

Supply Chain Insights for Small and Medium Enterprises (SMEs) in Malaysia

EXECUTIVE SUMMARY

by

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Background & Motivation

Living in an age of Globalisation, the manufacturer may be in one part of the world, the consumer on the other part, suppliers on another. The entire chain from suppliers to consumers, need to be as efficient as ever and as flexible as ever. The competition is between the chains of enterprises and Small Medium Enterprises (SME) has become an indispensable part of that chain. The capacity of SMEs to offer products and assemble goods at lower prices within the quality standards stipulated by larger enterprises (LEs) has helped increase the overall competitiveness of the supply chain. For this reason, SMEs can no longer afford to remain isolated or allow redundancies in technology, management or marketing techniques.

Besides being a part of the larger chain which contributes to the competitiveness of everyone along the chain SMEs play a very important role for developing countries striving towards further development. SMEs contribute to fostering growth, employment and income to any country. SMEs are also important in stimulating innovation and act as stabilisers of growth during an economic slowdown.

Fit between a SME and supply chain management (SCM) has been discussed in various length in literature. SMEs need to have an effective supply chain management because of the following reasons:

- SMEs can consider SCM as strategic tool to improve their performance in competitive market.
- SCM can help SMEs to establish better relationships with their OEM (Original Equipment Manufacturer) or large enterprises and hence derive the opportunity to improve their learning curve.
- Adoption of SCM by first-tier and second-tier SMEs can help to consolidate the component level requirements of their OEM customers at few stages and in turn it can help to boost the profit of their own and overall supply chain.
- Coordinated efforts can help to reduce waste and buffer inventories at SMEs factory and

warehouses.

- SMEs generally face problems in meeting erratic demands of their Original Equipment Manufacturer customers. SCM can help them to improve forecasts and hence purchasing schedules by streamlining inter and intra organizational activities.
- SCM can help SMEs to smoothen their financial flow and inventory flow by improving upon the supply chain relationships.

Cross Case Analysis & Interpretation

This section deals with common insights gathered from all the case studies. After analysing through the case studies there were some issues which transcend the enterprises in questions. Some of the insights have been visualised through causal loops.

Following Cases were analysed:

Case I: Universal Scarf

Case II: Teakita

Case III: Perabot Cramee Baru

Case IV: Homepace

Furniture Market

The cases tell us a bit about the furniture market in the region. It seems the market demand is stable and is growing slowly. The customers are loyal to the supplier or store and are willing to wait for their orders. This has increased the make to orders and also the lead time to get the products.

Relationship with the Suppliers

The cases throw up different kind of relationships that exist with the suppliers. Two aspects which come out with all these SMEs are vertical collaboration and long term relationships with the suppliers.

Cases show us three different kind of supplier relationship

- a) Long Term relationship with the suppliers based on trust and scale
Case II, the firm along with other SMEs requiring same raw materials are ordering in bulk from the same suppliers for the last ten years. There is no formal contract for the prices but long standing trust. The supplier provides the manufacturer good prices due to economy of scale and long standing relationship. This leads to lower procurement costs.
- b) Long Term relationship with the suppliers based on contracts

This was seen for Case III where contracts are on the basis of price/unit as and when required. The low costs in the contract seem to stem from the fact that the store knows the supplier for the last 20 years. This again leads to lower costs.

c) Short Term relationship with the suppliers based on trust

Case I had short term relationships based on trust which ultimately led to the firm going out of business during a disruption where suppliers were not ready to support the manufacturer.

Two of the cases (II & III) show us how long term relationship with few suppliers is leading to lower costs of procurement. This is contrary to literature which says more suppliers lead to better procurement prices. But as discussed in previous cases, SME's it seems cannot increase their bargaining power even if they have multiple suppliers.

All the above insights lead to two propositions:

- More the suppliers of an SME lower the procurement costs is not necessarily true
- Longer the cooperative relationship of an SME with the supplier lesser the procurement costs

Case III and IV show the collaboration of the stores with their manufacturer suppliers for some of their products. Manufacturers were in both cases stakeholders with the store. The vertical collaboration is helping the SME out to tie in their supplies according to the demand and also provides the flexibility to take bigger orders. This leads us to another hypothesis

- More the vertical Collaboration upstream or downstream lesser the SMEs demand-supply mismatches

Once proved statistically the collaboration can easily be extended in the case of Case II where the manufacturer is looking to expand its customer bases and wants to reach more consumers especially when it has the capacity to do so.

