SEA FREIGHT COST REDUCTION BY LONG TERM CONTRACT

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ABSTRACT

The focus company in Bangkok is a freight forwarder offering a one-stop cargo export service by containership. It has been losing customers to competitors who offer a lower price. The company wondered whether switching its purchasing method from spot-buying to a long-term contract with an ocean liner firm would reduce the freight cost, enabling it to offer lower prices to its customers and thus retain them. This study explores the advantages and disadvantages of signing a long-term contract, to understand the factors and conditions which enable a price reduction by this purchasing method. The result of the research confirms the usefulness of a long term contract, and the company selects one from a liner firm. This study is restricted to exports by containers from Bangkok to Shanghai.

บทคัดย่อ

บริษัทที่ใช้เป็นกรณีศึกษา เป็นผู้รับจัดการขนส่งสินค้าตั้งอยู่ที่กรุงเทพฯ ซึ่งให้บริการส่งออกสินค้าผ่านตู้คอนเทนเนอร์แบบครบวงจร ช่วงที่ผ่านมาบริษัทต้องสูญเสียลูกค้าให้แก่คู่แข่งที่เสนอราคาต่ำกว่า บริษัทเลยสงสัยว่าหากเปลี่ยนวิธีจัดซื้อจากการซื้อเป็นครั้งๆ ไป มาเป็นการทำสัญญาระยะยาวกับสายเรือ น่าจะช่วยลดค่าระวางลงได้ ซึ่งจะทำให้บริษัทสามารถลดราคาเพื่อรักษาฐานลูกค้าเอาไว้ งานวิจัยนี้สืบค้นข้อดีและข้อเสียของการเซ็นสัญญาระยะยาว เพื่อให้เข้าใจถึงปัจจัยและเงื่อนไขซึ่งทำให้สามารถลดราคาจากการจัดซื้อด้วยวิธีนี้ ผลวิจัยยืนยันประโยชน์จากการทำสัญญาระยะยาว และบริษัทได้เลือกทำสัญญากับสายเรือหนึ่งบริษัท การวิจัยนี้มีข้อจำกัดในการส่งออกโดยตู้คอนเทนเนอร์จากกรุงเทพฯ ไปเซี่ยงไฮ้

INTRODUCTION

In our modern global society, with its international trade, sea freight (carriage by ship) is the main transportation mode, carrying 90% of total cargo. Sea freight cost is significantly cheaper than air because of containerization, which is speedy and efficient.

If the cargo transportation cost of sea freight can be reduced by a shipper of such cargo, this will have a significant effect on supply chain cost. This study is concerned with reducing freight cost for the focal company, a freight forwarding company in Thailand, by means of a long-term contract with an ocean liner company.

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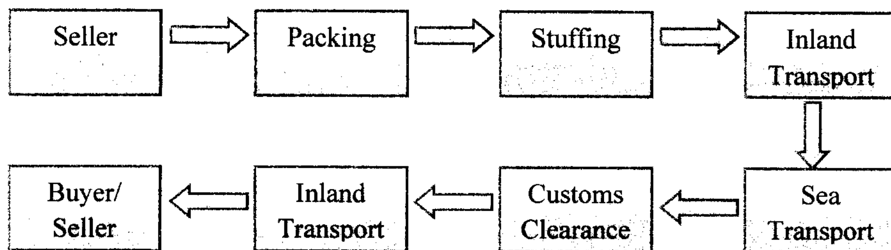
*Mr. Zhao from China was an international student at Assumption University. This paper is a much condensed version of his dissertation in part fulfillment of his MSc degree in Supply Chain Management, which he was awarded in 2014.

The Bangkok Forwarding Group (BFG), a pseudonym to protect confidentiality, is a freight forwarding company based in Bangkok. It has an operations branch in Pattaya city, close to the international container port of Laemchabang.

A freight forwarder does not own ships or planes to transport the customer's cargo. It purchases space from a liner (a ship company) or airline. There are two methods: spot purchasing, and long term contract. A freight forwarder arranges the whole logistics process involved with container cargo, including inland transport, booking space in a ship, and customs clearance, as shown in Figure 1.

Figure 1: Sea Freight Forwarding Process



Source: Author

There are 201 freight forwarders in Thailand (tiffathai.org) which indicates the high competition. To secure a place in this market, BFG highlights the importance of its one-stop-service for its cargo exporting/importing customers. This service includes both domestic and international transport, with the following main menu.

