Fig. 1

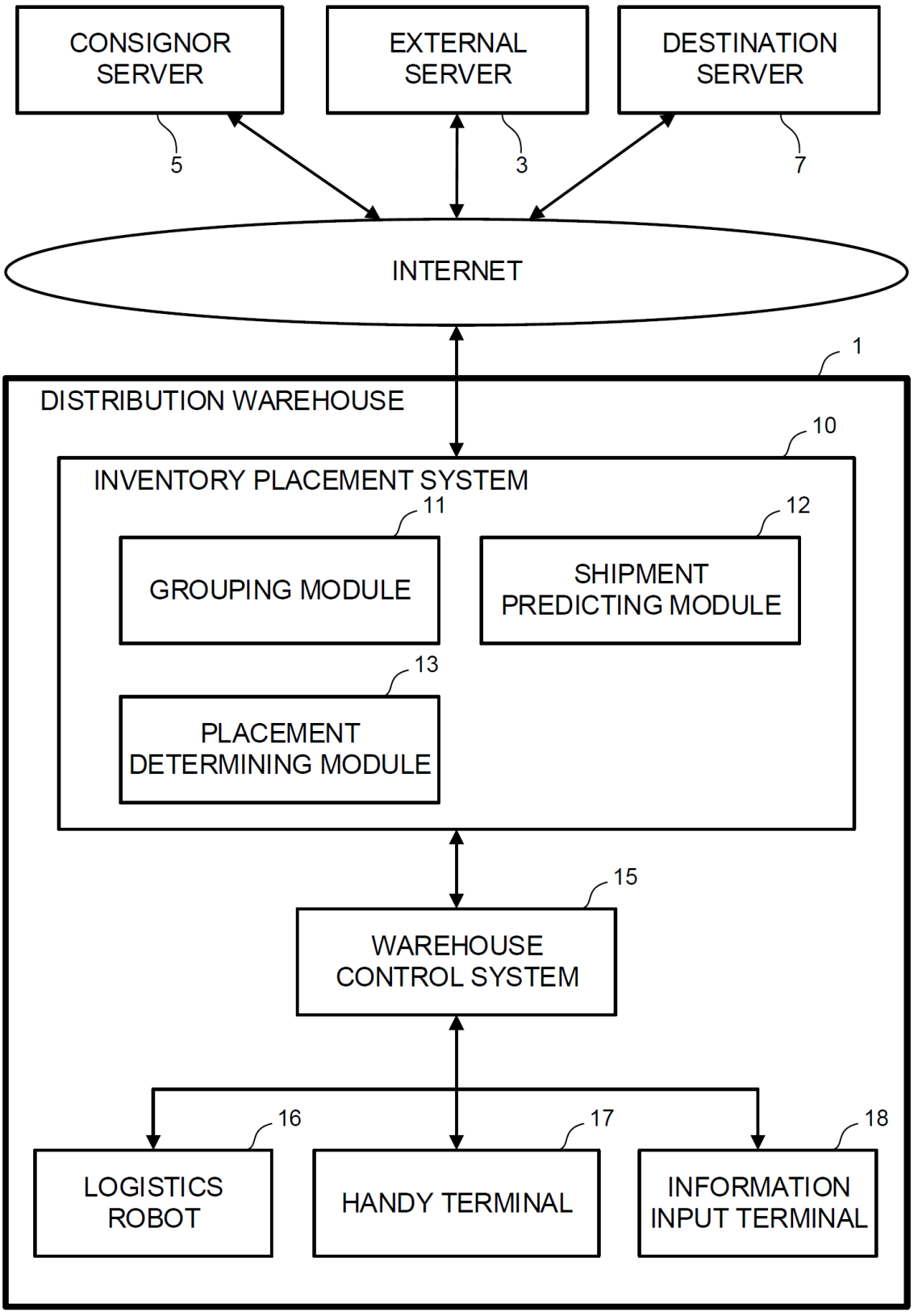

CONSIGNOR SERVER
EXTERNAL SERVER
DESTINATION SERVER
5
3
7
INTERNET
1
DISTRIBUTION WAREHOUSE
10
INVENTORY PLACEMENT SYSTEM
11
GROUPING MODULE
12
SHIPMENT PREDICTING MODULE
13
PLACEMENT DETERMINING MODULE
15
WAREHOUSE CONTROL SYSTEM
16
LOGISTICS ROBOT
17
HANDY TERMINAL
18
INFORMATION INPUT TERMINAL

