Sourcing Strategy and Supply Chain Management

Daitto Global Sourcing Service CO.,LTD

Tel.:+86-21-61811362

Fax: +86-21-61811352

Add: Rm2003-2004,Building10th,Baolink-Center,Lane 803 of Shuangcheng Rd , Shanghai , China

Post Code: 200940

E-mail: info@daittosourcing.com

Website: www.daittosourcing.com

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 website:www.daittosourcing.com

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Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 website:www.daittosourcing.com

Executive Summary

The primary goal of this report is selected appropriate supplier for Raveman in reasonable financial support. Raveman Enterprises is a medium-sized high technology company located south of Sydney in Wollongong, Australia. The activity of supplier selection is an important for new product of r-Pod (or new line of wireless mobile computer). In this report, the potential suppliers of CJB Co, Jaz-Proj, Shacom, and Charltek was evaluated for Raveman Enterprises. Those four suppliers consist of two overseas suppliers, and two local suppliers. Comparing each potential supplier's market share, finance situation, corporation capacity, and costs, the single supplier of Shacom was suggested for Raveman. The reason for Shacom selected to Raveman is that it takes comparative cost advantage and the highest quality with the lowest defect of 4000. However, even suggested Shacom for Raveman's new production line, potential risks and cost analysis also must be measured by delivery spread worksheet. According to the risk and cost problem by financial analysis, the report recommends some plans and solutions for supplier, risk and future to repair uncompleted part.

1. Introduction

Enterprise exploits the new market of wireless mobile computer to satisfy customer needs. The new market expending for Raveman to improve industry capacity and capability is very important for its future development. And, supplier selection is not only important for supplier chain management, it is a With the development of technology and increasing market requirement, Raveman lso a main factor to improve product quality in final market and customer expectation. Then, the supplier selection is the key step to process its long-term objective of Raveman. Consequently, process and timeframes, sourcing strategy, supplier analysis and risk and cost analysis are the tool to measure four suppliers visited by Raveman Team.

2. Process and Timeframes

Raveman believe that the mini data projector suppliers' selection decision as a critical part or the r-pot development, procurement researched ten potential suppliers in the mini data projector market, and within that Raveman send the request for information (RFI) in October 2008. Finally, four suppliers were in the shortlist, in December 2008, these four suppliers send the request for proposal (RFP), however, due to Christmas and Chinese New Year the closing date, actually, Raveman reverie back on the 1st February 2009. next step is to request for samples for testing, it is a important step to testing the product of supplier's quality, then, Raveman send the team directly visit the suppliers, this step is to check the capacity, ability of potential development, management capability and process capability, this process take whole almost time of March. After visiting the suppliers, the procurement start to Negotiations and develop the contract, the team spent two and half month on this, and finally, the team choose

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
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the Shacom which is the Chinese companies, and spent two weeks on the contract approval. (See Appendix i)

There are few suggestions, the team spends too much time on the supplier selection and evaluation, at the beginning, Raveman should send the more RFI to the supplier s that could have more choices. Raveman should ask these four suppliers send back the RFP soon that can be save the time. In the sample test, the team should random pick from the suppliers, sometimes the suppliers send the best one to be tested.

3. Sourcing Strategy

3.1 Overall Strategic Direction

Raveman Enterprises is a medium-sized high technology firm located in Wollongong, Australia, is just a small organization in the global market. The company gradually expanded its product manufacturer. And the enterprise aims to continually improving, developing and innovating. The company desire to open the wireless mobile computer market to sell the high quality wireless palm to the Australian and New Zealand market. In October 2008, Ravman investigated 10 suppliers' data projectors to compare the price and cost of them and then select the suitable suppliers of data projectors. There are four companies provided detail information of the relevant price and cost. After the calculating, evaluating and comparing of the total holding cost, Raveman can got the results that utilizing the Chinese company-Shacom Technologies is more suitable.

Shacom Technologies and CJB & Co Technologies both are international companies. They both share a large area in global market of manufacturing the digital data projectors. And they are capable of accepting the big order to produce. In contrast, Although Jaz-Proj Company and Charltek Systems are the Australian companies can save the money of delivery and accelerate the delivery time, they haven't pay much attention to data projector manufacturing that they have no adequate experiences in this field. Ravman decide to develop the wireless mobile computer manufacturing and selling, they prefer to produce the high quality products. Using Jaz-Proj Company and Charltek Systems might increase the risk, which are not suitable choice. Compared with CJB & Co Technologies, Shacom Technologies is better at on-time delivery record and Quality that can meet the demand of Ravman, and the tooling cost, Sea transport cost and land transport cost is chaper than CJB & Co Technologies.

Moreover, CJB & Co Technologies prefer to accept the big order that they require the Minimum batch size of 20000 units (the Minimum batch size of Shacom is 10000 units), they might do not pay more attention to the small company, such as Ravman. Overall choosing Schacom to be a supplier is more sensible.

3.2 Sourcing Strategy – single versus multiple

3.2.1 The advantage of single supplier

The main point of Just-in-time aims to reduce the waste and focus on value added. To involve JIT philosophy in purchasing, the enterprise began to move towards to suppliers reduction. There are several benefits of single supplier, which is stated to quality improvement, rational price, more reliable delivery process, cost reduction and the most important elements(purchaser can build reliable delivery process with supplier). The single sourcing can provide products at better quality and lower costs to the buyers (Goffin, Lemke, Lohmuller, Pfeiffer and Szwejcaewski, 2001, p358). And it can help the supplier and purchaser establish a long-term relationship. Thus, there is no need to seek other suppliers that can save time and cost.