(a) Packing
(b) Stuffing and un-stuffing
(c) Inland transport
(d) Sea freight container space
(e) Customs clearance
(f) Air freight service
(g) Warehousing

BFG's main cost is the sea freight cost of purchasing space from ocean liners. Currently, BFG adopts spot purchasing. Spot purchasing is where specific space is booked on a ship for a specific journey and a specific cost (Nigel, 2013).

In contrast, many of its competitors use a different method, which is cheaper because it secures the advantage of economy of scale, by signing a long term booking contract with liner companies. The cost saving can then be passed on to customers. It has become obvious that the freight cost of BFG is higher than many of its competitors. For example, while the BFG price for transporting a container from Bangkok to Shanghai is US$510, the price from two of its major competitors is US$450, 13% lower.

Table 1 shows BFG's exports from Bangkok to Shanghai, for two consecutive 12-month periods, for the 40-foot size of cargo container (which is now the international standard size) as well as the 20-foot container.

Table 1: Container Exports, Bangkok to Shanghai: two 1-year periods

Year	Destination Port	20' container	40' container	Year Total
July 2012 to June 2013	Shanghai	332	576	908
July 2013 to June 2014	Shanghai	254	321	575

Source: BFG

From this Table, it can be deduced that the number of 40-foot containers reduced by 45% in the second year. This reduction is highly significant and worrying, for it means that BFG's sales revenue is in serious decline due to customers switching to competitors. The 20-foot size container orders declined by 23%, again a significant reduction. The total reduction of container orders was 36%. Therefore, this research explores the alternative purchasing method of a long-term contract, by comparison with spot-purchasing, to decide whether BFG should switch.

The research focuses on container freight costs for the Bangkok to Shanghai route, involving three liner companies used by BFG, together with volume and price data for its two main customers who send container cargo on this sea route, so as to reach a decision whether to switch from spot purchasing to an annual contract. The data gathered will be real data, but the results are not necessarily representative of other companies.

REVIEW OF RELATED LITERATURE

Freight Forwarding Companies

The role of a freight forwarding company is to be a third-party logistics provider in offering a service moving raw materials, finished products, and other goods, on behalf of customers. The benefit for exporters in using a freight forwarder is to get a lower sea freight price than they could themselves, and to let experts provide other services such as temporary warehousing and customs declarations (Dallari, Marchet & Melacini, 2006).

A shipper is the export company whose goods are dispatched for delivery by the carrier to the consignee (Foxton, Berry, Eder, Burrows, Smith & Boyd, 2008). A freight forwarder company acts as an agent of the shipper and is not itself a carrier. It negotiates freight rates on the shipper's behalf. It purchases a transportation service from carriers, then consolidates small cargo shipments from a number of shippers into large shipments (James & Douglas, 2001). Murphy and Daley (2011) state that a freight forwarder is an intermediary who provide logistics services but normally does not own a ship or plane. Daley and Murphy (1995) identified five major tasks: paying freight charges, tracing and expediting shipments, making routing recommendations, issuing export declarations, and preparing certificates of origin. Their list of services includes the following.

When a freight forwarder acts for the shipper (exporter) the services include:

1) select an optimum transport route, mode of transport and appropriate ship;
2) book cargo space on a ship;
3) pick up the goods and issue the relevant documents;
4) pack the goods for safety and security;
5) provide storage for the goods before and after the voyage;
6) weigh and measure the cargo;

7) place consolidated cargoes into a container (known as 'stuffing');
8) arrange insurance;
9) handle customs declaration and documentation procedures;
10) deliver the goods to the ocean liner;
9) pay the freight and other costs;
10) receive the original bill of lading for delivery to the consignor;
11) arrange trans-shipment to a container depot or truck or train;
12) send notice to the consignee of the cargo location;
13) record instances of loss or damage to the cargo;
14) assist with claims against the party responsible for loss/ damage.

A freight forwarders will offer a full container load service (FCL), or a less than full container service (LCL) where one exporter's cargo shares a container with others. A large freight forwarder would be able to invest in better and more equipment and technology, have its own assets and IT systems, inventory management, warehousing facilitates, its own tracking and tracing system, project handing, and distribution.

