

1. Operations and supply chain environments characterized by standardized products or services will naturally have an easier time planning capacity because requirements are relatively well-known. For example, a manufacturer producing food processors knows exactly what steps are required, what parts are needed, and how much labor/machine time should be required. In contrast, a job shop literally cannot compare the capacity requirements of one job to the next.
2. A fire station most likely would follow a lead strategy because it would allow them enough capacity to meet all distress calls, even during spikes in demand. Driver's license testing centers, like most government agencies, would operate under a lag strategy. The lag strategy would allow the agency to have the lowest cost possible, but at the cost of having long lines.
3. A start-up company would benefit more from a "virtual -supply chain" because they tend to have fewer resources than a more established company. The risks associated with a "virtual supply chain" are that a company is highly dependent on its partners, and can be left "high and dry" if business conditions shift and the partners no longer need to do business with them.
4. Since customers arrive randomly, it is impossible to have checkout clerks busy 100% of the time without waiting times becoming inordinately long. The queuing formulas in the chapter support this. The busier the checkout clerks are with customers, the more likely that the waiting line will grow and customers would become unhappy with the wait.
5. Learning, productivity, and effective capacity are all interrelated. As employees learn within the organization, their productivity will improve and this causes an increase in the effective capacity of the organization. It is wise to use learning curves to anticipate future resource requirements. Learning curves allow the organization to predict the fewest number of inputs needed to maximize outputs, and they also allow the organization to make educated inferences of capacity decisions without overestimating capacity. However, learning curves must be thought of only as a guide, because usually learning improvements do not occur on a smooth curve. Furthermore, there is also a limit on the learning curve effect and managers can sometimes underestimate what they need as well.
6. The manufacturer would need the customer demand to double in order to see the throughput for the system to double. By doubling manufacturing capacity without a demand increase they would eventually accumulate inventory. Other constraining factors for the system would be the amount of raw material the supplier could provide, and the company would also have to invest large amounts of capital in employees to be able to properly run the increased capacity of the manufacturing step.