Business to business (B2B) relationship is essential in enhancing business sustainability and developing long term relationship. Creating emotionally bonding impacts the supply chain and long term relationship between buyer-seller as this could further increase business performance and also lowers costs and reduced uncertainty (Anderson and Narus, 1990) which indirectly promotes trust between two parties involved. Lacking in trust will lead to inefficiencies in supply chain and this would eventually leads to failure in adapting to market changes (Schulze and Spiller, 2006). In the context of fresh and perishable products, there will always be some uncertainty such

to what prices the fishers will receive, since prices are largely determined by supply and demand (Batt, 2004). Furthermore, suppliers (fishers) create value in B2B relationship and therefore understanding suppliers' needs and wants is important to buyers and the eventual success of the relationship (Ramsay and Wagner, 2009).

The remaining sections of the paper are organised as follows: First, the paper will provide an overview of tuna industry in Sabah. Next, withdraw literature review concerning the concept and the determinants of trust in supplier's perspectives. Then, the paper will discuss how trust can influence supplier's business performance. The paper concludes with a discussion of the contribution to the industry and marketing literature and its implications for further research.

The tuna industry in Semporna, Sabah

Over the past 30 years, Mabul Island in Semporna district has been the major area for the tuna catches apart from Federal Territory of Labuan and Penang (Malaysian International Tuna Port, 2008). Sabah Fish Marketing (SAFMA) was in charge of tuna marketing and export transaction to Japan and Philippines. However, when SAFMA branch at Semporna was closed, it left many of the small-scale fishers unattended or legally without any association/corporation to hold onto. The Department of Fisheries Sabah and Malaysia Fisheries Development Authorities (LKIM) extensively tried to address this matter through research and investment (Department of Fisheries Malaysia, 2008) and one of the findings stated that majority of the community in Mabul Island were fisherman.

The focal livelihood of societies in Mabul Island is tuna fishing. However, the island is occupied by foreign fishers who migrated from the Southern Philippines Island in the early 1980's to escape evil conflict in the Sulu Archipelago (Ingles, Flores, and Francisco, 2010). Based on this fact, some of the catches from Mabul Island were sold to the neighboring country.

Tuna's supply chain in Semporna is improving and developing. The areas of supply chain include landing, grading, shipping and market distribution to consumers (Albat *et al.*, 2014). In terms of catching methods, they used tabula (squid black ink) as bait for the tuna. Besides that, *ikan tamban* (*Sardinella lemuru*) is another live bait used to fish tuna. Aggregation of *ikan tamban* population in the deep waters of Mabul tuna hotspots is enhanced with Fisheries Aggregation Device (FAD) locally named as *payao* (Komilus *et al.*, 2012).

The catch was sorted and divided into two

categories which were Category I: total weight of 20 kg and above and Category II: 20 kg and below. Tuna that belongs to Category A were supplied to big city like Kota Kinabalu and some areas in Keningau and Tambunan while Category B is for domestic and daily consumption (Albat *et al.*, 2014). Dependent fishers got their payments in cash based on the total weight of the catches from their respective boat owner. As for the independent fishers, they too market their catches to the relevant checkers. The checkers would then sell their fish to big buyers and also to local buyers (fishmongers).

Handlings of tuna catches were rough, in which some of the tuna were placed on unhygienic cement floors for buyers to select and buy. This is also an insight related to the poor handling of tuna in the value chain. In short, the post-harvest handling is still at its infancy although the market price of tuna at this stage can be up to RM6.50 per kg. Two groups of buyers were involved in the trade activities. Buyer 1 were mostly local fishmongers and act as middlemen. They purchased fish from checkers or fishers, then sold the same fish to Buyer 2 or to other market channels. Transportation trucks mostly from Tawau, Lahad Datu, Sandakan, Keningau, and Kota Kinabalu were lined up near the jetty before dawn to get the best catches. Some of the villagers around Semporna were also at the location to help load the catches into the trucks (Albat *et al.*, 2014).

The tuna's supply chain in Semporna is developing due to the high demand of tuna. Looking at the competitive market of tuna, there is a need to understand buyer and seller relationship within the industry. Such study will endeavour business sustainability development and the existence of long term relationships between exchange partners. It will further give some insights on how actors within the supply chain interact and communicate in order to be sustainable in the competitive industry. In the next section, a conceptual framework for Semporna's Tuna Industry is presented and discussed.

Research framework

A conceptual framework was developed with six (6) elements as the determinants of trust. The framework also looks into how trust will affect the business performance. On a different note, the study aims to explore the direct influence of price satisfaction towards business performance. This framework model (figure 1) was adapted from Boniface (2012) and Matzler, Renzl and Faullant (2007).

Trust is developed in the early stage of a relationship and, in general, great levels of trust increase a firm's

willingness towards information sharing (Handfield and Bechtel, 2002). Information sharing requires that the exchange partners clearly see the advantages of collaboration (Zelbst *et al.*, 2010). Communication is critical in these relationships (Palmatier *et al.*, 2006) and with such interactions between the buyer and the seller enhancing information sharing.