Fig. 2A

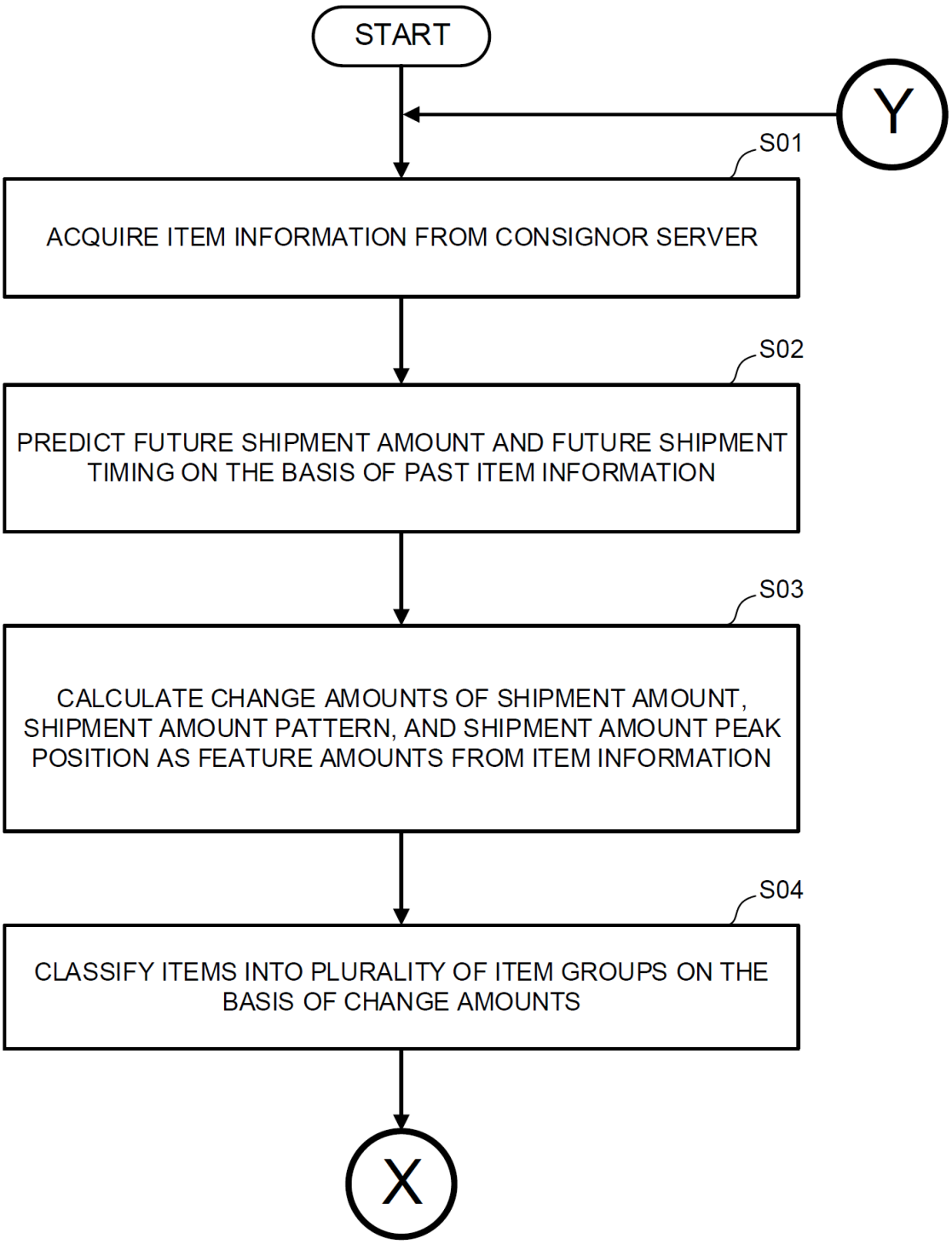

START
Y
S01
ACQUIRE ITEM INFORMATION FROM CONSIGNOR SERVER
S02
PREDICT FUTURE SHIPMENT AMOUNT AND FUTURE SHIPMENT TIMING ON THE BASIS OF PAST ITEM INFORMATION
S03
CALCULATE CHANGE AMOUNTS OF SHIPMENT AMOUNT, SHIPMENT AMOUNT PATTERN, AND SHIPMENT AMOUNT PEAK POSITION AS FEATURE AMOUNTS FROM ITEM INFORMATION
S04
CLASSIFY ITEMS INTO PLURALITY OF ITEM GROUPS ON THE BASIS OF CHANGE AMOUNTS
X

