SOEN6841

Case Study chapter 1

**1.12 Case Study**

¡is case study is taken from the projects done by a software vendor who is building a state-of-the

art software product, which is used as a SaaS by its customers. We will cover the project consisting

of four iterations for the release of its 6.0 version. Project management–related processes are

covered in Part I. ¡ese project management processes include project initiation, project planning,

project execution, project monitoring, project control, project closure, risk management, e.ort

estimate, and cost estimate.

Elaborate project initiation is done only for the project for the release 6.0. At the four iterations

contained in this project, project initiation is minimally done at the iteration level. ¡e minor

releases of 5.3, 5.5, and 5.8 coincide with iteration 1, iteration 2, and iteration 3. Iteration 4 and

major release 6.0 coincide with each other. (Minor releases of 5.4, 5.6, 5.7, and 5.9 are merged

with other releases.) Project planning, project execution, project monitoring, project control, project

closure, risk management, e.ort estimate, and cost estimate are done at the iteration level. Aggregated project cost and project e.ort are done at the project level.

***1.12.1 Project Introduction***

The SaaS software vendor has some of the largest grocery retailers in the United States and

European countries as their customers, who have used the services of the SaaS software product

for quite some time. A market need was felt to have a functionality that could enable third-party

logistics service providers (3PL) to get instant information about the need to have trucks for transportation of goods by its customers (manufacturers/distributors). this information should be in

advance so that the 3PL can plan for sending the required trucks to the desired locations at a specified time. the customers at the same time can plan for picking and packing of required goods at the requested warehouse and make the load ready so that the goods can be picked by trucks at the required time. ¡e retailer (who will receive the goods) on the other hand can make preparation

at its desired warehouse (from advance information about the incoming truck) so that these goods

can be received without any delay.

In fact, to enable such functionality, a mechanism known as appointment scheduling is

employed. ¡e complete details about this functionality are given in next section.

***1.12.2 Software Functionality***

A retailer has many retail outlets. Goods are sold at these outlets. ¡e retail outlets keep a small

stock on the shelves and some more in store rooms located in the same retail outlet premises.

When the stock of a particular item becomes low in quantity, the outlet orders a .xed quantity of

the items from its own warehouse for replenishment. ¡e replenishment order is received at the

nearest warehouse. ¡e warehouse collects the required quantity of the item from the warehouse

and waits for a truck to arrive and dock. ¡en the warehouse sta. loads the goods in the truck. ¡e

truck then moves and reaches the retail outlet. ¡e outlet sta. unloads the goods from the truck

and .ll their shelves and store rooms. ¡e movement of truck from retailer’s warehouse to retail

outlet is known as outbound logistics (Figure 1.19).

¡e retailer’s warehouse orders goods from manufacturers/distributors when the stock of

particular goods in the warehouse becomes low. When a warehouse belonging to the manufacturer/

distributor receives order for goods, it collects the goods from its warehouse and waits for

a truck to arrive and dock at its dock doors. Once a truck docks, the manufacturer/distributor

sta. loads the goods in the truck. ¡e truck moves and reaches the retailer’s warehouse.

¡e warehouse sta. unloads the goods and stores it in their warehouse. ¡e movement of

truck from manufacturer’s/distributor’s warehouse to retailer’s warehouse is known as inbound

logistics.

For inbound logistics, the trucks usually belong to 3PLs. 3PLs charge the retailer or manufacturer

on the basis of distance the truck travels, its capacity, and fuel cost. Generally, they charge

on a full truck basis regardless of whether the truck is fully loaded or not. For this reason, the

warehouse that loads the truck makes sure that it has enough orders for goods from the retailer

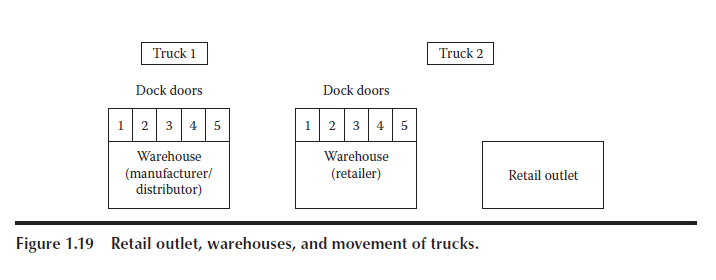
warehouse to make the truck full.

In the software product up to release 5, functionality was provided for calculating transportation

cost, basic appointment functionality at warehouse for loading of truck, and appointment at

the other warehouse for unloading of truck. Functionality for what goods are loaded in the truck

is also provided.



***1.12.3 New Functionality in Release 6.0***

¡e most important feature that is added in release 6.0 is a very sophisticated appointment scheduling

of trucks at both receiving and shipping warehouses. In a fast-paced work environment, waiting

for trucks for loading and unloading is a waste of time. It was felt that on an average, the trucks were

waiting for 5 h at each warehouse. ¡is situation was a cost-e.ective proposition for all the parties

including the manufacturer/distributor, 3PL service provider, and the retailer. A mechanism was

needed that would ensure that this waiting time can be reduced drastically. It was when a decision

was taken to have a very sophisticated appointment scheduling functionality in the software product.

Appointment scheduling is a complex concept. ¡ere are many factors to be considered to realize

this functionality. When a truck arrives at a warehouse for unloading, a quality control check

is performed for the received goods at the dock door. Quality control inspectors must be present at

the dock doors at the time of receiving. To unload the goods, labor should be available at the dock

doors. All dock doors at a warehouse are not the same. Some of them can receive a particular type

of goods while some other dock doors can receive some other types of goods. Similarly, all dock

doors cannot dock all kinds of trucks. Some dock doors can dock only a particular type of truck

while some other dock doors can dock some other types of trucks. ¡e same considerations need

to be made at the shipping warehouse.

When orders are received at the shipping warehouse, they need to get a truck from a 3PL

service provider fast. ¡ey also need to pack goods in the warehouse as per the orders received.

When the truck arrives, the warehouse sta. must inform it as to which door it has to dock at. On

the other hand, if just by processing orders, all these details become available at the warehouse

automatically, the warehouse sta. just has to execute as per available details. ¡ey will pack goods

and then place the goods at the dock door from where it has to be loaded in the truck. ¡e 3PL

service provider already has been informed in advance by the software system as to when a truck

is required at the designated dock door at the particular warehouse. Once the goods are loaded,

the truck leaves for the retailer warehouse. ¡e retailer warehouse already has information as to

when and where the truck will arrive. So at the designated time, everything is ready at the retailer

warehouse. So theoretically, we can see that there is no loss of time anywhere right from truck

arrangement for loading to unloading of truck. However, in reality, there could be instances when

a suitable dock door is not available for loading or unloading, due to various reasons. ¡ese reasons

could be an already busy dock door, a dock door closed for out of operation hours, the unavailability

of quality control inspectors or labor, etc. But all of these are valid reasons for delays. Overall,

this functionality will help in cutting unnecessary delays.

We will discuss details about this project in most of the chapters throughout this book.