3.2.2 The disadvantage of single supplier

Depending on just one supplier associates with a drawback that may resulting in the higher switching costs and there is no adequate and proper competition between different cost structures in various suppliers. The purchasers just rely on one supplier that they will loose market feelings and will not focus on investigating and comparing the marketing condition. The enterprise competitive will gradually reduce and the purchaser might loose market (Faes & Matthyssens, 2009, p246). There is just one supplier that will be a risk to the buyer. If the supplier cannot provide the raw material, components, and final products at a good quality and delivery on time, the buyer can not get the alternatives. It is a significant risk to purchaser.

3.2.3 The benefits of multiple suppliers

The purchaser has an opportunity to find a suitable supplier through negotiating with multiple-sourcing to choose the optimum supplier. Multiple sourcing can lead the buyers involved into the high-tech markets to encourage innovation and remain competitive. The buyer can select the lowest prices from a number of suppliers and simultaneously increase the company’s leverage (Zeng, 2000, p219). Moreover, the buyers can gain products from a number of channels and suppliers that can prevent the problem which the buyers from the product shortages. The multiple sourcing and suppliers are suitable purchasing alternatives.

3.2.4 The drawback of multiple suppliers

The purchaser should establish stable and long-term relationships with suppliers that should be without an excessive number of suppliers. The excessive number of suppliers cannot give priority to contributing to innovation the new products, improving quality and reducing costs. Using multiple suppliers will decentralize the suppliers that will be not good for controlling and central management for the buyer.

3.3 Sourcing Strategy-domestic versus international

3.3.1 The advantage of domestic suppliers

Using the domestic-sourcing can protect and help develop the domestic firms. In addition, it is good for the full employment of domestic labors. Using domestic suppliers can save the direct and indirect procurement costs. Because of the short distance delivery, the on-time delivery rate is higher than international suppliers.

3.3.2 The disadvantage of domestic suppliers

The domestic suppliers are difficult involve in a competitive market to gradually improve themselves. The suppliers cannot focus on reducing costs and improving the quality.

3.3.3 The benefits of international suppliers

The international suppliers are foreign sourcing, which the purchasing process from foreign suppliers. The buying enterprise can discover the good opportunities of the global market to find huge and major producer for various raw materials. And the purchaser involved in the global market can get better raw materials, components, and final products at lower costs. The international sourcing can be applicable for the enterprises to discover the efficient purchasing outcomes. The international-sourcing is benefit to the customers, which can provide the diversity of assortments. Furthermore, it can animate the domestic market and increase competition of domestic market.

3.3.4 The drawback of international suppliers

The domestic enterprises will be confronted more competitive world market. They will face a great challenge that might bring obstacle to protect and develop the domestic firms. In addition, the staffs who work in domestic firms will be threatened and might lose job because of the international suppliers adopted. There are transactional risk exists in international sourcing. The product and procurement cycle is shorter but not stable as international sourcing strategy. And the failure is easier happen in international transaction than domestic transaction system, because there are much more uncontrollable elements in international sourcing procurement. It has been risk of high complexity process of management the international transactions, and this risk involves potential danger to the purchaser's future procurement transactions (Pache, 1998, p397). Moreover, there are different procurement culture in different nations that will increase difficulty in negotiation, transaction and other processes. There are some additional costs of international sourcing that will increase the procurement costs. Such as offshore costs.

Overall, Shacom Technologies would like to accept the order of Raveman. Shacom Technologies and CJB & Co both are international companies and shared a respectable global market of digital products. However, compared with CJB & Co, the commodity team felt much more comfortable at Shacom Technologies. In addition, the plant manager of Shacom Technologies was welcoming and can speak fluent English. The most important is the excellent quality of products made in Shacom that Raveman desire to. Shacom is to be an international sourcing tried their best to overcome the problem of quality, the mangle in the delivery and late delivery record. And according to the current situation, single supplier can satisfy the product demanding of Raveman. The primary strategy is using Shacom Technologies is suitable for present new product development of Raveman.

4. Supplier Analysis

With dramatically market competition, serious impact by financial crisis, the pressure of production costs and cruel market challenge, any company will emphasis on strategic decision of manufacturing and purchasing. Outsourcing or seeking appropriate supplier is a necessary approach for many corporations to avoid risk and improving capacity. Then, supplier selection, evaluation and management are becoming the key factor to affect corporations' future market competition.

Not only "buying things" of purchasing department brings huge impact for traditional purchasing management. Seeking appropriate supplier becomes important function in purchasing department. Therefore, market analysis, supplier financial analysis, capacity analysis and supplier evaluation and selection are the most important data for supplier analysis.

4.1 Market Analysis

Market analysis is a basis of supplier analysis for understanding the specific company. It assist corporations more understanding of that supplier before its evaluation and selection. Except of supplier seeking and selection, suppliers' capacity also can enhance corporations' strategic competitiveness. Briefly, the market analysis is focus on attractiveness of market of each supplier. The analysis of market can be identified in following conditions: market size and structure, market competition, and market growth rate.