Fig. 2B

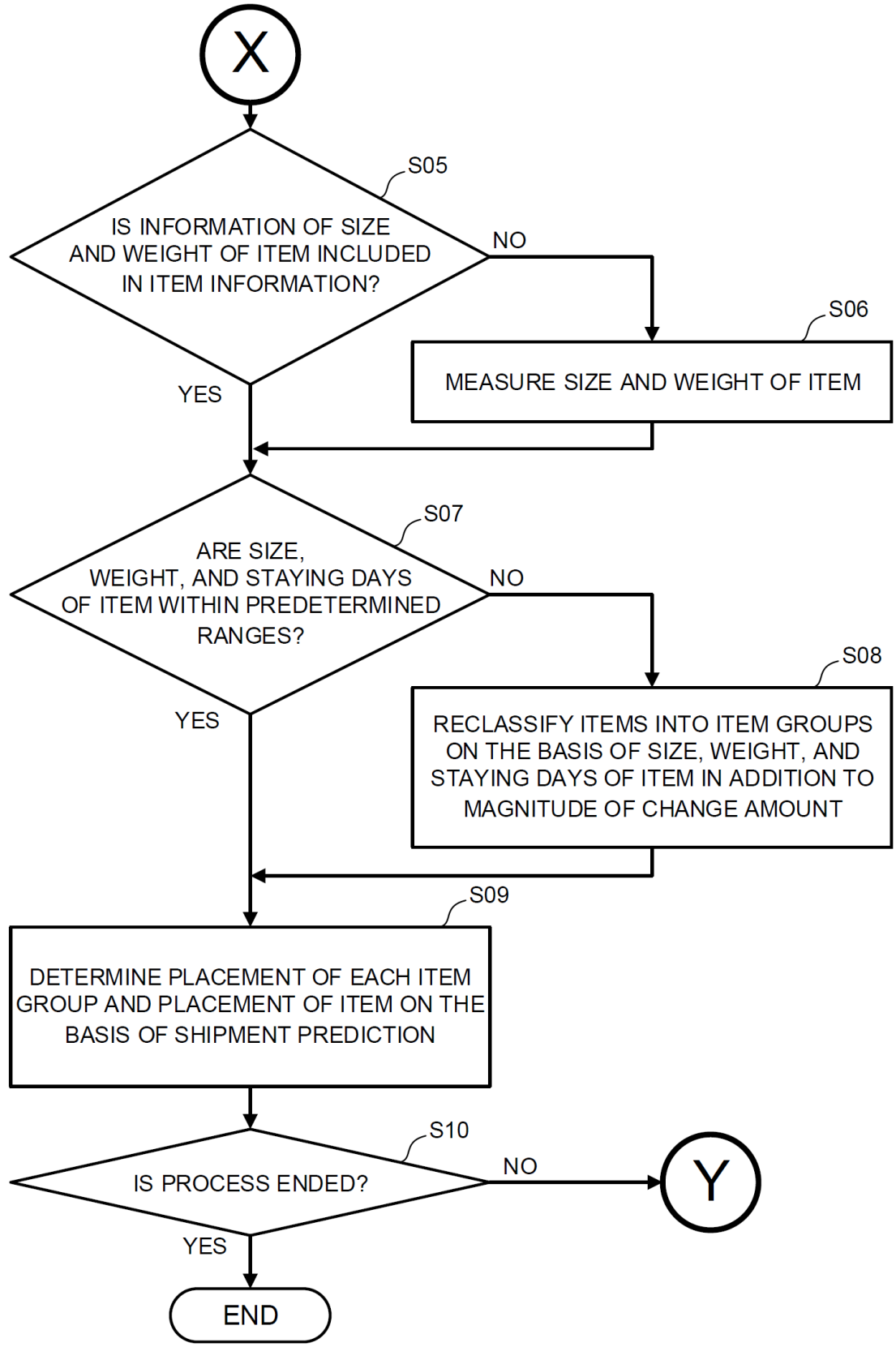

X
S05
IS INFORMATION OF SIZE AND WEIGHT OF ITEM INCLUDED IN ITEM INFORMATION?
NO
YES
S06
MEASURE SIZE AND WEIGHT OF ITEM
S07
ARE SIZE, WEIGHT, AND STAYING DAYS OF ITEM WITHIN PREDETERMINED RANGES?
NO
YES
S08
RECLASSIFY ITEMS INTO ITEM GROUPS ON THE BASIS OF SIZE, WEIGHT, AND STAYING DAYS OF ITEM IN ADDITION TO MAGNITUDE OF CHANGE AMOUNT
S09
DETERMINE PLACEMENT OF EACH ITEM GROUP AND PLACEMENT OF ITEM ON THE BASIS OF SHIPMENT PREDICTION
S10
IS PROCESS ENDED?
NO
Y
YES
END