Capacity Problems

All the SMEs in the case studies are facing the dilemma of choosing the right time to expand their operations. No decision leads to capacity constraints and decision at the wrong time could lead to excess unused capacity. For some it leads to going out of business as in the first case and for others they never grow.

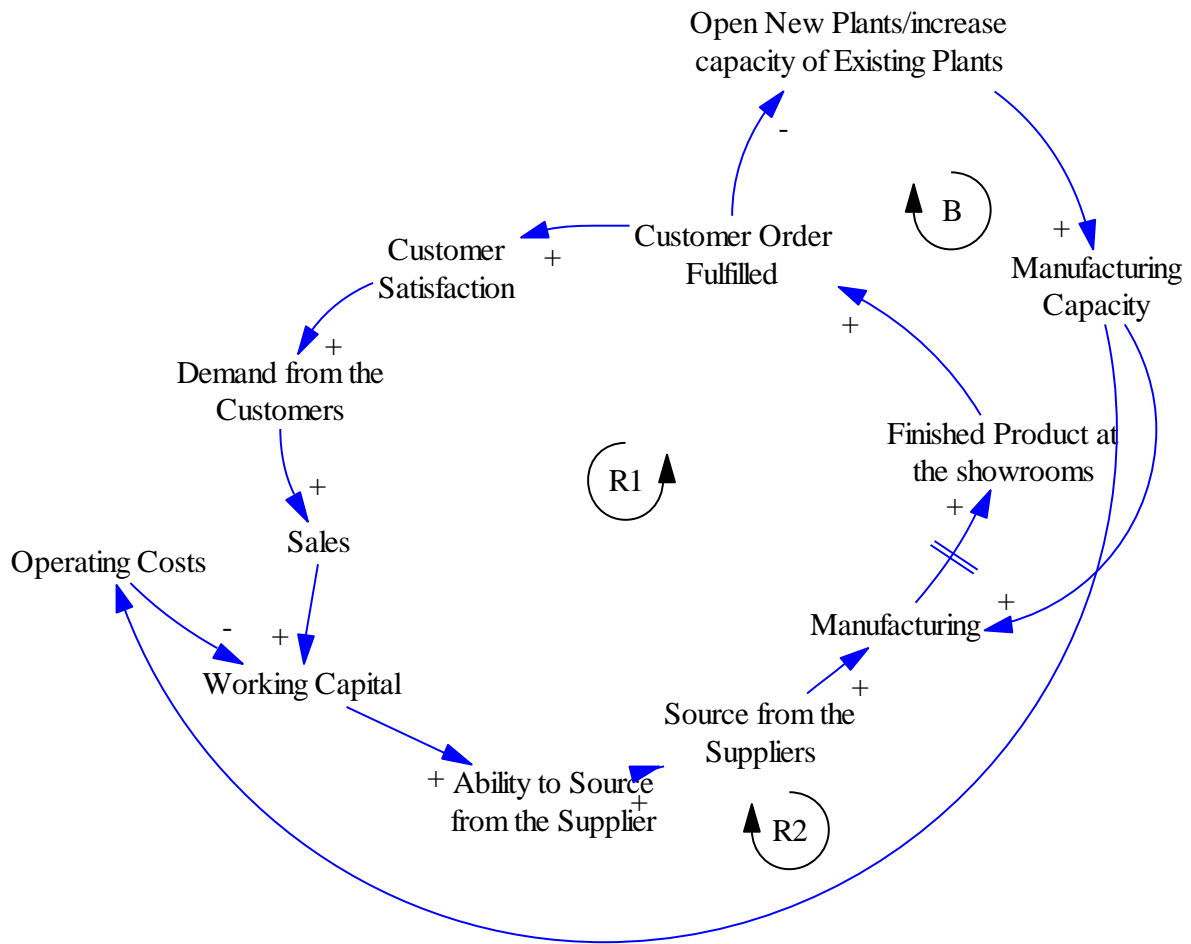


Figure 1: Causal Loops when capacity has been ramped up

Figure 1 shows if the SME has manufacturing constraint and loop R1 is dominant, SME gets caught in a reinforcing loop R1 leading to decrease in customer order fulfilment and loss of sales. The increase in manufacturing capacity does solve the customer fulfilment problem but it also increases operating cost as shown in Figure 1 through loop R2. So as long as the firm is selling loop R1 will be dominant and there will be more working capital but the moment the demand is down loop R2 becomes dominant and working capital comes down due to operating costs. So SMEs need to be very careful in deciding to increase its manufacturing capacity.

