Business Knowledge Inc.
Marius Dobre

It May Be Cheaper to Manufacture at Home;

Study about real options valuation framework

Conventional financial tools can lead you to make supply chain mistakes. Try a real options approach instead.

- DCF – Discounted Cash Flow
    - It is the traditional method in deciding about supply chain.
    - Undervalues flexibility
        - Lean and low cost supply chains as long as everything goes by the plan
        - Uncertainty not factored in
- Advantages of domestic manufacturing:
    - Flexibility in timing production commitments according with demand
    - Ability to directly manage problems

- Real options valuation – how it is working
    - **Calculating the value of flexibility**
        - **Traditional; DCF**
            - Forecast demand by averaging high and low demand sales scenarios
            - Multiply the result by unit price
            - Subtract production costs
            - Adjust with earnings figure to get an estimate of future cash flows
            - Discount the CF to allow for risk, using the capital asset pricing model
        - **What if:**
            - Global manufacturing requires placing an order ahead of time
                - Domestic manufacturing allows you to wait until you know the actual demand
                - Going global, you are capping your sales and you do not benefit from the possible higher demand
                    - Reduced levels of sales and revenue
                        - ***Lower net present value due to loss of flexibility***
            - Domestic manufacturing option
                - Postponing production until a better estimate of demand is available will translate into reducing the risk of either stocking out or producing in excess.

        - **DCF still to be used but with more accurate discount rate**

- **The value of direct control**
    - **Lowers the exposure to risk (reference investors strategies in commodity markets)**
        - Example: bad weather can make commodities such as oil or wheat unavailable despite contractual obligations
        - Called “convenience yield”
            - Analogous with the dividend paid to investors in financial markets that own stocks rather that holding options to buy it.
            - Can be determined by comparing prices in derivative and spot markets; it is simply the difference between the value of owning the commodity and the value of having an option to buy it.
    - Can be ascertained with more difficulty for manufacturing
        - Can be determined by comparing the costs of unexpected disruptions to a global facility as opposed to a domestic one;