Ocean Liner

'Ocean liner' means the ocean carrier company which actually owns the ship chosen to carry the cargo (Bugden, 1999). Haralambides (2007) stated that the shipping industry has two categories. There is the bulk shipping sector, which mainly provides transport services for moving raw materials and liquids, in bulk, from place to place. Then there is the liner shipping sector which transports semi-products or finished goods, mostly inside lockable metal containers of different sizes, within specially designed containerships.

Different ocean liners provide differing logistics services for cargo, according to company policy and the requirements of freight forwarders or customers. These include:

- warehousing and storage
- container yards and depots, at ports and inland
- fumigation of cargo
- export and other documentation
- Multimodal service (railways, sea and inland freight)
- Worldwide service networks
- EDI (Electronic Data interchanges), AMS (Automated Manifest System), ISF (Import Security Filling), shipment statistics, account statement and cargo manifest report.

Inland freight service

James et al. (2001) stated that inland freight refers to that carried by road vehicles, river boats, and railways, either for domestic or cross-border movement of goods or for completion of transportation by ship or plane. There are two types of such cargo: (TL) full truck-load, and (LTL) less than full truck-load (where cargoes from more than one owner share truck space). Inland freight is a major transport process for cross-border trade and domestic cargo. It is also important for cargo distribution within a railway station, port and airport. In this research 'inland freight' means transporting cargo from a customer's factory to the port.

The characteristics of inland freight are:

1) Flexible and adaptable. The inland truck network density is generally higher than that of railways and waterways, resulting in an interactive network of roads, so that vehicles have higher flexibility. Trucks have high time-mobility as a vehicle can be easily

scheduled to link with the arrival and departure of ships.

1) 'Door to Door' direct transport. A truck can leave the road network and penetrate factories and industrial sites.
2) Short-distances mean fast delivery. This because of 'door to door' and easy accessibility.
3) Less investment and quick cash flow. The fixed facilities (vehicle parks and depots) are simple, vehicle purchase costs are lower, and there is a shorter payback period than for other transport modes. Annual investment in inland freight has a turnover of one to three years, whereas rail transport needs three to four years.
4) Vehicle driving is easier, compared with training pilots or train drivers. Selection of drivers need not be so stringent.

Sea Freight Service

Sea freight is the most important international logistics transportation mode. Goods packed into metal containers travel on specially designed container ships. Sea freight can be either FCL (full container load) service or LCL (less than full container load) (Creazza, Dallari, & Melacini, 2010).

The characteristics of sea freight are:

1) Oceans are natural waterways, not needing roads or tracks.
2) Container ships can carry large cargoes. The fifth generation of specially designed container ships have a capacity exceeding 5,100 TEUs (5,100 20-foot containers or 2,550 40-foot containers, or a comparable mix).
3) Low freight cost. The sea is formed naturally, not man-made. Port facilities and infrastructure are generally built by governments. A ship's carrying capacity, its long life, and often long transportation mileage lead to lower unit transportation costs (Zeng, 2003).

FCL and LCL Cargoes

Creazza et al. (2010) stated that a full container load service (FCL) is a transportation mode that allows an exporter to deliver cargos to its customer, and enjoy the economy of scale of container capacity, to load cargo by large volume with competitive cost, and to know that only its goods are in that securely locked container. The consignor (exporter) is responsible for packing, counting, stowage and sealing, plus freight. Unpacking FCL is generally handled by the consignee. However, the freight forwarder can also be commissioned to pack and unpack. If cargo is damaged, unless the carrier has other proof of who caused it, the carrier is liable to pay compensation. Containers come in various lengths and heights. The current international standard is a General Purpose metal 40-foot container: 12,032mm (length) x 2,352mm (width) x 2,393mm (height). The former standard container, 20' long, is still very much in use.

LCL means that one exporter's cargo is less than a full container load. LCL shipping is a good way to ship large orders and items that are large and heavy, or goods which will not fill an entire container. LCL shipping is based primarily on volume with a minimum shipment volume of one cubic meter. Such cargoes from several exporters usually arrive from at an Inland Container Depot, or a port Container Yard, and are consolidated together into one container (Zeng, 2003).

Long-term Purchasing Contracts

In most business transactions, there is some form of contract between the parties regulating each party's contribution to the relationship (Roxenhall & Ghauri, 2004). Purchasing

contracts are economic contracts, subject to contract law. In freight forwarding, a purchasing (procurement) contract means that a freight forwarder purchases container space from an ocean liner company.

