# EOQ Exercise

*StoreChain* has 5 stores. Consider the sale of a particular jacket with annual revenues of £1M per store. Jackets sell at a retail price of £325, which represents a mark-up of 30% above what *StoreChain* pays its manufacturer. Being a profit center each store makes its own inventory decisions and is supplied directly from the manufacturer by truck. A shipment up to a full truck load, which can carry 2,600 jackets, is charged a flat fee of £2,200. The unit holding cost per year is 20% of the product cost.

1. What is the economic order quantity of a single store? What is the resulting annual holding and ordering cost at a single store and for the entire chain?

2. Suppose now that *StoreChain* replaces their five brick and mortar stores by an Internet store and places the required inventory in one central warehouse. Assuming the same total annual sales volume as for 5 stores and the same shipment fee as before, what is now the economic order quantity of the central warehouse and the annual holding and ordering cost for *StoreChain*? How does the total cost compare to Q1?

3. Repeat your analysis of Q1 and Q2, but now assume that the annual jacket revenue per store territory is £25M. How do your answers change?