A fishing boat manufacturer, Pro Fishing Boats, is having many problems with critical globally sourced parts. Pro Fishing has two manufacturing facilities in the United States. The firm’s reliance on efficient global supply chain operations is increasing as the manufacturer is sourcing more and more parts overseas, including critical components. Recent problems with a number of these critical parts have caused line shutdowns. In response, Pro Fishing has mandated a six-week inventory on all globally sourced parts. Management has asked you to evaluate whether this is the right decision.

First, you must understand Pro Fishing’s supply chain. Currently, there is very little visibility (knowledge of the current status) of inventory in the supply chain, and communication with the supply base is minimal. In fact, the boat manufacturer does not have any visibility past the Tier I suppliers. Adding to the complexity of this problem, each part of the supply chain is handled by different departments within the company.

In order to understand the problem, Pro Fishing has asked you to map their supply chain. To do so, they have identified a critical component to follow in the supply chain. After having the opportunity to interview supply chain participants, including suppliers, you have collected the following information.

The component is manufactured overseas in China by the Tier I supplier, Manufacturing Inc. The Manufacturing Inc. production schedule is based on orders sent via fax from the Pro Fishing warehouse. They operate on 90-60-30-day forecasting along with weekly ordering. Upon completion, Manufacturing Inc. sends the component via truck to the port of Shanghai, where it is loaded onto a ship heading to the United States. Loading at the port takes one week, and truck transport takes three days. Manufacturing Inc. holds a nine-week finished goods buffer inventory. Manufacturing time for each component is only about three days. The ship bound for the United States arrives in about 14 days. Upon arrival in the United States, the component is unloaded at the port of Los Angeles. This takes about five days, including customs inspection. The goods travel by train to Chicago, which takes about seven days. Goods are held in Chicago for about half a week. From there, the component is trucked to the Pro Fishing warehouse where a six-week inventory buffer has been mandated. Shipment to the Pro Fishing warehouse takes two days. From the warehouse, the components are trucked to plants in the United States, triggered by electronic orders from each of the Pro Fishing plants.

In talking to Manufacturing Inc., Pro Fishing has learned that their component is made up of two main raw materials: one from China and the other from the United States. Due to the risk of running out of these raw materials, Manufacturing Inc. maintains a four-week buffer on the China-based raw material and a 12-week buffer on the U.S.-based raw material. These Tier II supplier orders are by formal purchase order only. It is interesting to note that Manufacturing Inc. uses these suppliers due to Pro Fishing’s strict supplier qualification requirements.

QUESTIONS
1. Create a value stream map (VSM) of this supply chain. What other information is needed?
2. Where is there risk for supply chain disruptions or stoppages to the flow of materials?
3. Where do opportunities reside in improving supply chain operations and how has VSM helped to reveal these?