OMIS 643

ASSIGNMENT 1

SUBMITTED BY

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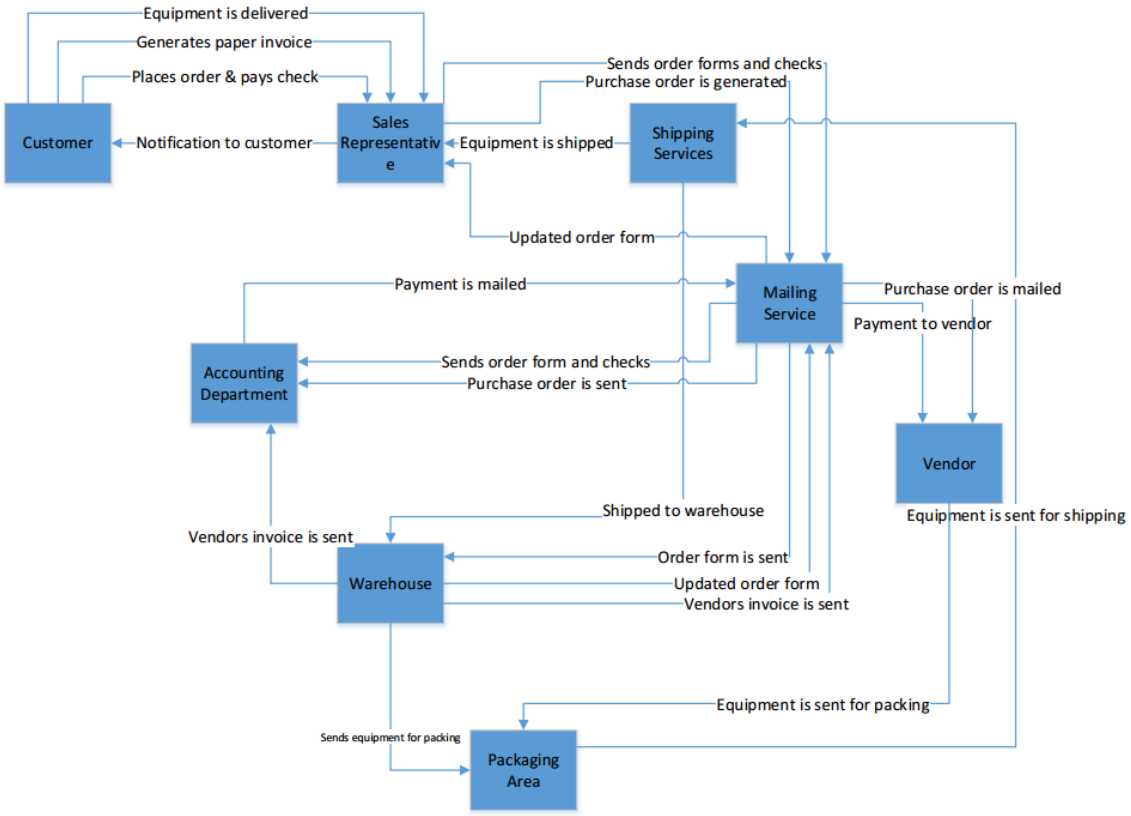
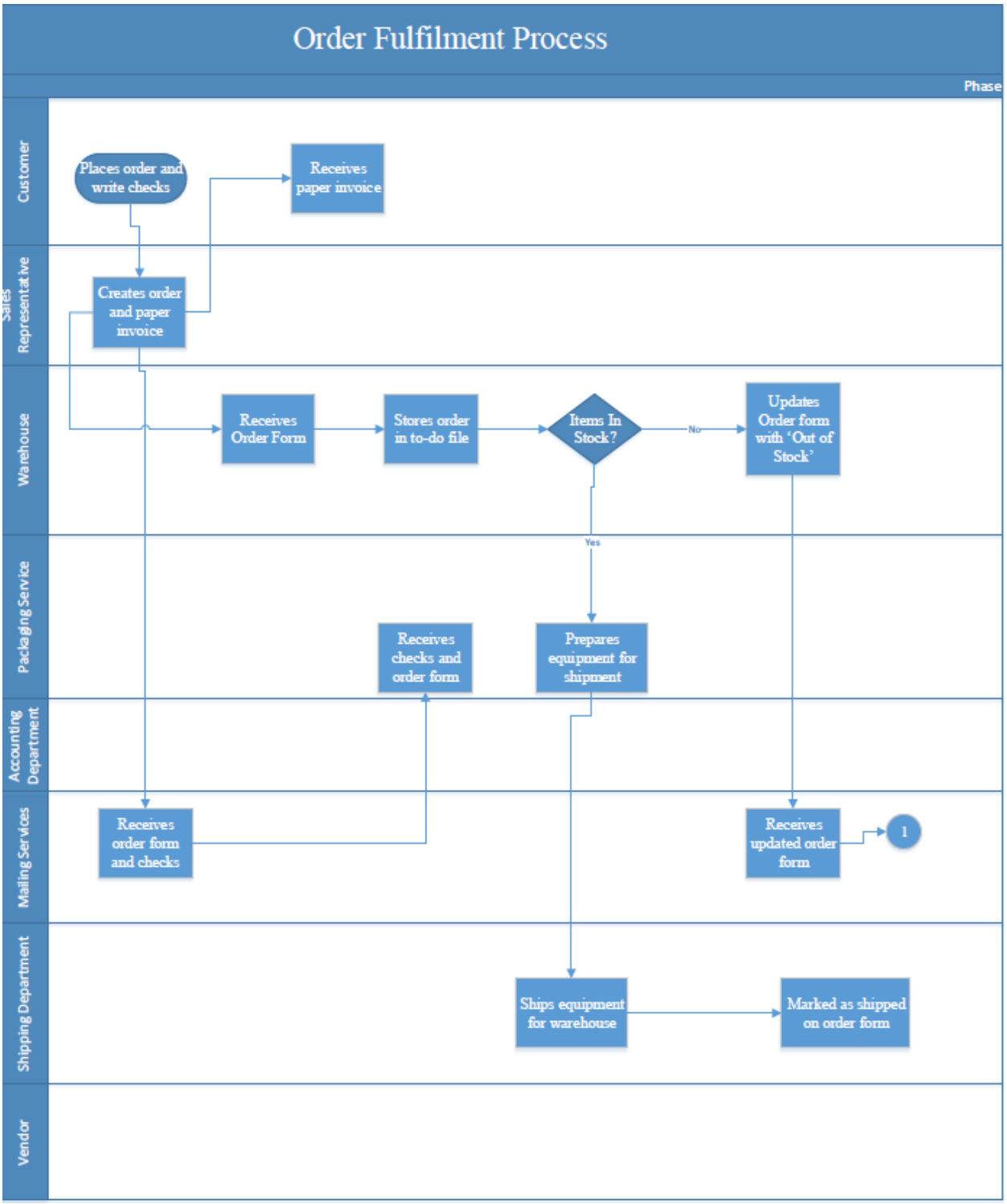