A scenario and options available to the SME would help understand the situation. Assuming an SME has a big order and can fulfil only 60% of the order following options are available to the SME:

1. The SME runs full capacity and accepts fulfilling 60% of the demand. This leads to lost sales and opportunity cost. This happened with the second case study firm which did not accept the full order because of its capacity constraints.

2. The SME has increased its capacity already and is ready to counter the peak in demand and accepts the order completely. The increased capacity leads to redundancy of the excess capacity during off peak periods which can cost a lot for an SME which usually does not have deep cash reserves.
3. The SME accepts the order completely and fulfils 60% of the orders and contract manufactures the rest 40% from somewhere else. The option can lead to exposure of customers to competitors and also increases the tendency to not to increase capacity.
4. The SME accepts the order completely and fulfils 40% of the orders and contract manufactures the rest 60% from somewhere else. SME keeps the rest 20% of the capacity as a buffer. The SME saves itself from locking out on an order and hence does not lose out on the opportunity of a better order.

The best way for the SME could be any of the above option but lost sales due to capacity can have limiting consequences. This leads to another proposition:

- SMEs should not sacrifice demand due to capacity constraints.

After taking the above option, the next step is to assess the nature of the demand spikes with time and see it uniformity.

1. If the orders increase uniformly with time the SME need to increase its capacity for the demand.
2. If the orders were special orders or demand spikes and are repeating the SME would still go ahead with increasing its capacity. For excess capacity for the off peak periods SME's can always be outsourced for contract manufacturing.
3. If the orders were non-repeatable special Orders or Demand Spikes the SMEs should not think about increasing capacity and use contract manufacturers as it needs sales to grow.

The figure 2 gives a summary of the capacity constraints and insights involved.

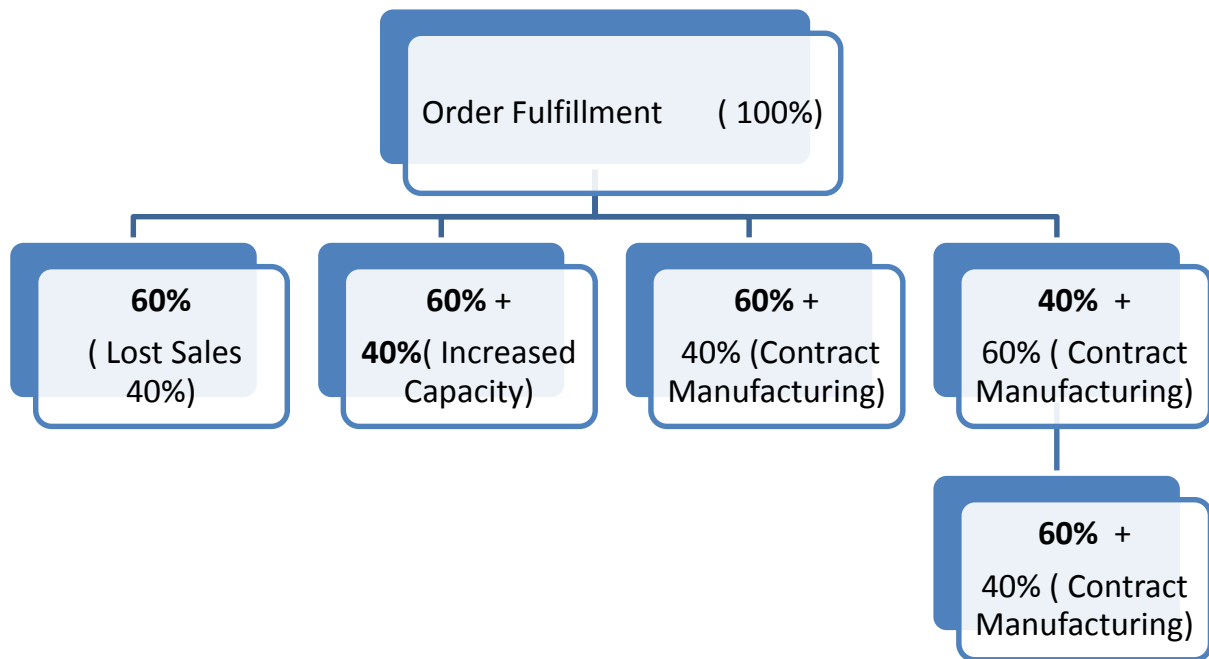


Figure 2: Graphical Representation of the options involved for the SME with capacity constraints

The analysis also helps us to understand why SME's growth gets stuck at a certain point of its life. The SME may lack expertise to understand the options or choose the right option and hence remain undecided in increasing their capacity.