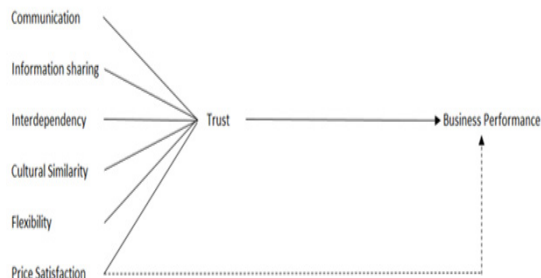


Figure 1: Buyer-Seller Relationship Framework Model Adapted from Boniface (2012) and Matzler, Renzl, and Faullant (2007).

The determinants of trust

There is a wide range of buyer-seller relationship issues found in the literature. In this research, the objectives were to review the determinants of trust in tuna industry, relationship between trust on Business Performance (BP) in tuna industry, and the influencing roles of price satisfaction towards Business Performance (BP).

Communication

In the agriculture industry, market can be competitive. In order to communicate well in the market, the first requirement is to be able to operate the simple mechanisms of communication within the group. Communication can only be effective if the parties formally or informally share meaningful and timely information (Biggemann and Buttle, 2009). In marketing relationship, communication considered to be a determinant of trust (Morgan and Hunt, 1994). MacNeil (1981) claimed that communication contributes to the growth of close ties among partners. While Heide and John (1992) pointed out that information exchange on an on-going basis enables partners to cope better with internal process and external market conditions. However, Fawcett and Magnan (2001) argue that lack of trust between the partners could lead to unwillingness to share information and make it difficult to share sensitive information such as financial data. Therefore, frequent communication may lead to high level of fisherman's trust in their buyer. Therefore, this study hypothesise:-

H1: Communications has a positive influence towards trust

Information sharing

Access to pricing information on alternative market outlets enables small-scale farmers to respond to market opportunities (Labonne and Chase, 2009). Jraisat, Gotsi, and Bourlakis (2013) claimed that understanding the information sharing element is the key concern of export supply chain (ESC) with helping supply-chain members manage unanticipated climate changes, product perishability, price volatility and isolation of producers from markets. Besides, information sharing can foster inter-firm coordination, mobilise better strategic decision making and, ultimately, improve export performance (Julien and Ramangalahy, 2003). Huang, Uppal and Shi (2002) stated that information sharing in a supply chain includes product information (e.g. product structure, cost), process information (e.g. ordering and production), cost information, quality information, resource information (e.g. number of products, capacity), inventory information (e.g. categories and unit cost), order information and planning of information (e.g. demand forecast and order scheduling). Therefore, sharing valuable information may lead to high level of fisherman's trust in their buyer.

H2: Information sharing has a positive influence towards trust

Interdependency

Stability, co-operation and mutual benefit influence by interdependency are more likely to motivate buyers and seller to engage and develop long-term relationship. In the agribusiness, traditionally small-scale producers depend more on intermediaries than on direct selling to buyers, even if it tends to be economically counterproductive (Chowdhury, 2005). It reflects the degree of dependability on each other without which either between the partner's encounters loss of opportunity or business or sales. Interdependency increased when the outcomes from the relationships are better than the outcomes obtained from other relationships. Sellers which deal with best buyers are more dependent because the outcomes received from dealing with that suppliers are better than those received from poor-performing suppliers. However, a partner becomes more powerful in a relationship when other partners are too dependent on him or her. Uncertainty will reduce if both parties that are mutually dependent and lead to high degree of satisfaction, trust, and commitment

(Batt, 2000). Therefore, element of interdependency among exchange partners may lead to high level of fisherman's trust in their buyer.

H3: Interdependency has a positive influence towards trust

Cultural similarity

According to Singgih and Woods (2004), culture similarity affected the pricing mechanisms and producers' bargaining inclination and there is a positive relationship between culture and trust (Zabkar and Brencic, 2004; Gyau and Spiller, 2007). Culture also affected the way in which members communicated their ideas to exchange partners. Organizational culture captures the essence of what the organization is and how it operates as a social collectivity (Meek, 1988). Thus, shared values, rules, and similar procedures support the relationship. Therefore, the cultural similarity may lead to high level of fisherman's trust in their buyer.