Fig. 3

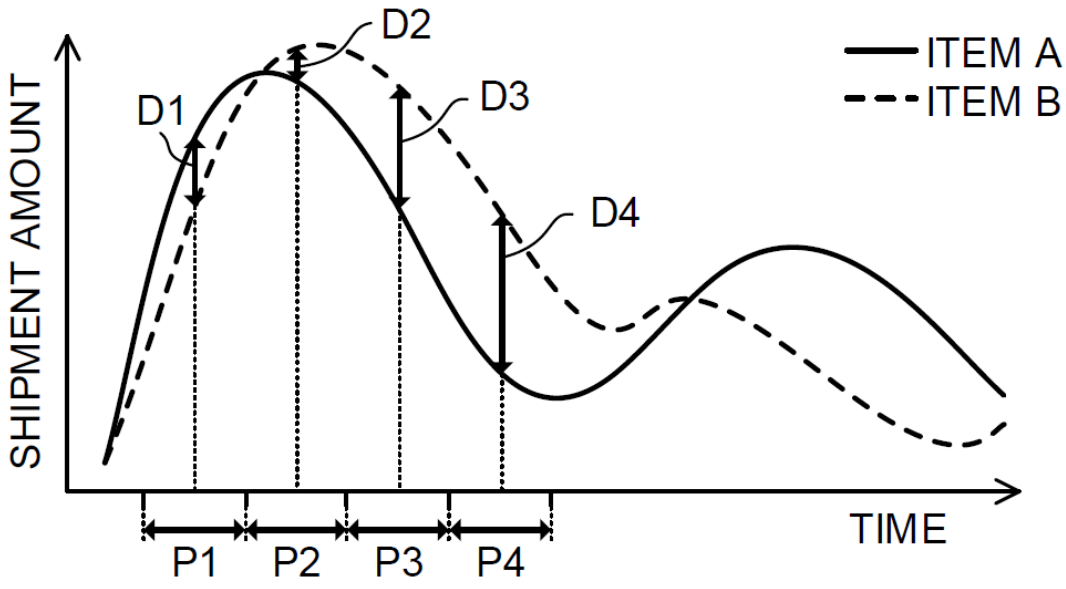


Fig. 4

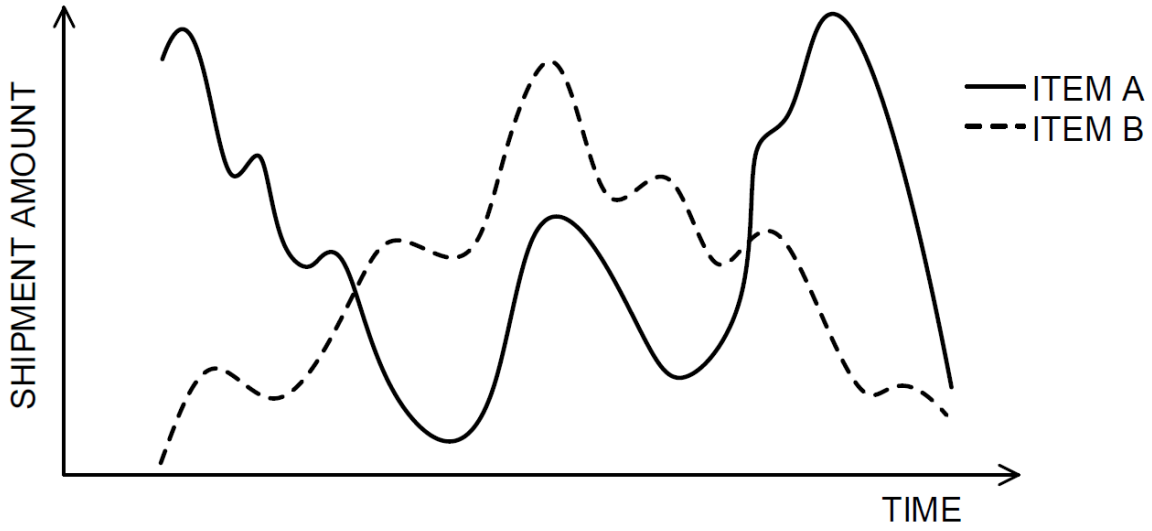


Fig. 5

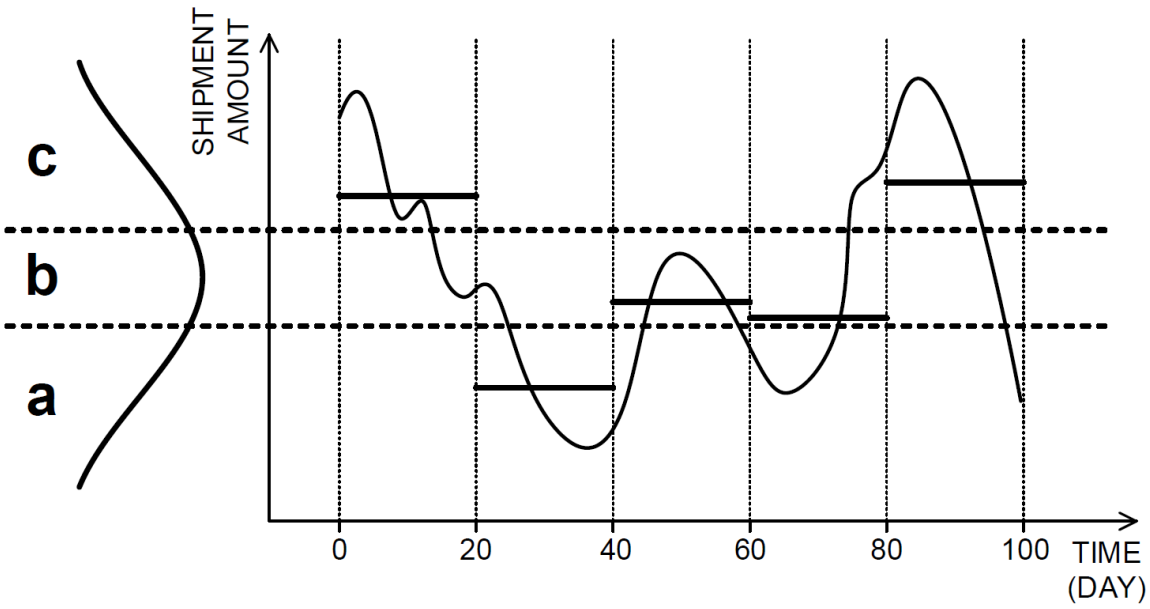


Fig. 6

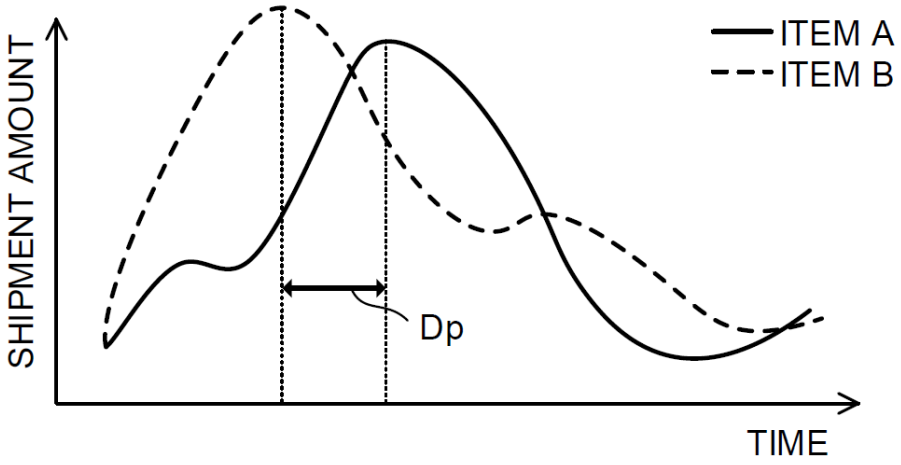


Fig. 7

ITEM ID	ITEM NAME	SHIPMENT DATE	SHIPMENT AMOUNT
A0001	T-SHIRT (RED)	2017/01/01	11
A0001	T-SHIRT (RED)	2017/01/02	11
A0001	T-SHIRT (RED)	2017/01/03	1