Before to analysis supplier's market, the market of Raveman must be known at first. Raveman Enterprises Pty Ltd is a medium-size with high technology company located in Wollongong of Australia. It focuses on software product, and some small electronic product, such as mini computer supported with its own software. Recently, it wants to exploit the new production line of wireless mobile computer called r-Pod, and to enter such market. Moreover, this new market is the advanced generation of MP3/MP4 market with high market growth rate in future. The supplier selection also contraposes r-Pod production line to evaluate and analysis the visited four suppliers.

4.1.1 Market size / structure

CJB & Co Technologies
This is large Japanese supplier located in Hitachi near by Tokyo. It is world leaders in research and development of new technology, especially for electronic goods and components. It also has 30% global market share for digital data projector.

Shacom Technologies
High capacity degree of Shacom Technologis is a new industry in Suzhou of China. It has abundant experience with many world's Fortune 500 companies. It takes 10.42% of global market share in expert of mini camera.

Jaz-Proj Company
One of two local industry, Jaz-Proj is a small proprietary limited manufacturer located

in Perth. Its main markets are digital camera and data projector devices. It also has good reputation of delivery reliability and innovation. Because the scope of company limited, it only has 4% of global market share.

Charltek System

The best location of Charltek in Wollongong is also a large manufacturer. It focuses on computer equipment, including digital data projector and video cameras. Although it called the second largest producer of devices in worldwide, it only holds 13% of global market share.

According to the location factor, Charltek and Jaz-Proj are the nearest location with Raveman.

4.1.2 Market Competitiveness

Based on Porter's Five Force Model, it analysis outside and inside factors to affect competition of industries. The supplier is one factor of five, which through the price and quality of product or service to influence industry's profitability and competitiveness.

In the case, FAS contract quoted price of $ 121 per unit in CJB Co, EXW contract quoted price of $ 140 per unit in Jaz-Proj, FIS contract quoted price of $ 146 per unit in Charltek, and FOB contract quoted price of $ 130 per unit in Shacom. With the different contract, FAS and FOB are both include delivery for the buyers, meanwhile, the price of CJB Co is the cheapest one of four supplier. Thus, CJB Co takes the comparative advantage of lower price for Raveman. If Raveman only focus price of material, CJB Co must be the preference choice in supplier selection.

Supplier / Contract	CJB & Co	Shacom	Jaz-Proj	Charltek
FAS	$ 121 per unit with conversion rate of 62.66 yen change for 1 AUD			
FOB		$ 130 per unit with conversion rate of 4.39172 cyn change for 1 AUD		
EXW			$ 140 per unit	
FIS				$146 per unit

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
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Otherwise, the quality of material also is an important measure for market competitiveness. Because of no exactly tool for quality management, the defect of parts per million (ppm) can be the quality standard. The result from the case is that CJB CO with 9500 defects ppm, Jaz-Proj with 7500 defects ppm, Charltek with 10500 defect ppm, and Shacom with 4000 defect ppm. The lower defect means better quality of product, so that Shacom has the best quality of product. If Raveman only considers quality of product, then, the preference supplier should be Shacom.

However, Reveman is required low-cost and high-quality to supplier selection. Consequently, Shacom is the best choice for Revaman by combination of cost and quality.

4.1.3 Market Growth Rate

Market growth rate is a factor to measure the performance of specified product in a specified market. According to the annual sales of industry in the market, the market growth can be decided. However, Raveman already forecast the market growth rate of 20% in year two based on 500,000 units. And, the annual sale for each industry only gives one year. The net sale of CJB Co is $ 6500, Shacom is $ 1355, Jaz-Proj is $ 546, and Charltek is $ 2300. With Market Competitiveness, Shacom will has strong market growth and high market growth rate in next year after supplied for Raveman.

On the other hand, Jaz-Proj also can gains high growth rate by advertising of “IT World” and “Technology Today” magazines which praise it’s product and innovation ability. The advertising of famous magazine is a good marketing strategy to improve the reputation of industry to increase the sales to extend market. Then, it market growth rate should be raised.

To conclude, for four supplier both local and overseas suppliers, only two of Shacom and Jaz-Proj has the ability of market growth. According to Appendix ii, there posit the market position for four industries based on cost and quality to demonstrate market attractive. The result is that Shacom is rather than other three suppliers.

4.2 Supplier Financial Analysis

Financial analysis often measures the industry’s profitability, liquidity and stability. Accounting always uses the ratios to do financial analysis based on asset, capitalization, and profitability. According to the gathered financial data for each

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supplier (See Appendix iii & Appendix ix), the following table has finished selected financial ratios of four industries (Based on Appendix x). By the interest factor, local supplier of Jaz-Proj and Charltek are both more reliable rather than overseas supplier of CJB Co and Shacom.

Selected Financial Ratios

Market Share	CJB Co	Shacom	Jaz-Proj	Charltek
Assets Utilization:				
Assets Turnover=Sales / Assets	13	1.7	1.3	1.6
Inventory Turnover=COS / Average Inv.	31	58	31	32
Receivable Days=AR / Sales * 365	50	60	47	30
Payable Days=AP / Sales * 365	30	36	34	50
Capitalization:				
Leverage=Assets / Equity	2.6	2.3	2.0	1.7
ROE=Net Income / Equity	0.08	0.20	0.14	0.23
LT Debt to Equity=LT Debt / Equity	0.65	0.40	0.32	0.12
LT Debt to Assets=LT Debt / Assets	0.25	0.17	0.16	0.07
Current Ratio=CA / CL	1.22	1.33	1.27	1.34
Quick Ratio=(Cash+Inv.+AR) / CL	1.15	1.14	1.19	1.27
EBIT Coverage=				
Earning bef. I&T / Interest Exp.	0.72	2.62	1.82	5.42
Profitability Ratios:				
Contribution Margin=(Sales-VC) / Sales	0.034	0.074	0.073	0.119
Profit Margin=Net Income / Sales	0.024	0.052	0.052	0.084

To interpret each ratio of assts, liability/debt, and profit, Hoggett, Edwards and Medlin are indicates all ratios in the book of "Accounting in Australia" in following content.