H4: Cultural similarity has a positive influence towards trust

Flexibility

Being flexible in conducting the business has allowed the buyers to develop a stronger relationship with their suppliers. Davis and Walker (2007) claimed flexibility that is provided by business partners has a positive effect on the relationship development which can encourage coordination and interaction between businesses to achieve mutual goals. While Ng (2012), stated that distributors (sellers) gave flexible preferences to business partners in meeting their needs would have increased their interaction that led to an advance development in their relationships. Furthermore, level of flexibility from business partners that were bring into the relationships can also have an impact on its success (Ferrer-Balas and Buckland, 2008; Bagdoniene and Zilione, 2009). Therefore:

H5: Flexibility has a positive influence towards trust

Price satisfaction

One significant factor that has been deliberated in many exchange relationships is price, which the financial value is given out in exchange for a product. The reference price therefore provides a base for customers to determine their level of satisfaction with the exchange; so called "Price satisfaction", which has been explored in detail by Matzler *et*

al. (2006). The concept of price satisfaction from supplier's perspective can be considered as uni-dimensional construct (Gyau and Spiller, 2007). Increasingly, it has becoming more demanding on the honesty and completeness of information they receive on price (Matzler *et al.*, 2006). The benefits of satisfying exchange partners by providing honest and frank information regarding prices are increased trust and satisfaction with the buyer (Urban, 2003). Schroeder *et al.* (1998) claimed that the concept of completeness and openness of price determinacy is especially important to industrial suppliers of some commodities, especially agricultural products, who are often concerned about the price formula that is used by their buyers, with most taking factors such as quality, quantity supplied, geographical location, length of relationship, and nature of contracts into consideration. Suppliers are therefore more likely to be satisfied if they are provided with information on how buyers determine the price that will be paid for their product.

H6: Price Satisfaction has a positive influence towards trust

Influence price satisfaction towards business performance

It can therefore be expected that by switching the emphasis from buyers' or customers' needs and wishes to those of the suppliers, it may become possible to reduce conflict in buyer-supplier interactions and improve joint trading performance (Ramsay and Wagner, 2009). Studies have shown that price of a product maintains a small role when deciding which suppliers to engage (Ulaga and Eggert, 2006) and that financial incentives (price offered for a product) is a supplier based variable in relational processes between the two actors (Tuli, Kohli, and Bharadwaj, 2007). Further light needs to be thrown on the impact of price satisfaction on supplier's business performance.

H7: Price satisfaction has a positive influence towards business performance

Trust and business performance

It is extensively accepted that trust is the crucial determinants of successful buyer-seller relationship. Trust widely applied in the business-to-business marketing research (Jarvelin, 2001). In this unpredictable market, buyer and seller have to aim to work together in making decision (price and distribution of profit). Trust is defined as a willingness to rely on an exchange partner in whom

one has confidence (Moorman, Deshpande and Zaltman, 1992). Later, Wilson (1995) defined trust as the belief that a firm's word or promise is reliable and a firm will fulfil their obligation within an exchange relationship. Trust signifies an attitude by one party to have confidence in and show benevolence towards the other party in business relationship. Trust is important to reduce the opportunity to take advantage to one another. Level of trust between the buyer and seller is an important driver for the business performance. Yet, little research has been done to explain how trust operates towards an efficient business performance of exchange partners (Zaheer, McEvily and Perrone, 1998). Studies on trust to performance leads to confidence in beneficial partner behaviour and motives (Krishnan, Martin, and Noorderhaven, 2006). A growing interest in building trust between organizations seems from the belief that trust enhances business performance. Trust has been identified as an important component which makes exchange partner successful (Boniface, 2012). Thus, trust in exchange partners is likely to be positively related to the business performance of the partnership. Studies found that there is a positive relationship between trust and performance (Crosby, Evans and Cowles, 1990). While other studies found no significant direct link between these two variables (Aulakh, Kotabe and Shap, 1996; Inkpen and Currall, 1997).

H8: Trust has a positive influence towards business performance

Materials and methods

Survey design

Data was collected from 98 hook and line fisherman in Mabul Island, Semporna (March to May 2015). A database of fisherman/ boat owners was obtained from the Department of Fisheries Semporna, Sabah. Snowball sampling is being used based on the list obtained to find the respondents for this study. In order the obtained the data required for this study a guided questionnaire approached was used. The questionnaires were based on the past literature related to the variables, buyer seller relationship and business performance Boniface, Gyau and Stringer (2012) and Matzler, Renzl, and Faullant (2007). There are three (3) sections; Section A (Business profile), Section B (Determinants of trust), and Section C (Business Performance).

Respondent and business description

The majority of respondents were men with

average 10 or more years of experience in the tuna catching activities (Table 1). The boat size were averaged with 2 engines (40 horse power each), with 4 to 6 crews which comprise of the boat captain, regular fisher, prospective fisher who want to become crew that locally known as 'passenger'. The boats will go out fishing 3-4 days near the Philippines and Indonesia borderline. The journey will take 5 to 16 hours to reach the designated fishing areas. The cost for each trip is RM700 to RM1000 spent mainly on 20 blocks of crashed ice, fuel, food and beverages, and the fishing equipment (three to four different sizes of hook, strings, and wooden stick). The catches fetch 500 kg to 1000 kg on the breed season with three major catches of tuna (Bluefin, Yellowfin, and Skipjack). While non-breed season, the average catch will be 100 kg to 400 kg.