A0001	T-SHIRT (RED)	2017/01/04	17
A0001	T-SHIRT (RED)	2017/01/05	13
A0001	T-SHIRT (RED)	2017/01/06	16
A0001	T-SHIRT (RED)	2017/01/07	13
A0002	T-SHIRT (BLUE)	2017/01/01	8
A0002	T-SHIRT (BLUE)	2017/01/02	1
A0002	T-SHIRT (BLUE)	2017/01/03	1
A0002	T-SHIRT (BLUE)	2017/01/04	17
A0002	T-SHIRT (BLUE)	2017/01/05	17
A0002	T-SHIRT (BLUE)	2017/01/06	2
A0002	T-SHIRT (BLUE)	2017/01/07	2
A0003	SOCKS (BLACK)	2017/01/01	10
A0003	SOCKS (BLACK)	2017/01/03	18
A0003	SOCKS (BLACK)	2017/01/04	4
A0003	SOCKS (BLACK)	2017/01/09	20
A0003	SOCKS (BLACK)	2017/01/10	7
A0004	PANTS (WHITE)	2017/01/05	7
A0004	PANTS (WHITE)	2017/01/06	10
A0004	PANTS (WHITE)	2017/01/07	12
A0004	PANTS (WHITE)	2017/01/08	19
A0004	PANTS (WHITE)	2017/01/09	5
…	…	…	…

