



Logistics Association of Australia Ltd

LOGISTICS UNDERSTANDING THE "COST TO SERVE" AT SUPERVALU INC. (Part 2)

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Phil Taylor from Steelmark – Eagle Globe, winner of the 1998 International Study Award, presents Part 2 of a review of Supervalu Inc. and its approach to determining the "cost to serve".

In last month's issue of Logistics News, I outlined the background to the Cost To Serve (CTS) system implemented by Supervalu Inc based in Eden Prairie, Minnesota. In this issue, I'll provide some further detail regarding the costs and allocations used in the process.

Which costs are measured in the CTS...

The CTS system captures all distribution centre operational costs. These costs are then assigned to each store served, based on key cost drivers. All retailer specific variable costs are captured. Fixed and non-specific costs are allocated to each store based on appropriate cost drivers.

Costs measured are grouped as follows:

- Warehouse expenses
- Receiving
- Selection
- Loading
- Overhead
- Facility or building expenses
- Trucking expenses
- Administrative expenses.

Supervalu in brief...

Net sales in 1998 – US \$17.2 billion

Net profit before tax in 1998 – US \$385 million

Employees – 48,000 full and part time

Supplies 4,800 stores in 48 states

36 Distribution centres

328 Corporate owned stores

Save-a-lot subsidiary services 701 limited assortment stores (142 corporate owned and 559 licensed) through 11 distribution centres

Warehouse Expense - Receiving...

In this case, the costs are based on the quantities of the items ordered by the individual stores. Costs take into account the hourly wages and benefits for receiving, put-away and let-down functions. They are also store specific by the variety/mix purchased. To allocate these costs, Supervalu use the following cost drivers:

- Cost per pallet (or other) to receive it
- Cost per pallet divided into the quantity received.

Warehouse Expense - Selection...

This area captures costs from hourly wages and benefits for order selection. Again it is store specific and based on each individual order and the items ordered by the store in that order.

The costs are based on the standard time required to select that order as measured by engineered labour standards. Key cost drivers include:

- Set up time per order
- Travel time through the warehouse
- Number of cases selected
- Time to select and deliver the order to the loading areas.

Warehouse Expense - Loading...

This includes the warehouse hourly wages and benefits for loading store orders. Once again it is store specific and based on the number of pallets loaded for a store order. Costs are also based on the time required to load those pallets.

Cost drivers include the number of pallets loaded and the time taken for each order.

Warehouse Expense - Overheads...

This area captures other costs associated with running the warehouse including:

- Warehouse supervision staff
- Warehouse equipment costs
- Warehouse rack costs
- Warehouse fixed costs including telephone, postage, etc.
- Costs are allocated to stores based on the cases sold by product type.

Facility or Building Expenses...

The costs of running the facilities need to be apportioned and these costs include depreciation, outside storage rentals, utilities, rates and taxes, maintenance, etc.

These costs are a store specific allocation of cost based on inventory stored for the items ordered by the store.

Key drivers in this area include:

- Items incur "rent" charges for the space and length of time occupied
- Item movement - a faster moving item would tend to have lower days supply
- Cubic space requirements - a larger cube item will obviously occupy more building space.

Trucking Expenses...

These are based on the actual costs of the deliveries made to the store. Included in this area are driver wages and benefits, equipment costs, fuel, tyres, repairs and supervisory and clerical costs for routing and despatch.

The key cost drivers include:

- Store distance - the trip distance impacts drivers wages and benefits, equipment time and operating costs for fuel, tyres and repairs.
- Number and size of deliveries to the store - a full truck costs about as much to deliver as a half full truck.
- Time spent at the store unloading - a faster unload reduces driver time and equipment usage.

Administration Expenses...

These include other overhead and support costs of the operations including:

•Advertising	•Information technology costs
•Bad debt expense	•Damage and reclaims
•Sales expenses	•Printing and stationery
•Purchasing	•Finance and administration
•Financing charges	•Head office allocations

The allocation of these costs is generally more difficult (and generates more discussion and controversy) due to the lack of obvious cost drivers. For example, how should certain allocations be distributed eg to each store equally, as a percentage of revenue, etc? Some of the drivers include:

- Information technology expense - number of billing lines
- Financing charges - based on the use of capital including accounts receivable, leases, etc.

A Practical Scenario...

The concepts behind the Cost To Serve model are fundamental to good business practice. However, the process requires a good understanding of the key drivers of the products, services and customers of the business. Technology is critical to ensure the system is usable and easily maintained.

The following example provides a simplistic view of the output from the system. The figures are real results based on two stores with similar sales revenue (\$US956k and \$US5948k for "X" and "Y" stores respectively).

	Store "X"	Store "Y"
Sales	\$956k	\$948k
Receiving Expenses	Norm	-1.4%
Selection Expenses	Norm	6.6%
Loading Expenses	Norm	-5.6%
Warehouse Overhead	Norm	2.6%
Building Expenses	Norm	18.1%
Trucking Expenses	Norm	39.0%
Total Distribution Costs	Norm	15.9%
Trips per week	6	10
Note: A positive percent represents a higher expense than the norm.		

You can see that store "Y" with more frequent deliveries becomes more costly to service than store "X". For comparison purposes, expenses for the larger group are stated as the base of "1" and represent the norm. The smaller group is represented as a percentage increase or decrease from the base. Dollar values and more extensive detail is obviously also available from the system.

The analysis shows that the "Y" store is obviously more costly to serve than store "X". Comparisons of like stores can be made easily and show similar results in that stores of the profile of "Y" are generally more costly to service. This could be due to a number of reasons such as:

- More frequent deliveries
- Smaller delivery sizes
- Selective purchase of items.

The key issue is that certain costs can be reduced by changes in the store behaviour these changes can reduce the costs for Supervalu by working with customers in such areas as:

- Increasing the order size
- Reducing the frequency of deliveries to the store
- Balancing trips across the days of the week
- Delivery of full or combination loads.

For example, Supervalu believe that a reduction in loads, drops and delivery "miles" would create annualised cost savings of \$US350k.

In Summary...

Mark Czerwonka from Supervalu has indicated they intend to expand the CTS system to further areas, particularly within their own operations as well as to their own suppliers. The lessons learned included common issues such as definite senior management support due to the potential for controversy in reviewing the results and the need for a cross functional approach to developing the system. Information technology and adequate support are also vital to ensure the confidence in the system remains high.

I'd like to thank Mark Czerwonka and his team (and Supervalu) for their time and willingness to share ideas. If anyone has further questions, please let me know and if I can't answer them myself, I'll pass on the request.

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