Table 1: Respondent profile

| Respondent's Profile | | |
|--------------------------------|--------------------|---------------|
| Respondent Characteristics | Items | Number (n=98) |
| Race | Bajau | 63 |
| | Bajau | 27 |
| | Suluk | 8 |
| | Suluk | 8 |
| Gender | Male | 98 |
| Marital Status | Single | 18 |
| | Married | 80 |
| Education Level | Never go to school | 54 |
| | Grade 6 | 28 |
| | PMR/SRP | 3 |
| | SPM/STPM | 2 |
| | Certificate | 1 |
| | Other | 10 |
| Numbers of Experiences (Years) | <10 Years | 27 |
| | 11-20 Years | 33 |
| | 21-30 Years | 23 |
| | 31-40 Years | 14 |
| | 41> Years | 1 |

Measurement scales

The measurements for the relational variables were developed from (6) determinants of trust; communication, information sharing, interdependency, flexibility, cultural similarity, and price satisfaction (Batt, 2004) while business performance was adapted from Palmatier *et al.*

(2006). The items were all same with a five point Likert scale type questions ranging from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree were used to measure the various latent construct of the relational variables, trust, and business performance.

Results

This section presents the main research results. The partial least squares (PLS) structural equation modelling using SmartPLS version 2.0.M3 was selected to assess the two-stage analytical procedures by first examining the measurement model and then scrutinising the structural model (Anderson and Gerbing, 1988). As the data collected are self-reported through a similar questionnaire conducted throughout a similar time, the common method variance that is attributed to the measurement method rather than the constructs of interest may cause systematic measurement error and further bias the estimates of the actual relationship among the constructs (Podsakoff *et al.*, 2003). Thus, this study has examined the common method bias using Harman's single-factor test. The results revealed thirteen factors with eigenvalues more than one that accounted for 73.6% of the total variance. No single factor was dominant, nor did one general factor account for most of the variance, demonstrating that common method bias is not a great concern and thus is unlikely to confound the interpretation of results.

Measurement model evaluation

In observing the stability of estimates and developing strong confidence intervals (Chin, 1998) a partial least squares bootstrapping procedure was undertaken. The goodness of measures was exposed to both reliability and validity testing before conducting the hypothesis test. Reliability looks at

Table 2: Convergent validity of measurement mode

| Construct | Item | Loading | ^a AVE | ^b CR |
|----------------------|-------|---------|------------------|-----------------|
| Business Performance | BP1 | 0.655 | 0.649117 | 0.901363 |
| | BP2 | 0.755 | | |
| | BP3 | 0.904 | | |
| | BP4 | 0.834 | | |
| | BP5 | 0.857 | | |
| Communication | COMM1 | 0.951 | 0.635534 | 0.768706 |
| | COMM2 | 0.606 | | |
| Cultural Similarity | CS1 | 0.823 | 0.718608 | 0.884482 |
| | CS2 | 0.873 | | |
| | CS3 | 0.847 | | |
| Flexibility | FL1 | 0.589 | 0.613355 | 0.750834 |
| | FL2 | 0.938 | | |
| Information Sharing | IS1 | 0.827 | 0.699801 | 0.874888 |
| | IS2 | 0.837 | | |
| | IS3 | 0.845 | | |
| Interdependency | IN2 | 0.709 | 0.530386 | 0.772047 |
| | IN3 | 0.744 | | |
| | IN5 | 0.732 | | |
| Price Satisfaction | PS2 | 0.662 | 0.508146 | 0.900268 |
| | PS3 | 0.843 | | |
| | PS7 | 0.782 | | |
| | PS8 | 0.520 | | |
| | PS9 | 0.668 | | |
| Trust | PS11 | 0.778 | 0.705996 | 0.876771 |
| | TRS1 | 0.889 | | |
| | TRS2 | 0.910 | | |
| | TRS4 | 0.707 | | |

Notes: ^aAVE = (summation of squared factor loadings) / (summation of squared factor loadings) + (summation of error variances)

^bComposite reliability = (square of the summation of the factor loadings) / [(square of the summation of the factor loadings) + (square of the summation of the error variances)]

Table 3: Discriminant validity of measurement model

| | BP | COMM | CS | FL | IS | IN | PS | TRS |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| BP | 0.805 | | | | | | | |
| COMM | 0.092 | 0.797 | | | | | | |
| CS | 0.069 | 0.630 | 0.848 | | | | | |
| FL | -0.016 | 0.427 | 0.615 | 0.783 | | | | |
| IS | 0.378 | 0.496 | 0.412 | 0.327 | 0.837 | | | |
| IN | 0.080 | 0.215 | 0.409 | 0.312 | 0.051 | 0.728 | | |
| PS | 0.109 | 0.628 | 0.731 | 0.551 | 0.462 | 0.469 | 0.695 | |
| TRS | 0.188 | 0.678 | 0.632 | 0.452 | 0.516 | 0.449 | 0.714 | 0.840 |

Notes: Diagonals (bolded) represent the square root of the average variance extracted while the off-diagonals are correlations among constructs. Diagonal elements should be larger than off-diagonal elements in order to establish discriminant validity.