Assets utilization is used the ratios to calculate the assets or inventory management. **Assets Turnovers Ratios** is used to decision making that assess the entity's ability to turn over its assets during the current financial period, also means every dollar invested in assets. Then, the high turnovers implicate more money generate in sales. The result is Japanese company gains more money. I**nventory Turnover Ratio** indicates the number of times average inventory has been sold during a period. So that, very high inventory turnover indicates that the business hold too little inventory to lead losing sales. Because of the longest leading time of Shacom, it takes very high inventory turnover that means inefficient inventory on hand. **Receivable and Payable**

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
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Days measures the cash flow of four suppliers, including cash-in and cash-out during the year.

Capitalization is likely liability analysis for decision making. **Return on Equity** is similar with **Leverage** to calculate the returns to the ordinary shareholder, and high ratio required. **Long-term Debt to Equity and to Assets** indicates the entity's ability to satisfy its obligation in the long-term. Then the higher ratios means that the company can serves long-term liability for the renter. The most commonly used measure of liquidity is the **current ratio**, which is a measure of the entity's ability to satisfy its obligations in the short-term. Lower ratio indicates inability to meet short-term debts in an emergency, so the higher ratio is more desirable. **Quick Ratio** is similar as current ratio about the obligation in the short-term as same as higher result required.

Profit margin reflects the portion of each dollar of revenues that represents profit to analyze financial performance of business. It is indicates a declining profitability trend, then, lower ratio result is better profit.

Finally, based on supplier financial data from case, there has no problem of cash flow by current assets exceeding current liabilities. Inventory management also perform well, especially for Shacom with the highest inventory turnovers of 58.

4.3 Capacity Analysis

CJB & Co Technologies

CJB& Co Technologies is a Japan company and a well known world leader in research and development of new technology. Comparing with other three suppliers, CJB& Co Technologies is the largest, it controls approximately 30% market share of global digital data projector sales. The plant covered five acres, with a wide variety of computer and electronic components produced in the facility, and the facility was efficient, spotless, and modern. Conclude above advantage, CJB& Co Technologies has capability to produce r-pod. However, they also have some limitations. Because the location, CJB & Co Technologies' quoted lead time is the longest of the four suppliers being evaluated. Moreover, communication is a problem, such as need translator, Raveman felt "snubbed". Third, as "the price leader, the company only interest in large order (over $ 150 million per year), and tooling cost would be $1.5 million. For the Raveman, CJB & Co's goodwill, modern facility and scale is attractive, but the cost, leading time and limited communication is also need to be

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considered.

Jaz-Proj Company

Jaz-Proj Company located in Perth, Australia. It is a small size company and located in an old warehouse. The company entered the digital data projector market 4 years ago and only has produced data projectors for one year. They did not produce as large number of product as The Raveman want before and the ramp up time would be 4 months. Although Jaz-Proj is a small size and has less experience, they established a reputation for delivery reliability and innovation. Jaz-Proj also keeping to develop new technology and employee are young and highly motivated, the lead time only two weeks. In short, in current situation, Jaz-Proj hasn't strong competitiveness, but has large potential capability in the future.

Charlte Systems

Charltek Systems is a fairly large and reputable manufacturer of computer equipment, including digital data projector equipment. The one most attractive advantage is the company's location. It located in Wollongong less than ten kilometers from Raveman's facilities. Moreover, the company can produce any batch size of product and just-in-time to Raveman's facilities without additional costs. The company has incredible delivery performance of 99.98% on-time delivery claim. Furthermore, the firm is the second largest producer of these devices worldwide. End but not least, Charltek Systems' ramp-up time for the first shipment would be very short, about 2 and half months. But the negative point cannot be ignored, the company had several quality problems and the number of returns from large distributors had increased dramatically.

For The Raveman, convenience delivery and low cost is important. Charltek can provide JIT delivery and low transport cost is very competitive compared with other three suppliers. On the other hand, high quality is also play the core role. Although the quality manager assured that the design engineers were working full-time on the problem and that it would be solved well before Raveman placed an order, Raveman still need consider the positional risk.

Shacom Technologies

Shacom claimed that they have ability to produce the quantity that The Raveman wants, and also provide the second lowest bid at $130 per unit. The company treated The Raveman team friendly and very impressed with the cultural explanations and hospitality. Moreover, the Chinese's company product is excellent, the process control and testing were more through than any other supplier the team visited. At the same

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
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time, current Asian on time delivery is excellent too. Furthermore, facility is new too.

Unfortunately, Shacom has no experience doing business with Australian firms and not sure can protect delivery as excellent as current Asian delivery. In the company, employee number is extremely high and they not wearing PPE. The amp up time for the production of the first shipment is 3 and half months, which is longer than Japanese company, CJB & Co Technologies.

Shacom can provide high quality and low cost product, which are all important for The Raveman and especially for new product. Communication and culture conflict is not a problem in Chinese company. But the company has no experience with Australian company and worry on-time delivery to Australian.