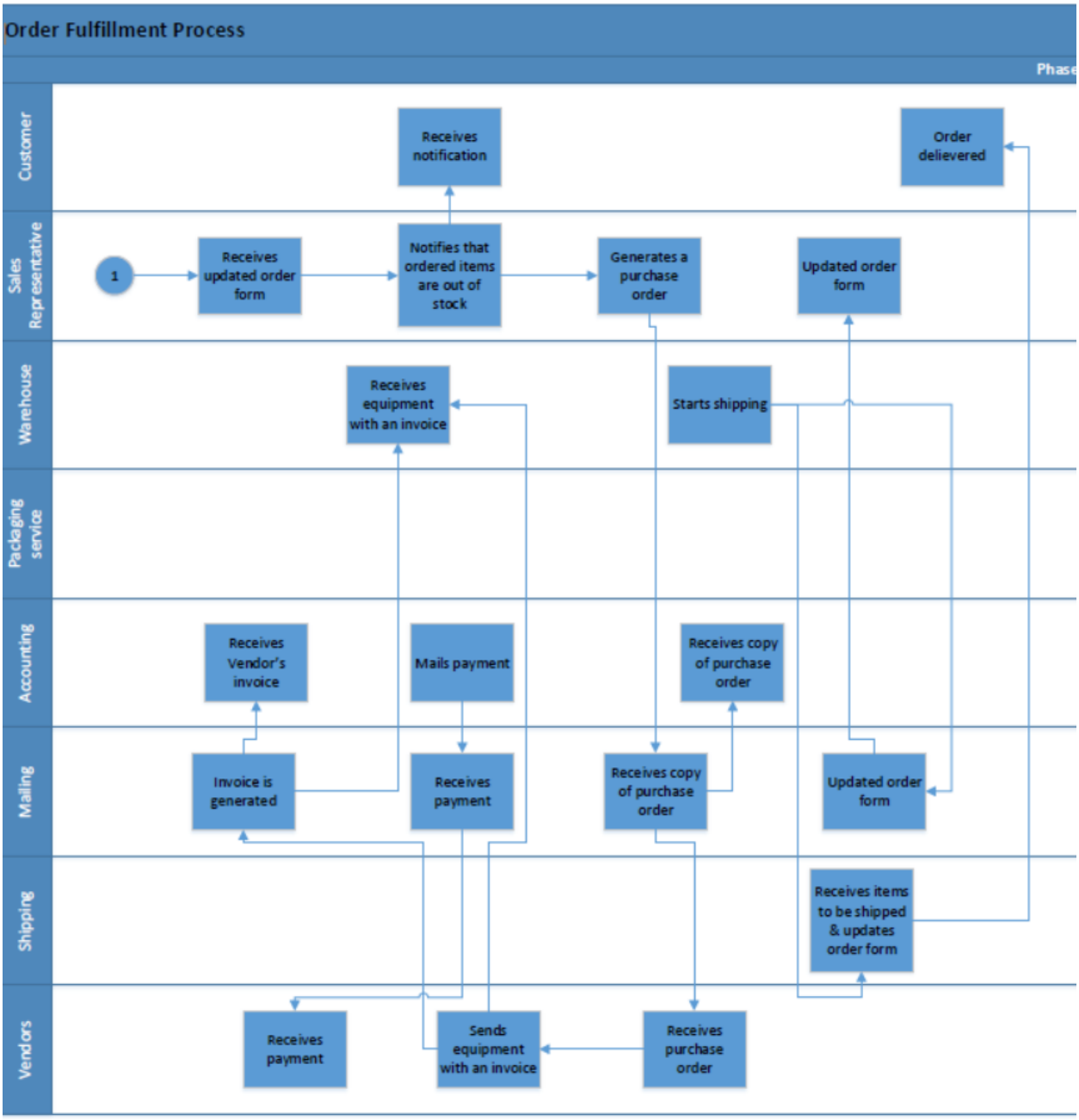
Step1: Relational Mapping