Second insight that comes out from the analysis is what to do when faced with excess capacity once the SME decides to ramp up its manufacturing. Vertical collaboration with store owners by being stakeholders or by opening franchises the manufacturing SME can keep producing throughout the year and also reach more consumers with less investment.

Non-Usage of Technology and Non-existence of supply chain skills

All the cases have a common problem of non-usage of technology. This handicaps them in that they do not get insights about how their business is doing. It leads to ignorance of issues and ways to prevent them. It also leads to short sightedness stunting growth and making them unprepared for future disruptions.

The other problem which faces all these enterprises is lack of supply chain technical expertise. The owners care more about the operational level of work and finances but supply chain gets neglected in the bargain.

Though Case II owner did express a willingness to know more about the supply chain problems faces by them but for others it was never an issue.

Horizontal Collaboration

One of the interesting insights from the cases comes out to be horizontal collaboration among SME's. This was observed in Case II and can easily be applicable across industries and SME's. Horizontal collaboration helps reach economies of scale, increase long term relationship with the suppliers and increases bargaining power with the suppliers thus reducing cost of procurement. This leads us to another proposition:

- Horizontal collaboration at either the more the supplier end or the customer end increases the SME bargaining power and lowers the risks on all the collaborating SMEs.

SME along the length of supply chain

From Cases I we see that SME could not withstand the disruption. It did not see the disruption coming and would have been more aware if it was closer to the consumers. Case IV showed how the SME is taking advantage of being close to the consumer in its vertical collaboration with the manufacturers by informing the bigger partner of the changes in consumer demand.

Given these evidences another proposition that comes up is:

- Closer the SME is to the consumer in the primary supply chain better is the understanding of the demand and corresponding SME response

Conclusion

There were many insights which were realised from the case studies and existing literature. Some of the insights can be used to build theories while others can be used by the decision makers to understand and implement steps for effective SME supply chains in Malaysia.

Insights gained can be classified into two, insights which are applicable to the local environment in which the case studies were done which include market, geography and economic factors and global insights applicable to all SMEs in general.

Local phenomenon based insights: (Applicable to certain SMEs in Malaysia)

- Furniture market is a stable demand market as seen from these case studies and is growing organically with the rise of income levels of the local population.
- Customer loyalty is high in the furniture market and customers are willing to wait for the Made-to-Order products.

- Labor costs are high and form a major part of procurement costs for all the SMEs studied.
- Skilled labor shortage is another challenge which the SMEs face throughout their operations.
- None of the SMEs examined had taken any financial help from the government authorities and firm revenue was the only source of income for running the firm. This made these SMEs highly vulnerable to any demand or supply disruption.

Global phenomenon based insights: (Can be generalised for all SMEs)

- Vertical collaboration with selected suppliers and long term relationships helps increase SME flexibility to variations in consumer demand, manage capacity and reduce operational costs.
- Horizontal collaboration among SMEs helps to increase bargaining power and uses economies of scale. This leads to lowering of procurement costs.
- Contracts with suppliers help to reduce procurement costs.
- SMEs are facing a dilemma of Capacity constraint or excess capacity on decisions of expansion.
- Unlocking of hidden efficiencies such as excess inventory holding costs, excess cost of delayed pipeline inventory, opportunity costs, and lost sales still remains a concern. SMEs tend to be short sighted with their assets and cash reserves.
- None of the SMEs are leveraging the power of Information technology.
- SMEs do not have supply chain expertise in the domain, and lack a systems approach to their enterprise which handicaps them during crucial decision making.

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In terms of future research the causal loops have given us an understanding of the complex world of SME's. Following are the propositions found while analysing the case studies:

- P1: More the vertical collaboration upstream or downstream lesser the SMEs demand-supply mismatches
- P2: Horizontal collaboration at either the more the supplier end or the customer end increases the SME bargaining power and lowers the risks on all the collaborating SMEs.
- P3. Longer the cooperative relationship of an SME with the supplier lesser the procurement costs
- P4. More the suppliers of an SME lower the procurement costs is not necessarily true
- P5: SMEs should not sacrifice demand due to capacity constraints.

- P6: Closer the SME is to the consumer in the primary supply chain better is the understanding of the demand and corresponding SME response.

Further research can help validate the propositions. In the era of globalization, it is critical to operate supply chain most efficiently and responsively to sustain any enterprise, more importantly a SME. The propositions can help academicians and practitioners to help appreciate the environment and factors determining the SME Supply Chains. These insights can help SME owners and stake holders make appropriate interventions to avoid in-efficiencies and unlock hidden potentials in the SME supply chains.