According to Monczka, Handfield, Giunipero and Patterson (2011), a long term purchasing contract covers a specified period of time, typically one year. Because long term contracts involve greater commitments into the future, the contractual terms and conditions must be carefully chosen and agreed. After signing the contract both parties have strictly defined obligations, with penalties for non-performance.

For many container cargo ocean liners (carriers), the majority of their bookings are under long term contracts with shippers (exporters or freight forwarders). Such agreements help carriers raise the large amounts of capital required to buy and maintain ships For some carriers, annual contracts all date from the same day/month/year and may cause a flurry of activity to re-negotiate renewal terms. These contracts guarantee a significant revenue stream for a container carrier, and negotiating the right prices and terms can be a major contributor to overall profitability. There are advantages and disadvantages that accompany long-term contracts.

Table 2: Advantages and Disadvantages of Long-Term Contracts

Potential Advantage	Potential Disadvantage
Assurance of supply	Supplier opportunism
Access to supplier technology	Selecting the wrong supplier
Access to cost/price information	Supplier volume uncertainty
Volume leveraging	Supplier forgoes other business
Supplier receives better information for planning	Buyer is unreasonable

Source: Adapted from Monczka, et al. (2011)

Advantage of Long Term Contracts

*Assurance of supply. When a freight forwarder make a long term contract with an ocean liner its purpose is usually to ensure container supply, and at an agreed price. An ocean liner will give priority to such a client. The freight forwarder need not worry that in the high season it could not easily book container space.

*Access to supplier technology. Big ocean liners usually have the latest technology, such as the EDI system, and will allow contract clients to access their system.

*Capital and cost factors. Long term contracts create greater incentives for liners to improve or expand their operations through capital improvements because they are able to spread their fixed costs over a larger volume (Monczka et al., 2011). In a contract, the freight forwarder has to pay an initial financial deposit, thus providing the liner with capital.

*Volume leveraging. When a freight forwarder makes a long term contract, it gains volume leverage. But to be able to have a long term contract it must agree a minimum annual purchased volume.

*Supplier and buyer gain better planning information. After the buyer (freight forwarding company) and the supplier seller (ocean liner) make a long term contract, they receive good information, enhancing planning and scheduling.

Disadvantage of Long Term Contracts

*Supplier opportunism. From the buyer's perspective, there is a major risk that the supplier will become too complacent and lose motivation to maintain or improve performance as the contract progresses (Monczka et al., 2011). This is a risk for the freight forwarder.

*Selecting the wrong supplier. This will be happen when a freight forwarder chooses a small ocean liner, or one that lacks quality in some aspects, which cannot then supply the required container space.
*Supplier volume uncertainty. This normally will not happen between the freight forwarder and ocean liner. But special situations may happen, such as shipwreck or collision or fire, making the supply volume become uncertain.
*Sometimes the supplier has to prioritise other business, or the buyer makes unreasonable demands for space. Both are locked in by contract, and could lose profitable business opportunities.

The Table below displays some other relevant research into long-term contracts.

Table 3: Some Studies of Long Term Contracts

Author	Objectives	Value	Result
Christopher (2008) "Balancing Government Risks with Contractors Incentives in Performance Based Logistics Contracts"	To identify the factors that have the most influence on contract structure, then indentify whether long term PBL contract will bring more benefit in purchasing	Benefit sharing makes long-term contract investments and financial returns from improved efficiencies	According to the profit sharing elements, flexible performance, and eventual fixed price objectives are congruent in enabling a long-term contract.
Robert and Serguei (2009) "Long-Term Contracts Under the Threat of Supplier Default"	Analyze and evaluate the performance of both long term and short term contracts; when suppliers face a risk what kind of contract could be preferred.	Find that long-term dynamic contracts perform better than static contracts and could achieve optimal profit.	The results complement value of long-term contracts in supply chains and would make more benefit for buyer.
Scott (2009) "Long-Term Contracts and Short-Term Commitment: Price Determination for Heterogeneous Freight Transactions"	Identify whether use of long term contracts in heterogeneous freight transactions could bring more benefit	Use the long- term contract between driver and carrier in US truck industry could produce more benefit.	Using long term contracts could save cost for heterogeneous transactions

Source: Compiled by the Author

Spot Purchasing: Its Advantages and Disadvantages

Nigel (2013) said that spot purchasing is immediate purchasing when a specific demand arises. The price is negotiated directly through the market, by the buyer with a supplier, to procure goods or services. A freight forwarder buys container space from an ocean liner for a specific need generated by a cargo exporter/importer.