Step2: Process Mapping




Order Fulfillment Process
Phase
Customer
Sales Representative
Warehouse
Packaging service
Accounting
Mailing
Shipping
Vendors
Receives notification
Order delievered
1
Receives updated order form
Notifies that ordered items are out of stock
Generates a purchase order
Updated order form
Receives equipment with an invoice
Starts shipping
Receives Vendor's invoice
Mails payment
Receives copy of purchase order
Invoice is generated
Receives payment
Receives copy of purchase order
Updated order form
Receives items to be shipped & updates order form
Receives payment
Sends equipment with an invoice
Receives purchase order

Step3: Value Analysis

IF ITEMS ARE IN STOCK											
S.No.	**Activity**	**Time**	**Setup Time**	**Wait Time**	**Move Time**	**Queue Time**	**Process Time**	**Other Time**	**Real Value**	**Business Value**	**No Value**
1	Sending paper invoice to the customer	3.16	X				X			X	
2	Entering information into AIS	1		X							
3	Order sits in "To-do pile"	2.66		X			X			X	
4	Moving item from storage to packaging area	1		X							X
5	Preparing equipment for shipment	1		X			X			X	
6	Delivery of equipment	2.16					X			X	
	Total cycle time	**10.98**									

Calculations:

Formula to estimate cycle time is $T_e = T_o+4Tm+Tp/6$

If the items are 'in-stock'

1. Sending paper invoice to the customer

   Te = (2+4*3+5)/6

   = 19/6 = 3.16 days

2. Entering information into AIS
   T_e = 1 day

3. Order sits in "To-do pile"
   Te = (1+4*2+7)/6
   = 16/6 = 2.66 days

4. Moving item from storage to packaging area
   T_e = 1 day

5. Preparing equipment for shipment

T_e = 1 day

6. Delivery of equipment

T_e = (2+4*2+3)/6

= 2.16 days

Total cycle time = 3.16+1+2.66+1+1+2.16 = 10.98 days

IF ITEMS ARE OUT OF STOCK											
S.No.	**Activity**	**Time**	**Setup Time**	**Wait Time**	**Move Time**	**Queue Time**	**Process Time**	**Other Time**	**Real Value**	**Business Value**	**No Value**
1	Sending paper invoice to the customer	3.16	X				X			X	
2	Entering information into AIS	1		X							
3	Order sits in "To-do pile"	2.66		X			X			X	
4	Notification to customer	1		X							X
5	Generation of purchase order	2.16					X			X	
6	Packaging and sending the equipment to warehouse	7.16		X			X			X	
7	Moving equipment to storage	2		X		X	X			X	
8	Preparing equipment for shipment	1		X			X				X
9	Delivery of equipment	2.16		X			X			X	
	Total cycle time	**21.3**									

If items are ‘out of stock’

1. Sending paper invoice to the customer

   Te = (2+4*3+5)/6

   = 19/6 = 3.16 days

2. Entering information into AIS
   T_e = 1 day

3. Order sits in “To-do pile”
   Te = (1+4*2+7)/6
   = 16/6 = 2.66 days

4. Notification to customer
   T_e = 1 day
5. Generation of purchase order
   T_e = (2+4*2+3)/6
   = 2.16 days
6. Packaging and sending the equipment to warehouse
   T_e = (5+4*7+10)/6
   = 7.16 days
7. Moving equipment to storage
   T_e = 2 days

8. Preparing equipment for shipment

   T_e = 1 day
9. Delivery of equipment
   T_e = (2+4*2+3)/6
   = 2.16 days

Cycle time = 21.3 days

Minimum cycle time = 10.98 days

Maximum cycle time = 21.3 days

Step 4:

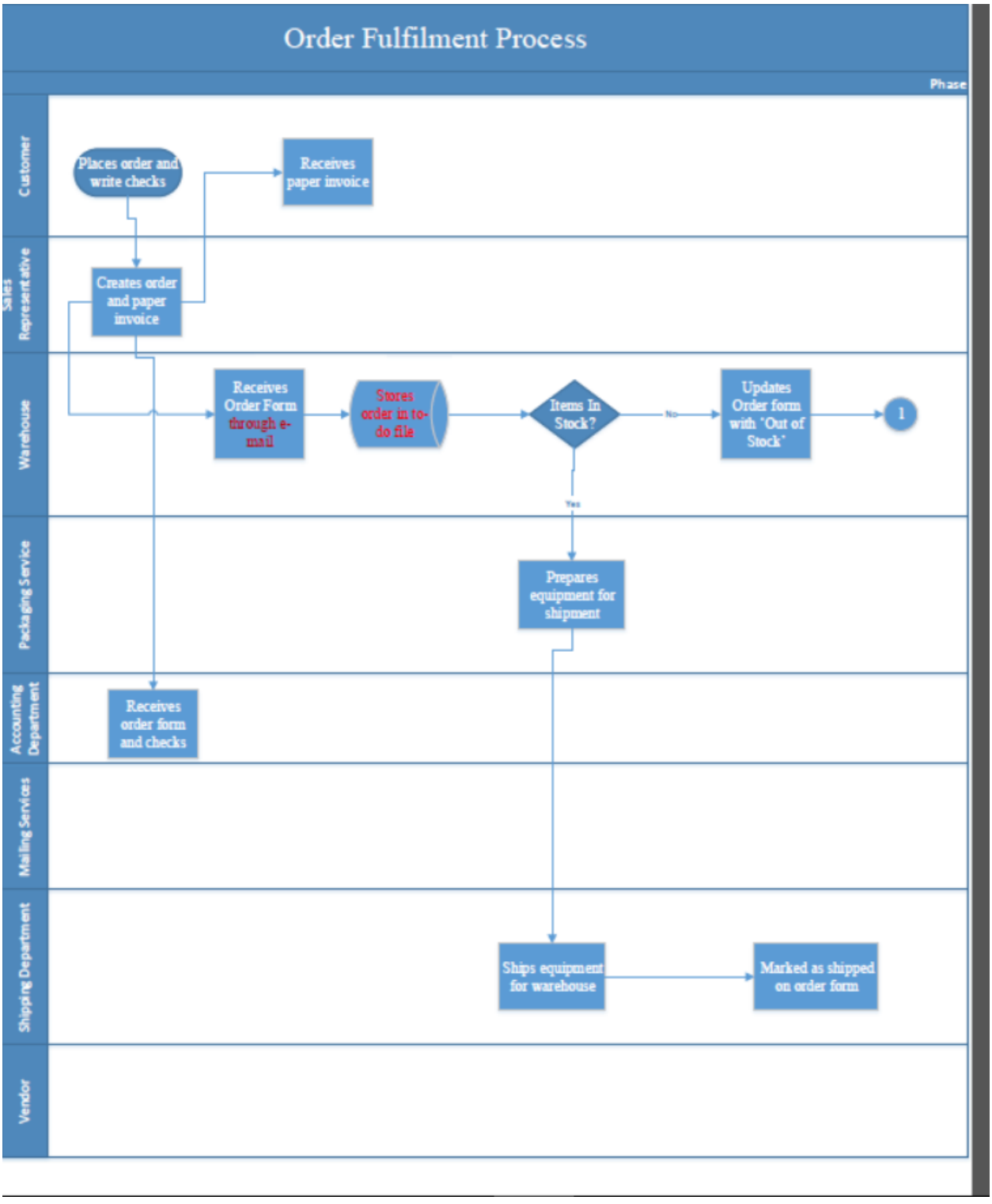
- Sales representatives are properly trained so that they will motivate customers properly which helps to improve business process.
- All accounting information is entered into Accounting Information systems, in which data is securely stored.
- Though security is provided it is not easy to access information from this. So, storing them in database is recommended.
- In this business process time taken to send notifications, orders, and payment checks is more as they are sent through mail.
- This increases the cycle time and thus reduces efficiency of business process. Sending through e-mail increases the efficiency of business process.