4.4 Supplier Evaluation and Selection

4.4.1 Step One: Identify Key Supplier Evaluation Categories

Supplier selection plays an important role in operation management, especially for high technology industry. In the current situation for The Raveman, capability, quality performance, long-term partnership, cost competitiveness and delivery record are key factors when evaluate and select supplier.

4.4.2 Step Two: Weight Each Relevant Evaluation Category

On the assumption that the total weight of above categories is 100%. Based on the Raveman plan, quality is most important factor in evaluation so assume is 35%, the other categories percent are: capability 20%, long-term relationship 15%, cost competiveness 15%, and delivery record 15%.

4.4.3 Step Three: Identify and Weight Subcategories

Based on the case, the factor of capability have some subcategories, such as include goodwill 4%, technology 5%, development 6%, and manager support 5%. A category of quality also has some subcategories: total quality commitment 15%, parts per million defect performance 8%, and process control system 12%.

4.4.4 Step Four: Evaluate Supplier Directly

The Raveman relies on cross functional commodity teams to collected information in order to evaluate the primary four suppliers. The team survey and negotiates with suppliers, and after research, they gain enough information about each supplier. According to company demand and evaluating result of supplier's ability,(table1) the Raveman decided choose single supplier and the company is Shacom Technologies, which gain the highest score 90%. Shacom confidence for provide high quality, low defect and low cost product to Raveman, however, they not sure delivery can be on time, although have excellent delivery history.

4.4.5 Step Five: Review Evaluation Results and Make Selection Decision

Finally, The Raveman chooses Shacom be supplier according a series evaluation. For the purchase contract, The Raveman should used easy understand words and clearly detailed describe both responsibility in order to minimize misunderstanding point and maximize reduce conflict.

Estimate percentage based on the case.

	Quality (35%)	**Capability 20%**	**Long-term relationship (15%)**	**Cost competitiveness (15%)**	**Delivery record (15%)**	**Total (%)**
CJB&Co Technologies	32	20	10	10	12	84
Jaz-proj Company	30	15	12	10	13	80
Charltek Systems	25	18	10	10	15	78
Shacom Technologies	33	20	13	14	10	90

5. Risk and Cost Analysis

According supplier analysis, finally, choose the Shacom as the supplier. In this part, the team will do some analysis on the inventory, potential risk, and total cost analysis with Shacom.

5.1 Inventory Management Analysis

5.1.1 Economic order quantity identify

Raveman consider applying the economic order quantity (EOQ), because EOQ can be reducing cost with the size of order. EOQ model is supported by several factors, such as, clear annual demand, constant lead time, just one product and single deliveries (Finch, 2008, p.494). According the inspection of the Shacom, the team identify the demand of Raveman is known, another important factors is lead time, because of Shacom locate in China, so the lead time is ten weeks, but is stable. Raveman only order the mini data project from Shacom, and delivery channel is single.

According to the delivery spreadsheet, the total order quantity is 1,100,000 unit through two years, and totally Raveman order 25 times in two years. In 2010, the average stock holding is 20000 unit, in 2011, the average stock holding is 61592, in 2012, the average decrease to 59810, because the second year Raveman decide to increase 20% of the r-Pod, so the second year stock less than first year.

According to the sale forecast of r-Pot, the team decides to have safety stock which is have enough stock for the next month production plan, according the batch size of Shacom, the batch is 10000 units, so that means every time when Raveman order it must multiple 10000, (See Appendix xi). If there are some unpredictable cases happen, Raveman have enough stock to keeping produce, as the Raveman realized that r-Pod is just launch into the market, the products shortage of supply is bad influence, which the market share will taken by other competitors very soon.

5.1.2 Issue discuss

Raveman seek the minimum inventory, however according the EOQ which could be huge inventory. Handfield (2002, pp.71-85) mentioned that inefficient inventory management will cause increasing of cost, reduce profitability, constraint the cash flow and waste the resources. However, Raveman is the first company launches this kind of product into the market, with the forecast of demand of mini projectors will growing rapidly, according the experience of Raveman the inventory is necessary. Cetinkaya and Lee (2000, pp.217-232) indicate that holding inventory will increase the flexibility and competitive advantage. Strategic inventory can meet the rapid change of the customer requirement. If there are some unpredictable cases happen Raveman have enough

Tel:+86-21-61811362 **Fax**: +86-21-61811352 **E-mail**: info@daittosourcing.com
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5.1.3 Costing flow to total cost analysis

Costing flow exist in every transaction, it will affect the cost analysis. In the Raveman's situation, when the first order placed, there are include the all the expenses with the mini data projectors start from Shacom to finally arrive the Raveman factory. There are FOB quoted price, transportation expenses, receiving cost, insurance and duties. When Raveman sell the r-Pod, the cost of goods sold (COGS) also involved. Furthermore, the inventory holding cost needs to be considered as well.