Dallari et al (2006) listed some advantage of spot purchasing.
*It enables the buyer to get the best overall deal at the time. It is simple, straightforward.
*There is no need to develop a long-term relationship between supplier and buyer.
*It is good for standard products without special needs such as size, volume, or fragility.
*It is able to adapt when a buyer finds that his supplier is experiencing demand changes from its other customers. When that demand is low, more can be purchased from the supplier; and

conversely.
*It is highly flexible, and quickly enables a buyer to meet volatile demand changes from its own customers.
*Its cost is almost simultaneous with the buyer's relevant income, thus the cash-flow situation is compatible. Capital is not needed.

Dallari et al (2006) listed the disadvantages of Spot Purchasing.
*The buyer should expect low priority and low concern from the supplier. This freight forwarder booking container space is not a priority customer, because there is no long-term relationship.
*Using many different suppliers will involve high cost. The main drawback of spot purchasing is there is no stability in available container space or price. When space is in short supply, the market has to be scoured, often desperately, and with the disadvantage of a high price. The actual purchase might not be the preferred brand or quality.

RESEARCH METHODOLOGY

Answers have to be found to several questions:
*What are the prices differences between BFG and its main competitors?
*What are the cost differences between spot and long term purchasing for BFG?
*What minimum volumes and other conditions are in an annual contract?

Data has to be collected from BFG, its customers and competitors, and liner companies. This includes both historical data and present data:
* Historical data for sea freight costs from BFG, and competitors 1 and 2.
* Historical data for BFG sea exports to 18 Asian ports.
*Comparative costs for spot purchasing and long term contract for BFG.
* Costs, volumes, and other conditions from three ocean liner companies.

It then has to be decided by BFG whether it is beneficial to switch to contract purchasing, and if so, whether it can meet the liners' terms and conditions. A decision matrix is needed to structure BFG's decision-making. Finally, the operational implications have to be considered if BFG decides to sign an annual contract

Customers A and B are BFG's biggest customers for container exports to Shanghai, and much business has been lost because of competitors. Customer A uses BFG and competitor 1. Customer B uses BFG and competitor 2. The voyage from Bangkok port to Shanghai port for these two customers is the biggest income earner for BFG in terms of containers, being about 28% of BFG's total exports to 18 ports in Asia. So this research will focus only on that Shanghai route and on FCL cargoes. Inland freight is only equivalent to 10% of BFG's total sea freight, so the research will ignore that.

Data Analysis
The following Table 4 shows a sample of competitive pricing. The dates do not exactly coincide as there are not orders every day. BFG prices are US$280 (20') and US$510 (40'). Prices of the two competitors are lower and identical, at US$250 (20') and US$450 (40'). Thus, the BFG prices to customers are higher by almost 12%.

Table 4: Sea Freight Price charged by Competitor 1 and BFG

Departure Port : Bangkok							
Competitor 1 Offer Price				BFG Offer Price			
Date	Qty	Destination	Price (USD)	Date	Qty	Destination	Price (USD)
18-Jan	1 x40'	Shanghai	450	7-Jan	2 x40'	Shanghai	1,020
21-Jan	1 x40'	Shanghai	450	8-Jan	1x40'	Shanghai	510

Source: BFG

Table 5: Sea Freight Price charged by Competitor 2 and BFG

Departure Port : Bangkok							
Competitor 2 Price				BFG Price			
Date	Qty	Destination	Price (USD)	Date	Qty	Destination	Price (USD)
7-Jan	1 x 20'	Shanghai	250	15-Jan	1 x 40	Shanghai	510
10-Jan	1x20'+1x40'	Shanghai	700	22-Jan	1x20'+1x40	Shanghai	790

Source: BFG

BFG's higher prices led to loss of customer orders. BFG used spot purchasing: competitors had annual renewable contracts. Table 6 compares the costs for both types, charged by the three liner companies (the most used by BFG) to freight forwarders, which shows that an annual contract has lower costs per container than spot purchasing, and that each of the three liners charges the same.