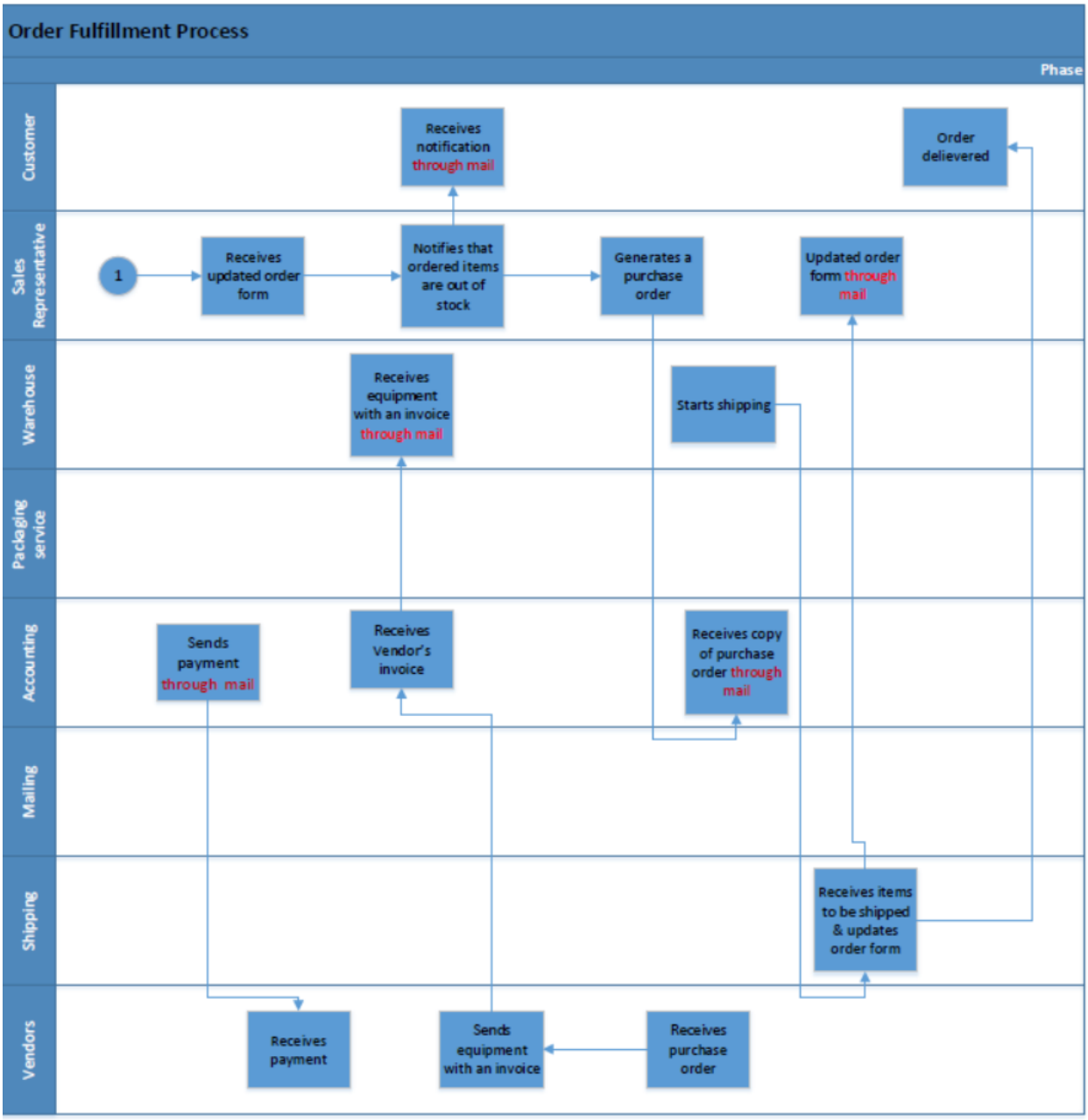
Step 5:

Though the order fulfilment process it has some drawbacks. Decreasing cycle time leads to the improvement of efficiency of business process. Implementing IT to these activities to the business model will make it efficient.

