

APPENDIX - A

Description of the Organizational Activities for the Order Fulfillment Process

This exercise is aimed at “simulating” the “order fulfillment process” that may be encountered in a real-world manufacturing organization interacting with a supplier organization and a customer organization. The manufacturing organization has six departments that participate in the order fulfillment process. The goal of the manufacturing organization is to maximize earnings [i.e., sales – expenses] for the organization.

Students are split into eight teams that will “mimic” the operations of the six departments within the manufacturing organization, the supplier organization, and the customer organization. Each student team is expected to follow specific rules while participating in this simulation as explained below. [Note: Student teams are given only those instructions that are relevant for their activities and not those of other teams.]

Customer Organization (external to the manufacturing organization):

Negotiates prices with the Sales team

- Attempts to get discounts on bulk orders
- Attempts to get discounts in shipping charges
- Attempts to get discounts for loyalty

Places orders with the Sales team (at reasonable intervals, say, every 3 minutes)

Receives shipments

Makes payments to the Accounting team

Answers queries from Sales team about splitting orders (yes or no, randomly)

Cancels order if resolution not possible

Sales Department (internal to the manufacturing organization):

Negotiates prices with the Customer team

- Allows 5% discount on bulk orders (with quantity exceeding 100)
- Allows 5% discount on orders from loyal customer (at least 20 previous orders)
- Allows 10% discount on shipping charges occasionally

Takes orders from the Customer team

Routes orders to the Warehouse team

Checks with the Production team about making the items, if the Warehouse team sends a reply

Checks with the Customer team about split orders (due to inventory limits)

Splits and re-routes orders to the Warehouse team

Warehouse Department (internal to the manufacturing organization):

Receives orders from the Sales team

Performs one of the following (randomly, for the simulation) based on an inventory check:

- Replies back to the Sales team that only certain items of the order can be fulfilled
- Replies back to the Sales team that only limited quantities of the items can be fulfilled

Picks items for the order and routes it to the Shipping team

Shipping Department (internal to the manufacturing organization):

Packs items identified by the Warehouse team for shipment

Performs one of the following (randomly, for the simulation) based on logistics check:

- Ships through the preferred logistics partner (shipping expense is 1% of order)
- Ships through another contracted logistics provider (shipping expense is 2% of order)
- Ships through a third-party provider (shipping expense is 4% of order)

Prepares/routes packing lists to the Accounting team

Production Department (internal to the manufacturing organization):

Answers one of the following (randomly, for the simulation) to queries by the Sales team:

- Items can be made in 24 hours
- Items can be made in 3 days (since production schedules have to be changed)
- Items can be made in 7 days (since raw materials have to be ordered)

Places orders for raw materials with the Purchasing team

Receives raw materials from the Purchasing team

Purchasing Department (internal to the manufacturing organization):

Receives orders for raw materials with the Purchasing team

Negotiates prices with the Supplier team

Routes orders for raw materials to the Accounting team for authorization

- Authorization not required if prices charged by the Supplier team is less than \$5,000
- Authorization required if prices charged by the Supplier team is at least \$5,000

Sends orders for raw materials to the Supplier team

Receives raw materials from the Supplier team

Accounting Department (internal to the manufacturing organization):

Receives payments from the Customer team

- Allows 2% discount on payments received within 10 days
- Charges 2% additional fee if payments not received within 25 days

Prepares/sends invoices to the Customer team based on packing lists from the Shipping team

Routes orders for raw materials back to the Purchasing team after approval

- Approvals may be completed in different time intervals (randomly, 1 day, 2 days, etc.)

Receives invoices for raw materials from the Supplier team

Sends payments for raw materials to the Supplier team

Supplier Organization (external to the manufacturing organization):

Negotiates prices with the Purchasing team

- Allows 2% discount on orders for repeat customer (at least 5 previous orders)
- Allows 5% discount on orders for regular customer (at least 10 previous orders)
- Allows 10% discount on orders for loyal customer (at least 20 previous orders)

Receives orders for raw materials from the Purchasing team

Receives payments for raw materials from the Accounting team

Ships raw materials to the Purchasing team

Changes the prices of raw materials periodically (demand, seasons, etc.)