Table 6: Liner Costs (US$): Spot and Contract

Destination	Shanghai Port					
Ocean Liner	OOCL Liners		K-LINE Liners		YANGMING Liners	
Container type	20'	40'	20'	40'	20'	40'
Spot Purchasing Cost	250	400	250	400	250	400
Long Term Contract Cost	200	300	200	300	200	300
Minimum Volume	500 Containers per Year		500 Containers per Year		500 Container per Year	

Source: BFG

An annual contract, for each destination port from Bangkok, specifies a minimum number of containers per year, as well as an initial cash deposit. These three ocean liners stipulate a minimum volume of 500 containers per year in a long term contract for the Shanghai route from Bangkok.

A Proposed Matrix

This matrix structures the elements involved in seeking cost reduction through contract pricing instead of spot purchasing. The two purchasing methods have both advantages and

disadvantages. The key criterion is the annual number of containers needed by a freight forwarder for its customers. The matrix identifies the critical differences between the two methods. The matrix, with its three volume assumptions, is shown in Table 7. The minimum volume specified in the contract, 500 containers, is considered to be 100%. Below that, the contract cannot be considered. But volumes higher than the minimum could provide more bargaining power for BFG in its negotiations over contract terms at the end of the first year.

Table 7: Matrix for Evaluating the Two Methods for BFG

	Purchasing Method	Volume Assumption		
AS-IS Model	Spot Purchasing	Volume 100%	Volume 150%	Volume 200%
Proposed Model	Long Term Contract	Volume 100%	Volume 150%	Volume 200%

Source: Author

This research, having investigated the basic data, for the present as-is spot purchasing method, now needs to apply the evaluation matrix to BFG's ability to meet the liner conditions.

RESEARCH FINDINGS

Purchasing costs are affected by the purchasing volume, so that needs to be identified for BFG. In interviews, all BFG's six Bangkok customers who export to Shanghai estimated that their combined volume demand would be between 100% and 200% of the minimum needed for a long-term contract, i.e. between 500 and 1,000 containers per year. Actual data for two twelve month periods of spot purchasing is shown in Table 8, followed in Table 9 by what it would have cost had there been a contract in force (the bottom Right box in each Table shows the contrast).

Table 8: Spot Purchasing Cost to BFG for Containers to Shanghai (US$)

Destination	Period (1 year)	20'container	40' container	Total Containers	Total Cost US$
Shanghai	Jul 2012 -Jun 2013	332	576	908	313,400
	Jul 2013 -Jun 2014	254	321	575	191,900
	Container Price	(250US$ per Container)	(400 US$ per Container)		

Source: BFG

Table 9: Annual Contract Cost to BFG for Containers to Shanghai (US$)

Destination	Period (1 year)	20'container	40' container	Total Containers	Total Price
Shanghai	Jul 2012 -Jun 2013	332	576	908	239,200
	Jul 2013 -Jun 2014	254	321	575	147,100
	Container Price	(200 US$ per Container)	(300 US$ per Container)		

Source: BFG

Data for twelve months from July 2012 to June 2013 showed 908 containers, which is 80% higher than the minimum volume needed. Data for the second twelve month period shows a significant drop in the number of containers, to just above the contract minimum, but the drop is due to loss of customer orders to competitors who did have an annual contract: with a contract, BFG could reasonably expect a restoration in its customer orders. Therefore, it can be decided that BFG would be able to order the minimum volume needed by a contract.

Deposit Needed by Three Liner Companies
A contract condition is that a cash deposit must be made at the beginning of the contract, with financial penalties if not met. Table 10 shows the cash deposit needed by the three ocean liners.

Table 10: Deposit to Each Ocean Liner Company (US$)

Destination	Shanghai Port					
Ocean Liner	OOCL Liners		K-LINE Liners		YANGMING Liners	
Deposit	24,700		26,600		28,100	
Minimum volume	500 Container/Year		500 Container/Year		500 Container/Year	
Container type	20'	40'	20'	40'	20'	40'
Spot purchase cost	250	400	250	400	250	400
Long term contract cost	200	300	200	300	200	300

Source: BFG

Interestingly, each liner demands a different deposit, probably determined by experience of actual export volumes, capacity and ports available, actual cost for each voyage, number and quality of services offered, and market reputation. BFG will need to decide which liner is appropriate, considering all these factors as well as the deposit size.