BP= Business Performance; COMM= Communication; CS= Cultural Similarity; FL= Flexibility; IS= Information Sharing; IN= Interdependency; PS= Price Satisfaction; TRS= Trust

Table 4: Results of the Structural Model Analysis (Hypotheses testing)

| Hypotheses | Relationship | Std Beta (β) | Std Error | t-value | Decision | R ² |
|------------|--------------|----------------------|-----------|---------|---------------|----------------|
| H1 | COMM - TRS | 0.341 | 0.100 | 3.386* | Supported | 0.654 |
| H2 | IS - TRS | 0.153 | 0.073 | 2.209** | Supported | |
| H3 | IN - TRS | 0.195 | 0.093 | 2.136** | Supported | |
| H4 | CS - TRS | 0.047 | 0.129 | 0.430 | Not Supported | |
| H5 | FL -TRS | -0.024 | 0.089 | 0.310 | Not Supported | |
| H6 | PS - TRS | 0.327 | 0.119 | 2.643* | Supported | |
| H7 | PS - BP | 0.045 | 0.257 | 0.214 | Not Supported | 0.037 |
| H8 | TRS - BP | 0.161 | 0.210 | 0.707 | Not Supported | |

Notes: * $p > 0.01$, ** $p > 0.05$

how consistently an instrument measures the concept it is supposed to measure, while validity looks at how well a developed instrument measures a concept that it is intended to measure (Sekaran and Bougie, 2013).

The first is convergent validity while second types are discriminant validity. Convergent validity of the measurement model is usually determined by examining the loadings, average variance extracted (AVE) and also the composite reliability (Hair *et al.*, 2014). The loadings were all higher than 0.7, the composite reliabilities were all higher than 0.7 and the AVE values were also higher than 0.5 as suggested by (Bagozzi and Yi, 1988). Thus, the measurement model was considered satisfactory with the evidence of adequate reliability, convergent validity and discriminant validity (see Table 2).

Discriminant validity

The discriminant validity of the measures (the degree to which items differentiate among constructs or measure distinct concepts) was examined by following the Fornell and Larcker (1981) criterion of comparing the correlations between constructs and the square root of the AVE for that construct (see Table 3).

Table 3 illustrates the square root of the AVEs as represented by the bolded values on the diagonals were greater than the corresponding row and column values (correlations between constructs) indicating the measures were discriminant. In sum, both convergent and discriminant validity of the measures in this study were established.

Structural model evaluation

Assessing the structural model involves evaluating R², beta and the corresponding t-values (Hair *et al.*, 2014). To obtain the t-values, a bootstrapping procedure with 5,000 resamples was applied.

Table 4 present the hypothesis testing and reveals the result of the study. The data support four of the eight hypothesized linkages. Overall, the model explains only 3.7% of the variance in the dependent

variable, trust influence to business performance. The model also explains 65.4% of the variance in the trust determinants.

The research results confirmed that communication had a significant and will influence trust with the path coefficient ($\beta = 0.341$) and t-value = 3.386 at $p < 0.01$ significance level. This result suggests a good and frequent communication will influence the fishers to have more level of trust to their buyers. Thus, Hypothesis 1 Communication may influence trust is supported.

A positive influence between information sharing and trust is found in this research having path coefficient ($\beta = 0.153$) and t-statistic = 2.209 at $p < 0.05$ level, which leads to the conclusion that information sharing and exchange strengthens the fisher's trust to their potential buyers. Thus, Hypothesis 2, that Information sharing may influence trust is supported in the research results.

The results also support Hypothesis 3, Interdependency has an influence on trust with the path coefficient $\beta = 0.195$ and t-value of 2.136 at $p < 0.05$, indicating that the fishers and their buyers are interdependent to each other to run a good business transaction (catch and buying activities). Thus, Hypothesis 3, that Interdependency may influence trust is supported.

Finally, Hypothesis 4, that Price satisfaction has an influence on trust. The results indicate that the path coefficient was 0.327 with t-value of 2.643 at $p < 0.01$ significance level. The price satisfaction will influence the trust among the fishers towards their buyers indicating that if price satisfaction is increases, the trust towards their buyers improves.

In summary, Hypotheses 1, 2, 3, and 6 of this study were supported. A closer examination revealed that communication was the highest determinants of trust in this industry followed by price satisfaction, interdependency, and information sharing.