Some of the steps in which Integrated Information Systems can be implemented in this business process are:

- Sending paper invoice to customer through mail.
- Sending order forms and checks to the warehouse from sales representative through e-mail instead of mailing them.
- Storage of data in Database so that information can easily be accessed.
- Sending order forms and pay checks to accounting department through e-mail.
- Sending purchase orders and payment checks to vendors from warehouse through e-mail.


Order Fulfilment Process
Phase
Customer
Sales Representative
Warehouse
Packaging Service
Accounting Department
Mailing Services
Shipping Department
Vendor
Places order and write checks
Receives paper invoice
Creates order and paper invoice
Receives Order Form through e-mail
Stores order in to-do file
Items In Stock?
No
Updates Order form with 'Out of Stock'
1
Yes
Prepares equipment for shipment
Receives order form and checks
Ships equipment for warehouse
Marked as shipped on order form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Receives updated order form
Notifies that ordered items are out of stock
Generates a purchase order
Updated order form through mail
Receives equipment with an invoice through mail
Starts shipping
Sends payment through mail
Receives Vendor's invoice
Receives copy of purchase order through mail
Receives items to be shipped & updates order form
Receives payment
Sends equipment with an invoice
Receives purchase order

Value analysis for improved business process:

IF ITEMS ARE IN STOCK											
S.No.	**Activity**	**Time**	**Setup Time**	**Wait Time**	**Move Time**	**Queue Time**	**Process Time**	**Other Time**	**Real Value**	**Business Value**	**No Value**
1	Sending paper invoice to the customer through e-mail	0.25	X				X			X	
2	Entering information into AIS using database	1		X							
3	Order sits in "To-do pile"	2.66		X			X			X	
4	Moving item from storage to packaging area	1		X							X
5	Preparing equipment for shipment	1		X			X			X	
6	Delivery of equipment	2.16					X			X	
	Total cycle time	**8.07**									

If the items are 'in-stock'

1. Sending paper invoice to the customer

   Te = 0.25 day

2. Entering information into AIS
   T_e = 1 day

3. Order sits in "To-do pile"
   Te = (1+4*2+7)/6
   = 16/6 = 2.66 days

4. Moving item from storage to packaging area
   T_e = 1 day

5. Preparing equipment for shipment
   T_e = 1 day

6. Delivery of equipment
   T_e = (2+4*2+3)/6 = 2.16 days

Total cycle time = 8.07 days

IF ITEMS ARE OUT OF STOCK											
S.No.	**Activity**	**Time**	**Setup Time**	**Wait Time**	**Move Time**	**Queue Time**	**Process Time**	**Other Time**	**Real Value**	**Business Value**	**No Value**
1	Sending paper invoice to the customer through e-mail	0.25	X				X			X	
2	Entering information into AIS using data base	1		X							
3	Order sits in "To-do pile"	2.66		X			X			X	
4	Notification to customer through mail	0.25		X							X
5	Generation of purchase order	2.16					X			X	
6	Packaging and sending the equipment to warehouse	7.16		X			X			X	
7	Moving equipment to storage	2		X		X	X			X	
8	Preparing equipment for shipment	1		X			X				X
9	Delivery of equipment	2.16		X			X			X	
	Total cycle time	17.64									

If items are 'out of stock'

1. Sending paper invoice to the customer through mail = 0.25 day
2. Entering information into AIS
   T_e = 1 day

3. Order sits in “To-do pile”
   Te = (1+4*2+7)/6
   = 16/6 = 2.66 days

4. Notification to customer through mail
   T_e = 0.25 day
5. Generation of purchase order
   T_e = (2+4*2+3)/6
   = 2.16 days
6. Packaging and sending the equipment to warehouse
   T_e = (5+4*7+10)/6
   = 7.16 days
7. Moving equipment to storage
   T_e = 2 days
8. Preparing equipment for shipment
   T_e = 1 day
10. Delivery of equipment
    T_e = (2+4*2+3)/6
    = 2.16 days

Cycle time = 17.64 days