5.2 Total Cost Analysis

According to the relevant data of Shacom:

- FOB quoted price = $130 AUD quoted at 4.39172cyn to $1AUD
- Quality = 4,000 defects ppm
- Tooling cost = $1.35 million
- Frequency of Shipment = monthly
- Ordering cost per order = $680 due to needing all paperwork and individual orders prior to shipment.
- Receiving cost per delivery = $5,000 for unloading container and inspection
- Sea transport (ship) = $158,000 per batch in mini container
- Land transport (truck) = $15,000 per batch in mini container including load / unload and transport from Sydney to Wollongong
- Duties / customs / tariffs = $2.30 per unit
- Insurance = $13,200 per batch in mini container

According to the total cost analysis worksheet of Raveman, and delivery worksheet, (See Appendix xii)

Initial Costs	
Tooling Costs=	1,350,000
Purchase Price Costs	
Total Purchasing Price	
Acquisition Costs	
Ordering Cost=	17000
Sea Transport=	1,738,000
Land Transport	1,650,000
Duties, Customs, Tariffs	2,530,000
Insurance	145,200
Receival Cost	125,000
Quality Defect Costs	
Quality Defects Inspections	
Quality Defects Cost	1,540,000
Holding Costs	
Total Holding Cost	2,888,218
Total Costs (over two years)	**11,983,418**
Total Costs (average per unit)	**10.89**

According delivery spreadsheet, there are 25 delivered, so the **ordering cost per delivered** is 680*25=17000. Total stock delivery is 1,100,000, and the batch size is 10000, so totally (1,100,000/10000=110) 110 mini container delivered, so **sea transportation fee** equal 110*158,000=1,738,000, **land transport** is 15000*110=1,650,000. **Duties** equal 1100000*2.3=2,530,000. **Insurance** equals 13200*110=145,200. **Receiving cost per order** equal 25*5000=125,000. **Quality defect cost** equals 4000/1000000*350*1,100,000=1,540,000. Because of that the team decides the single supplier so the quality defects inspections is not count into the total cost. The total two years cost divide by total stock delivery equal 10.89$ per unit. Finally, the total cost per unit is 10.89+130=140.89.

Based on the Shacom is Chinese company, the currency issue need to be considered. Shacom provide the Chinese cyn as the currency denomination, based on the record of the exchange rate between Australian dollar and Chinese cyn, Chinese cyn is keep increase at foreign exchange market, so when Raveman conduct contract it is good using the fix exchange rate or use the Australian currency.

5.3 Risk Assessment

Risk analysis is to identify the potential risk with the sourcing, Raveman decide Shacom as the only supplier, according to the **Sourcing Risk Management Plan Worksheet**, Raveman should be considered several factors, and identify the risk in those areas. Management Capability, Delivery Performance, Quality Performance, Process Capability, Capacity, Cost Competitiveness, Technical Ability, Logistics, Financial Viability, Other Commercial Issues.

5.3.1 Risk in Management Capability

The potential risk of management capability is that Shacom has never do the business with the Australian companies, there are may some communication issue and culture differences, there are quite easy get misunderstanding with the communication or the culture.

5.3.2 Risk in Delivery Performance

Delivery Performance is the big issue, because of the distance between Shacom and Raveman, also the long lead time will not allowed the delay for the material delivery. The potential risk is that Shacom has never doing the business with the Australian companies, according to the on time delivery performance was excellent, but that only delivery in the Asian region, with the uncertainty of delivery to Australia is a potential risk, furthermore, there are some uncontrolled nature disaster also affect the sea transportation.

5.3.3 Risk in Quality Performance

Raveman is very care about the quality of R-pot, because it is the new generation product, when it first came into the market must have high quality that will help to get marker share. According to the extensive testing procedure there are few problem occur, compare other supplier, Shacom is the best of the quality, however, the potential risk is that, the sample can not stand for all products, sometimes the supplier

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 website:www.daittosourcing.com

just send the best one to the test, that mean the quality of the actual mini projectors are not consistent with the sample, and also the raw material quality will have some risk, sometimes the suppler purchase the lower quality of raw material.

5.3.4 Risk in Process Capability

Process capability and technical ability are based on the technology innovation, nowadays, technology change very fast, the risk can be defined as slow of keeping improve technology, lack of the technology will cause the low level of process capability.

5.3.5 Risk in Capacity

The risk of total capability involve the three capability as mentioned above, Shacom also be supplier for Taiwan and Japanese PC companies, that could be the risk when the their demand increase, the production capability will effect, and it will hard to achieve Raveman demand.

5.3.6 Risk in Cost Competitiveness

The potential risk of cost exist, if the price of the raw material is increase or the currency exchange rate is changed, finally, price will affect, furthermore, the duties and insurance of mini projector is increase the cost also increase, new technology will bring the low cost for the mini projector.

5.3.7 Risk in Logistics

The potential risk of logistic is about the raw material procurement and the inventory management, the lack of inventory will cause the shortage of product, and further effect will cause the lack of the supply for the customers.

5.3.8 Risk in Financial Viability

Financial viability risk can be shows as the cash flow, inventories cost, account receivable, according to the Appendix xi, the balance sheet and income data show that Shacom’s cash flow is quite low compare with other suppliers, lower cash flow can cause the bankrupt. The major risk is the economic crisis and the government policy change, economic crisis can be

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 website:www.daittosourcing.com

6. Recommendation

To conclude, the result of dominated choice of single supplier for Raveman Enterprise is referred various evaluation and analysis with cost and quality. To choose Shacom Technologies is based on comparative cost and the best quality matching Raveman's new market expanding required. Some potential risk and competition are faced when the single supplier of Shacom selected, meanwhile, following recommendation should be considered with potential issues.