Discussion

As stated earlier, the objectives of the study are to examine the effectiveness of trust in the tuna industry. It is apparent that the determinants of fisher's trust towards their buyers are communication (H1), information sharing (H2), interdependency (H3), and price satisfaction (H6). The results in this research indicate that all four of the hypotheses were supported, consistent with findings of other studies buyer-seller relationship

Together these four predictors explained 65.4% of the variance of the determinants to trust. These are significant findings in that these predictors are able to explain a large part of the variance of trust and thus provide insights into the predictors that affect the level of trust among the fishers to their buyer. While, only 3.7% of the variance explained the trust influencing towards fisher's business performance in Semporna tuna industry.

Communication proved that frequent conversation is more likely to have a positive relationship to the level of trust (Morgan and Hunt, 1994). Obviously, by correctly and effectively managing the internal communication means cost of time, energy and money. This awareness will help to establish an attitude of change. Communication allows keeping close contact and control. In the case of tuna industry in Semporna, 62% of fishers communicate by telephone with their buyers while 24% of them are just waiting for their buyers to come to the loading jetty. Most of the fishers see the importance of rapid communication with the buyers in terms of business expectation, buyer's demand and order, and also avoiding the misunderstanding and create more efficient environment.

In addition, information sharing indicates there is a significant relationship on a good information exchange so that the fishers will have an opportunity to adapt the market changes, new technologies or stringent regulations. The prominence of information sharing in terms of climate change will help the fishers to take more precaution when go to fishing. Besides, information of fishing barriers will benefit the fishers to not to caught with the maritime matters.

Also, this study has proven interdependency. From the study, interdependency also played an important dimension as the exchange partners depends on each other to continue the transaction. In the study context, the industry is predominantly by immigrant small scale fishers. They are so depending on the buyer to buy their catches as for their main income. On the other hand, as for the buyers, they are slightly dependent on the catches as their need to

distribute to the major city due to domestic demand. Most of the fishers sell their catches to one potential buyer brings to high level of interdependency. Besides, the fishers believe there is no other buyer will offer them with a good deal.

Surprisingly, price satisfaction has an influence to the level of trust among the fishers towards their buyer. Even though the cost and the profit are not promisable, the fishers are quite satisfied because the price is pre-negotiable and well discussed between the fishers and the buyer. The daily price will be published at the community board and the fishers are required to follow the price. Besides, the price determination is based on the fish grade (more on sizes not the freshness of the tuna).

Conclusion

The results of this study have successfully indicated that the most significant determinants for trust in Semporna's (Mabul Island) tuna industry is communication, information sharing, interdependency and price satisfaction. Through these findings the understanding of trust will enhance further understanding of the producer's motivation in business relationship. Moreover, from the buyer's perspectives, they could determine and evaluate the traits possessed by fisherman that may stay and be committed to the relationships.

These findings related to communication, information sharing, interdependency and price satisfaction were found to be the main influencer towards trust and may further contribute to the understanding of buyer-seller relationship. From a managerial perspective, in order to be successful, channel members need to develop, maintain and seek improvements on communication, information sharing, interdependency and price satisfaction variables within the supply chain. It will be beneficial for members in the value chain to adopt the usage of information technology gadgets to boost communication and information sharing within the industry thus strengthening interdependency among members of the tuna fishing industry. From a theoretical perspective, the findings were consistent with Nes, Solberg and Silkoset (2007) who also found that communication, information sharing, interdependency and price satisfaction variables were the main actors in the buyer-seller relationship context specifically on the trust dynamic.

This research has several limitations. First, the study was only conducted on Mabul Island, Semporna and findings of this research are limited to the area of Semporna and should not be generalized. Second, the

study only focused on the supplier's perspectives and did not include the buyer's perspectives. In future, other researchers could conduct similar research in the tuna industry from the buyer's perspectives and try to identify gaps between their perceptions towards trust determination. Furthermore, a dyadic perspective of determinants of trust could also be examined whereby the perception of both actors on the dimension of trust could be experimental and modelled. Finally, it will be interesting to also determine the cause and effect relationship between the higher construct relationship quality (e.g. trust, satisfaction and commitment) to the business performance.