Considering all the information gathered in this research, and the differences in these three liners, BFG decided to choose OOCL. If BFG had switched to a long term contract, US$ 74,200 would have been saved for the first period, and US$ 44,800 for the second, leaner, period. Both amounts are much more than the deposit needed by OOCL liner (US$ 24,700). As the contract reduces the cost per container, the price charged to BFG's customers can also be reduced to competitors' price or even below. This would stem the loss of customer orders, recover lost orders, and even reverse the decline by gaining new customers

Implementation of a Long Term Contract
BFG has four departments which would be affected by conversion from spot purchasing to long term contract: Purchasing, Accounting, Export, and Sales. In addition to 'Contract negotiation with Liner companies', another three steps are needed: 'Forecasting of Container Volume', and 'Defining of Contract Period', Later, 'Deposit Preparation' has to be done.

a) Forecasting of Container Volume should be done by the purchasing department using historical data from Accounts, and forecasting data from Sales. This forecasting has to be done before negotiation can begin with the chosen liner.

b) Negotiation of Sea Freight pricing should be done by the purchasing department. Comparison of several ocean liners should be made, and negotiations conducted until a competitive rate and deposit amount are agreed.
c) Defining of the Contract Period should be done by the purchasing department. The contract period of a long term contract could be one year or more, but should be identified by reference to the market situation and sales activity.
d) Deposit Preparation should be done by the accounting department. It must be finalized before signing the contract, by the optimal method of financing this.

Furthermore, the export department and sales department need to identify their operational objectives to fit this new purchasing method. Specifically:

e) Export Operation. During the early months of switching to another purchasing method, the export department must pay special attention to key in the correct cost to the computer system.
f) Sales Activity. The objective of sales activity is to increase revenue. From a contract perspective, BFG must obtain a volume which exceeds the contract minimum, or face a financial penalty. To aim above the minimum is as necessary, and could require sales campaigns, such as offering special deals to customers. The sales department should nurture existing customers and persuade new customers, which would give BFG greater bargaining power when the contract becomes renewable at the end of each contract period.

REFERENCES

Bugden, P. (1999). *Freight forwarding and goods in transit.* London: Sweet & Maxwell.1st edition

Christopher, P. (2008). Balancing Government Risks with Contractors Incentives in Performance Based Logistics Contracts. *Department of the Air Force Air university Thesis* from http://www.dtic.mil/dtic/tr/fulltext/u2/a480398.pdf

Creazza, A., Dallari, F., & Melacini, M. (2010). Evaluating logistics network configurations in global supply chains. *Supply Chain Management: An International Journal,* 15 (2), 154–164

Daley, J.M., & Murphy, R. (1995). International Freight Forwarder: Current Activities and Operational Issues. *Journal of International Purchasing and Material Management,* 31(3), 22-17

Dallari, F., Marchet, G. & Melacini, M. (2006). Transportation strategies in the global supply chain, *Proceedings of the 4th International Logistics and Supply Chain Congress.*

Foxton, D., Berry, S., Eder, B.,Burrows, A.Q.,Smith, C.F., & Boyd, S.Q.(2008). *Scrutton on Charterterparties and Bill of Lading.* London: Sweet& Maxwell.

Haralambides, H.E. (2007). Structure and operations in the liner shipping industry. In K.J. Button & D.A. Hensher (Eds.), *Handbook of transport modeling*

James, S., & Douglas, M. (2001). *Strategic Logistics Management.* McGraw-Hill, NewYork. 4th edition.

Monczka, R., Handfield, R., Giunipero, L., & Patterson, J. (2011). *Purchasing and Supply Chain Management.* South-Western, 5th edition.

Muphy, P.R., & Daley, M. J. (2011).Profiling International Freight Forwarders: A Benchmark. *Journal of Physical Distribution& Logistics Management,* 22(1), 35-41

Nigel, R. (2013). Spot purchasing. *Manchester Community Central.* Retrieved *July 04, 2013,* from http://www.manchestercommunitycentral.org/spot-purchasing

Robert, S., & Serguei, N. (2009). Long-term Contracts Under the Threat of Supplier Default *Manufacturing & Service Operations Management* 11(1), 109–127.

Roxenhall, T., & Ghauri, P. (2004). Use of the Written Contract in Long-Lasting Business Relationships, *Industrial Marketing Management,* 33 (3), 261-2.
Scott, E. (2009). Long-Term Contracts and Short-Term Commitment: Price Determination for Heterogeneous Freight Transactions. *American Law and Economics Review,*11 (1), 79–111.
Zeng, Z. (2003). Global Sourcing: Process and Design for Efficient Management, *Supply Chain Management: An International Journal*, 8 (4), 367-79.