6.1. For Supplier

According to the current situation, the present strategy is suitable for the operation of the Raveman. However the expanding of the market will increase the demand of product, the current single supplier might not meet market demand, multi supplier strategy should be applied. Based on the data, two domestic companies be considered. Jaz-Proj Company processes a potential development. The team in the company continually innovate the products, which utilize new product lines. And the average age of employee is 35. They can create new and fresh decision and strategy. Charltek Syetems set up the Just-in-time production system that can reduce the inventory level, even making the inventory arrive the zero inventory level, which can reduce the holding cost, and there is no extra cost except the delivery. The demand order send to Charltek System can be flexibility.

6.2 For Risks

There are several potential risks about the current situation. Based on the risk and cost analysis, Raveman should clear the on time delivery in the contract, if any delay and miss delivery they will get some penalty, and make sure communicate with Shacom when every material has been sent, make the contingency plan if the uncontrollable nature disaster occurs, or find other supplier to supply the material. Management Capability involve the leadership, when Raveman send a team to visit Shacom, the plant manager of Shacom speak fluent English to the team, try to make the communication well by checking the translator, and invite the team to the traditional Chinese dinner, as the leader these actions present a good image to the commodity team, also Shacom quite want be a supplier of Raveman. Moreover, the forecast of the economic environment is also important. Economic crisis can not avoid but if the forecast is reliable and reasonable that can reduce the risk as far as possible.

6.3 For Future

In the future, for long-term development, the enterprise should more focus on customer demand. Applying strategy to maximize customer satisfaction, for example, the enterprise can do some market survey and customer questionnaire to investigate the customer demand and make forecast. Secondly, both purchasers and suppliers need more negotiation and communication in order to keeping long-term relationship and reach win-win situation. Moreover, build strategic alliance with other companies in the same industry is also helpful. Finally, considered recommendations are all aim to improve the Raveman's competitive ability, increase sales, and expend market share.

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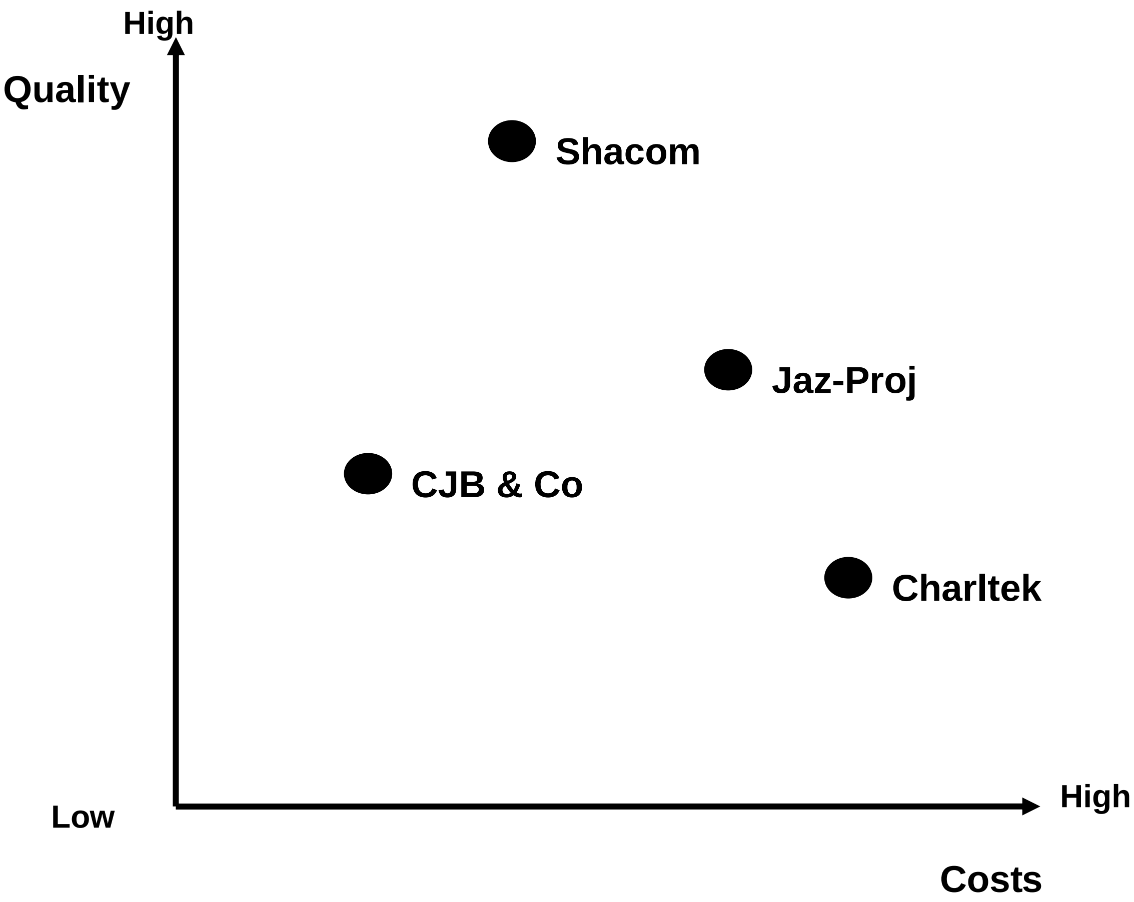
Appendix i

Timeframe

Tel:+86-21-61811362 **Fax**: +86-21-61811352 **E-mail**: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 **website**:www.daittosourcing.com

Tel:+86-21-61811362 **Fax**: +86-21-61811352 **E-mail**: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 **website**:www.daittosourcing.com

Appendix ii



Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 website:www.daittosourcing.com

