

Silicachem corporation: outbound freight transport report

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Full-time MSc in Logistics & Supply Chain Management 2011/12 Freight Transport Assessment SilicaChem Corporation: Outbound Freight Transport Report Jia GUO, Bethie 09/01/12 1.

Introduction This short report recommends the best options of serving the Spanish distributor and the North America customer based on information given. Although cost is the main consideration in the analysis, various other criteria such as service level and transport modal features are also examined.

In order to deliver a more comprehensive discussion, weaknesses of the recommended modals are listed, which should be carefully evaluated when further information is available. 2. Serving the Spanish distributor 2. 1 Recommendation Based on the given information, the intermodal service offered by carrier MacAndrews is the most recommendable option, taking cost and service level as the major considerations.

As shown by the cost comparison in Appendix 1, the service rate (cost per tonne) of MacAndrews is ? 119. 05, the lowest among all available options, representing a huge annual cost reduction potential.

Furthermore, the full-load capacity of intermodal containers is lower than that of road freight trucks, and thus would provide better chance of realizing full load benefits (Rushton, 2010). Evaluating service levels is less straight forward than comparing costs. Although the transit time of intermodal options, 14 days, is much longer than the 4-day transit time of road freight, two other factors should be considered.

On the one hand, SilicaChem should identify the transit lead time demanded by the Spanish distributor, because a ten-day-difference may be trivial to the customer.

For example, when demand is reasonably stable or predictable, longer transit time is more tolerable as it would not greatly affect the distribution performance. On the other hand, delivery reliability, compare to delivery time, might be a more important determinant of service level. As European road transportation is recently suffering from congestion and safety issues, intermodal options might be able to offer more reliable services (Wiegmans, 2010). Nevertheless, the reliableness of intermodal transportation depends largely on the performance of the freight carrier (Wiegmans, 2010).

As a result, a careful check on the carrier's professionalism, capacity and past records is vital when making the decision.

Despite cost and service level, some other criteria also favour the intermodal alternative. For instance, energy efficiency, environmental friendliness and government policy are few important factors for long-term delivery performance. 2. 2 Weaknesses of intermodal Although intermodal is a promising option, it has several weaknesses that should be evaluated base on further information.

Firstly, it results in longer lead time, which suggests that the mode is less responsive to changing demand and more likely to result in higher inventory, both in pipeline and in warehouses.

Second, transshipment and double handling are unavoidable in intermodal transportation. This might lead to less control, lower traceability and higher
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risk of damage in the case that a less professional carrier is taking charge of the transportation. Moreover, as more modes, routes and parties are involved, the delivery is more vulnerable to disturbing events. Lastly, final decision should also take account of the weaknesses of individual modes involved.

For example, decision makers should examine whether the delay problems of sea and rail transport is serious in the selected route, as it may largely hinders delivery reliability.

2. 3 Other modal options Take into consider the weaknesses of intermodal and the advantages of road transportation, such as flexibility and door-to-door delivery, one of the most valid option would be employing both modal as a transportation portfolio (Wiegmans, 2010). SilicaChem could use intermodal to serve the stable part of the demand and use road transport to serve the fluctuated part.

However, sophisticated planning and good relationship with carriers and customers would be required in this mixed mode alternative. Another alternative the company could consider is using multiple carriers in intermodal transport. As illustrated in Appendix 1, the quotations of the same route or activity from two carriers can be significantly different.

Therefore, it is beneficiary for the company to understand the cost components of carriers and the rationale behind the quotations, in order to grasp the opportunity of better deal and more reliable service (Jennings and Holcomb, 1996).

In terms of transport mode selection, SilicaChem could consider the feasibility of using only road and rail transport in intermodal so as to boost transit speed. However, further information concerning routing and cost are needed for detailed evaluation. 3. Serving the North America customer 3. 1 Recommendation As shown by the calculation in Appendix 2, sea freight is more cost effective than air freight.

Based on the assumptions listed in the appendix, sea freight is estimated to have an annual total cost of about ? 264, 000 lower than that of air freight.

The main contributor of this difference is shipping cost, as the total annual shipping rate of sea freight is ? 310, 000 cheaper. As a result, although adopting air freight would provide a saving of about ? 60, 000 in inventory holding and warehousing costs, the total cost of sea freight is still substantially lower. Apart from the cost factors, sea freight would also be a more favourable option as the sea freight is more likely to take use of containers, which would make storage and onward transportation more convenient.

Furthermore, keeping the current transportation modal would eliminate switching cost and ensure the 100% OTIF service is successfully maintained.

Moreover, the large volume transport feature of sea freight fits the current supply chain strategy, which emphasis lean manufacturing, EOQ, and full loads supply. 3. 2 Weaknesses of sea freight The main reason for recommending sea freight in this case is its cost advantage, which comes from its significant lower shipment rate. However, sea freight has several weaknesses that decision makers need to be aware of.

Firstly, it has a much longer transit time, which falls beyond the 1-2 week lead time required by the end customer. Therefore, high level of inventory in pipeline and warehouse is needed and urgent air freight shipment is necessary.

Secondly, various kinds of delays can frequently occur during sea freight transportation, owing to pre-shipment delay, bad weather, or other disturbing factors (Rushton, 2010). Unreliable delivery could add handling, coordinating and back order cost to the supply chain.

Lastly, compare to air transportation, sea freight is exposed to more risk of damage, which may require better packaging and thus increases packaging cost (Rushton, 2010). 4. Conclusion The first part of the report recommends that the intermodal service offered by MacAndrews would be adopted.

As intermodal also possess a series of disadvantages, some other modal options are discussed. The second part of the report recommends using sea freight to serve the North American customer, based on a detailed calculation. It then points out the weaknesses of sea freight to facilitate a more comprehensive final decision. . References Rushton, A.

, Croucher, P. and Baker, P. (2010), *The Handbook of Logistics and Distribution Management* (4th ed), Kogan Page Limited London. Wiegman, B. W.

(2010), “ The freight transport portfolio: a new way to analyze intermodal freight transport as compared to single-modal road transport”, *Transportation Journal*, Vol. 49, No. 2, pp. 45-52. Jennings, B.

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and Holcomb, M. C. (1996), " Beyond containerization: the broader concept of intermodalism", Transportation Journal, Vol. 35, No. 3, pp. 5-13.

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