References

- Albat, S., Boniface, B., Komilus, C. F., Tanakinjal, G. H., Sondoh, S. L. and Kamu, A. 2014. Local buyer-seller relationship of Yellowfin tuna fisheries: A preliminary study in Semporna, Sabah, Borneo. In Proceeding paper presented at 6th International Business and Borneo Conference. Sarawak: Riverside Majestic Hotel.
- Anderson, J. C. and Narus, J. A. 1990. A Model of Distributor Firm and Manufacturer Firm Working Partnerships. *Journal of Marketing* 54(1): 42-58.
- Aulakh, P. S., Kotabe, M. and Sahay, A. 1996. Trust and performance in cross-border marketing partnerships: A behavioural approach. *Journal of International Business Studies* 27(5): 1005-1032.
- Bagdoniene, L. and Zilione, R. 2009. Business to Business Relationship: The Variables in the Context of Success. *Social Sciences* 4(66): 16-25.
- Bagozzi, R. P. and Yi, Y. 1988. On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science* 16: 74-94.
- Batt, P. J. 2004. Incorporating measures of satisfaction, trust and power-dependence into an analysis of agribusiness supply chain. In Johnson, G. I. and Hofman, P. J. (Eds), *Agriproduct Supply-chain Management in Developing Countries*. Paper presented at ACIAR Proceedings No. 119e, p. 27-43. Canberra, Australia: Australian Centre for International Agricultural Research.
- Batt, P. J. and Wilson, H. 2000. Exploring the Nature of Buyer-Seller Relationship in the Western Australian Wine Industry. *ANZMAC 2000 Visionary Marketing for the 21st Century: Facing the Challenge*: 61-66.
- Biggemann, S. and Buttle, F. 2009. Coordinated interaction and paradox in business relationships. *Journal of Business & Industrial Marketing* 24(8): 549 – 560.
- Boniface, B., Gyau, A. and Stringer, R. 2012. Linking Price Satisfaction and Business Performance in Malaysia's dairy industry. *Asia Pacific Journal of Marketing and Logistics* 24(2): 288-304.
- Chin, W. W. 1998. The partial least squares approach to structural equation modeling. In Marcoulides, G. A. (Ed.), *Modern Methods for Business Research*, Lawrence Erlbaum Associates, p. 295-358. New Jersey, USA: Lawrence Erlbaum Associates.
- Chowdhury, S. 2005. The role of affect- and cognition-based trust in complex knowledge sharing. *Journal of Managerial Issues* 17(3): 310-26.
- Crosby, L. A., Evans, K. R. and Cowles, D. 1990. Relationship Quality in Services Selling: An Interpersonal Influence Perspective. *Journal of Marketing* 54(3): 68-81.
- Davis, P. R. and Walker, D. H. T. 2007. Trust, Commitment, and Mutual Goals in Australian Construction Industry Project Alliances. In Walker, D. H. T. and Rowlinson, S. (ed.), *Procurement Systems: A cross industry Project management perspective*, p. 378-399. United Kingdom: Taylor & Francis.
- Department of Fisheries Malaysia. 2008. *Pembangunan Tuna*. Retrieved from website: <http://www2.dof.gov.my/index.php/pages/view/2356>
- Department of Fisheries Malaysia. 2014. *Perangkaan Tahunan Perikanan 2014*. Retrieved from website: https://www.dof.gov.my/dof2/resources/Perangkaan/Perangkaan%202014/2014%20baru/1.Penulisan_.pdf
- Diller, H. 2000. Customer loyalty as a marketing objective. In Henning-Thurau, T. and Hansen, U. (ed.), *Relationship marketing: Gaining competitive advantages through customer satisfaction and customer retention*. Berlin: Springer-Verlag.
- Fawcett, S. E. and Magnan, G. M. 2001. *Achieving World-Class Supply Chain Alignment: Benefits, Barriers, and Bridges*. Arizona State University Research Park: Centre for Advance Purchasing Studies.
- Ferrer-Balas, D. and Buckland, H. 2008. Mutual Learning for sustainability: Relationships between the Technical University of Catalonia (UPC) and Regional Centre of Expertise (RCE) Barcelona from a systems perspective. *International Journal of Sustainability of Higher Education* 9(4): 450-468
- Fornell, C. and Larcker, D. F. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18(1): 39-50.
- Gyau, A. and Spiller, A. 2007. The role of organisational culture in modelling buyer-seller relationship in the fresh fruit and vegetable trade between Ghana and Europe. *African Journal of Business Management* 1(8): 218-229.
- Hair, J. F., Hult, G. T. M., Ringle, C. M. and Sarstedt, M. 2014. *A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. US: SAGE Publications.
- Handfield, R. B. and Bechtel, C. 2002. The role of trust and relationship structure in improving supply chain responsiveness. *Journal of Industrial Marketing Management* 31(4): 367-382.
- Heide, J. B. and John, G. 1992. Do norms in marketing relationships. *Journal of Marketing* 56(4): 32-44.
- Huang, S. H., Uppal, M. and Shi, J. 2002. A product driven approach to manufacturing supply chain selection. *Supply Chain Management: An International Journal* 7(4):189-199
- Ingles, Flores, and Francisco, 2010. *Tuna Fisheries off*