Appendix iii

Selected Supplier Balance Sheet Data (Australian Dollars - $ in millions)
For Period Ending June 2008

	CJB Co	Charltek	Shacom	Jaz-Proj
ASSETS				
Cash	$96	$85	$54	$35
Marketable securities	$122	$105	$28	$9
Accounts receivable	$889	$380	$175	$45
Inventories	$1,058	$155	$185	$75
Total current assets	$2,165	$725	$442	$164
Investments at equity	$738	$70	$95	$21
Goodwill	$300	$145	$80	$40
Total investments and other assets	$1,038	$215	$175	$61
Property, plant, and equipment	$1,735	$450	$413	$125
TOTAL ASSETS	$4,938	$1,390	$1,030	$350
LIABILITIES AND SHAREHOLDERS' EQUITY				
Notes payable	$525	$48	$35	$11
Accounts payable	$526	$225	$125	$75
Taxes due on income	$245	$70	$48	$23
Accrued payroll and employee benefits	$484	$202	$139	$13
Total current liabilities	$1,780	$545	$347	$122
Long-term debt	$1,244	$241	$165	$25
TOTAL LIABILITIES	$3,024	$786	$512	$147
Shareholders' equity	$1,914	$604	$518	$203
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$4,938	$1,390	$1,030	$350

Appendix ix

Statement of Income Data (Australian Dollars - $ in millions)
Year Ended June 2008

	CJB Co	Charltek	Shacom	Jaz-Proj
Net sales	$6,500	$2,300	$1,355	$546
Cost of goods sold	$5,500	$1,495	$948	$403
Selling, general, and administrative expenses	$475	$570	$252	$66
Interest expense	$305	$65	$55	$12
Costs and expenses	$6,280	$2,130	$1,255	$481
Income before income taxes	$220	$170	$100	$65
Estimated taxes on income	$66	$51	$30	$20
NET INCOME	$154	$119	$70	$46

Appendix x

Selected Financial Ratios
Market Share
Asset Utilization:
Asset Turnover = Sales/Assets
Inventory Turnover = Cost of Sales/Average Inventory

Tel:+86-21-61811362 Fax: +86-21-61811352 E-mail: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
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Receivable Days = Accounts Receivable/Sales X 365
Payable Days = Accounts Payable/Sales X 365
Capitalization:
Leverage = Assets/Equity
Return on Equity = Net Income/Equity
Long-term Debt to Equity = Long-term Debt/Equity
Long-term Debt to Assets = Long-term Debt/Assets
Current Ratio = Current Assets/Current Liabilities
Quick Ratio = (Cash + Inventory + Accounts Receivable)/ Current Liabilities
EBIT Coverage = Earnings Before Interest and Taxes/Interest Expenses
Profitability Ratios:
Contribution Margin = (Sales - Variable Cost)/Sales
Profit Margin = Net Income/Sales

Appendix xi

Delivery Spread Worksheet

Tel:+86-21-61811362 **Fax**: +86-21-61811352 **E-mail**: info@daittosourcing.com
Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 **website**:www.daittosourcing.com

Appendix xii

Total Cost Analysis Worksheet
Initial Costs
Tooling Costs
Purchase Price Costs
Total Purchasing Price
Acquisition Costs
Ordering Cost
Sea Transport
Land Transport
Duties, Customs, Tariffs
Insurance

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Receival Cost
Quality Defect Costs
Quality Defects Inspections
Quality Defects Cost
Holding Costs
Total Holding Cost
Total Costs (over two years)
Total Costs (average per unit)

Final Appendix: Marking Criteria

DESCRIPTION	WEIGHT	SCORE	COMMENTS
Format and Exec Summary ▪ Business context – professional writing style ▪ Executive summary has recommendation and justification	**10%**		
Process and Timeframes ▪ Gantt chart format ▪ Logical order with time allowed ▪ Recommendation follows process	**10%**		
Overall Strategic Direction ▪ Broad strategy development	**10%**		

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Add:Rm2003-2004, Building10th,Bao Link-Center, Lane 803 of Shuangcheng Rd , Shanghai , China
Post Code: 200940 **website**:www.daittosourcing.com

▪ Theoretical concepts ▪ Discussed procurement			
Single v's Multiple Sourcing ▪ Sourcing strategy considered ▪ Advantages and disadvantages discussed	**5%**		
Domestic v's International Sourcing ▪ Sourcing strategy considered ▪ Advantages and disadvantages discussed	**5%**		
Market Analysis ▪ Industry and Supplier Analysis ▪ Theoretical concepts	**10%**		
Financial Analysis ▪ Financial risk analysis accurate and thorough ▪ Interpreted and conclusions	**5%**		
Capacity Analysis ▪ Capacity identified ▪ Issues discussed ▪ Recommendation follows process	**5%**		
Supplier Evaluation and Selection ▪ Supplier evaluation and selection process ▪ Justified / comments	**5%**		
Inventory Management Analysis ▪ EOQ identified ▪ Issues discussed ▪ Costing flows to total cost analysis	**5%**		
Total Cost Analysis ▪ Total cost analysis accurate and thorough	**5%**		
Risk Assessment ▪ Risk management plan thorough	**5%**		
Recommendation ▪ Correct decision ▪ Terms and Conditions ▪ Decision justified	**15%**		
Referencing ▪ Harvard System of referencing ▪ Evidence of research / reading	**5%**		
TOTAL	**100%**		