- Mabul Island, Semporna, Malaysia. WWF Malaysia: 1-14
- Inkpen, A. C. and Currall, S. C. 1997. International joint venture trust: An empirical examination. In Beamish, P. W. and Killing, J. P. (Eds.), *Cooperative strategies: North American perspectives*, p. 308-336. San Francisco: The New Lexington Press.
- Jarvelin, A. M. 2001. *Evaluation of Relationship Quality in Business Relationships*. Finland: University of Tampere School of Business Administration, Dissertation.
- Jraisat, L., Gotsi, M. and Bourlakis, M. 2013. Drivers of Information Sharing and Export Performance in the Jordanian agri-food Export Supply Chain. *International Marketing Review* 30(4): 323-356.
- Julien, P. A. and Ramangalahy, C. 2003. Competitive strategy and performance of exporting SMEs: An Empirical investigation of the impact of their export information search and competencies. *Entrepreneurship Theory and Practice* 27(3): 227-245.
- Krishnan, R., Martin, X. and Noorderhaven, N. G. 2006. When does trust matter to alliance performance? *Academy of Management Journal* 49(5): 894-917.
- Komilus, C. F., Saleh, E., Kamu, A., Alin, J. M and Thandauthapany, L. 2012. Malaysia Report prepared for the Sulu-Celebes Sea Sustainable Fisheries Management Project, Component 4: Gathering of Background Information on the Demonstration Site for Fisheries Management in Malaysia. Sabah: Universiti Malaysia Sabah.
- Labonne, J. and Chase, R.S. 2009. The power of information: The impact of mobile phones on farmers' welfare in the Philippines. Retrieved from website: <http://documents.worldbank.org/curated/en/132511468297548935/pdf/WPS4996.pdf>
- Macneil, I. R. 1981. *Economic Analysis of Contractual Relations: Its Shortfalls and the Need for a "Rich Classificatory Apparatus"*. Northwestern University Law Review 75(2): 1018- 1063.
- Malaysian International Tuna Port. 2008. Retrieved on 2nd February 2013 from website: <https://www.thestar.com.my/business/businessnews/2008/08/02/malaysia-set-to-become-a-major-tuna-player-in-asia/>
- Matzler, K., Renzl, B. and Faullant, R. 2007. Dimension of Price Satisfaction: A replication and extension. *International Journal of Bank Marketing* 25(6): 394-405.
- Meek, V. L. 1988. Organizational culture: Origin and weaknesses. *Organization Studies* 9(4): 453-473.
- Moorman, C., Zaltman, G. and Deshpande, R. 1992. Relationships between providers and users of market research: The dynamics of trust within and between organizations. *Journal of Marketing Research* 29(3): 314-328.
- Morgan, R. M and Hunt, D. S. 1994. The Commitment-Trust Theory of Relationship Marketing. *Journal of Marketing* 58(7): 20-38.
- Ng, E. 2012. An Empirical Study on the Success Factors of Supplier-Distributor Relationships. *Contemporary Management Research* 8(2): 161-180.
- Palmatier, R. W., Dant, R. P., Grewal, D. and Evans, K. R. 2006. Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis. *SSRN Electronic Journal* 70(4):136-153.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. and Podsakoff, N. P. 2003. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology* 88(5): 879-903.
- Ramsay, J. and Wagner, B. A. 2009. Organisational Supplying Behaviour: Understanding Supplier Needs Wants and Preferences. *Journal of Purchasing and Supply Management* 15: 127-138.
- Schulze, B. and Spiller, A. 2006. Determinants of Trust between Buyers and Suppliers in Agribusiness: Empirical Evidence from the German Pork Sector. In 99th EAAE Seminar 'Trust and Risk in Business Networks'. Germany: European Association of Agricultural Economists.
- Sekaran, U. and Bougie, R. 2013. *Research Methods for Business*, 6th Ed. US: John Wiley and Sons Ltd.
- Schroeder, T. C., Ward, C. E., Mintert, J. R. and Peel, D. S. 1998. Value-based pricing of fed cattle: challenges and research Agenda. *Review of Agricultural Economics* 20(1): 125-34.
- Singgih, S., and Woods, E. J. 2004. Banana Supply Chains in Indonesia and Australia: Effects of Culture on Supply Chains. In Johnson, G. I. and Hoffman, P. J. (eds). *Agriproduct Supply-Chain Management in Developing Countries*, p. 44-52. Canberra: Australian Centre of International Agricultural Research.
- Tuli, K. R., Kohli, A. K. and Bharadwaj, S. G. 2007. Rethinking Customer Solutions: From Product bundles to relational processes. *Journal of Marketing* 71(3): 1-17.
- Ulaga, W. and Eggert, A. 2006. Value-Based Differentiation in Business Relationships: Gaining and Sustaining Key Supplier Status. *Journal of Marketing* 70(1): 119-136.
- Urban, G. 2003. Customer Advocacy: Is it for you? Retrieved from website: http://ebusiness.mit.edu/research/papers/175_Urban_Trust.pdf
- Zabkar, Y. and Brencic, M. M. 2004. Values, trust and Commitment in business to business relationship: A comparison of two former Yugoslav market. *International Marketing Review* 21(2): 202-215.
- Zaheer, A., McEvily, B., and Perrone, V. 1998. Does trust matter? Exploring the effects of inter-organizational and interpersonal trust on performance. *Organization Science* 9(2): 141-159.
- Zelbst, P. J., Green, K. W. Jr, Sower, V. E. and Baker, G. 2010. RFID utilization and information sharing: the impact on supply chain performance. *Journal of Business & Industrial Marketing* 25(8): 582-589.