Fig. 8

SHIPMENT DATE	ITEM A0001	ITEM A0002	・・・
・・・	・・・	・・・	・・・
2017/12/22	19	2	・・・
2017/12/23	15	1	・・・
2017/12/24	3	10	・・・
2017/12/25	11	20	・・・
2017/12/26	1	7	・・・
2017/12/27	2	6	・・・
2017/12/28	19	2	・・・
2017/12/29	11	10	・・・
2017/12/30	20	7	・・・
2017/12/31	6	9	・・・
・・・	・・・	・・・	・・・

Fig. 9

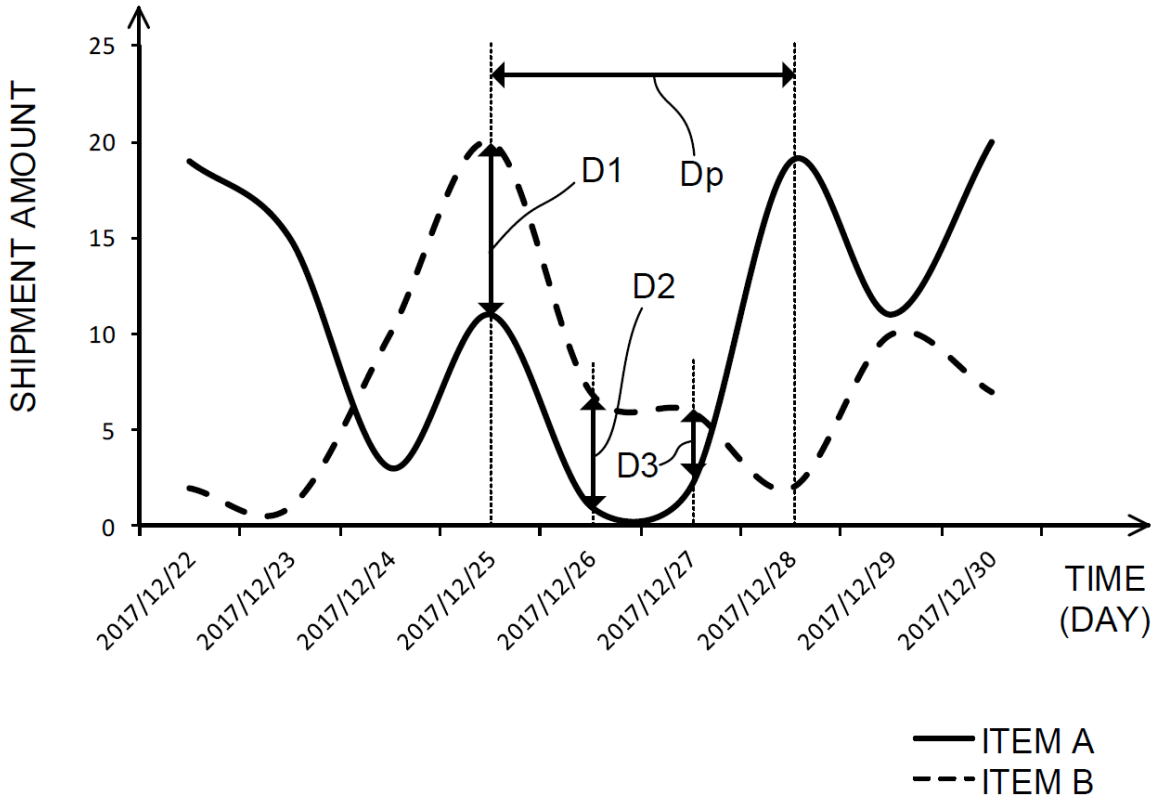

SHIPMENT AMOUNT
25
20
15
10
5
0
D1
Dp
D2
D3
2017/12/22
2017/12/23
2017/12/24
2017/12/25
2017/12/26
2017/12/27
2017/12/28
2017/12/29
2017/12/30
TIME
(DAY)
ITEM A
ITEM B

Fig. 10

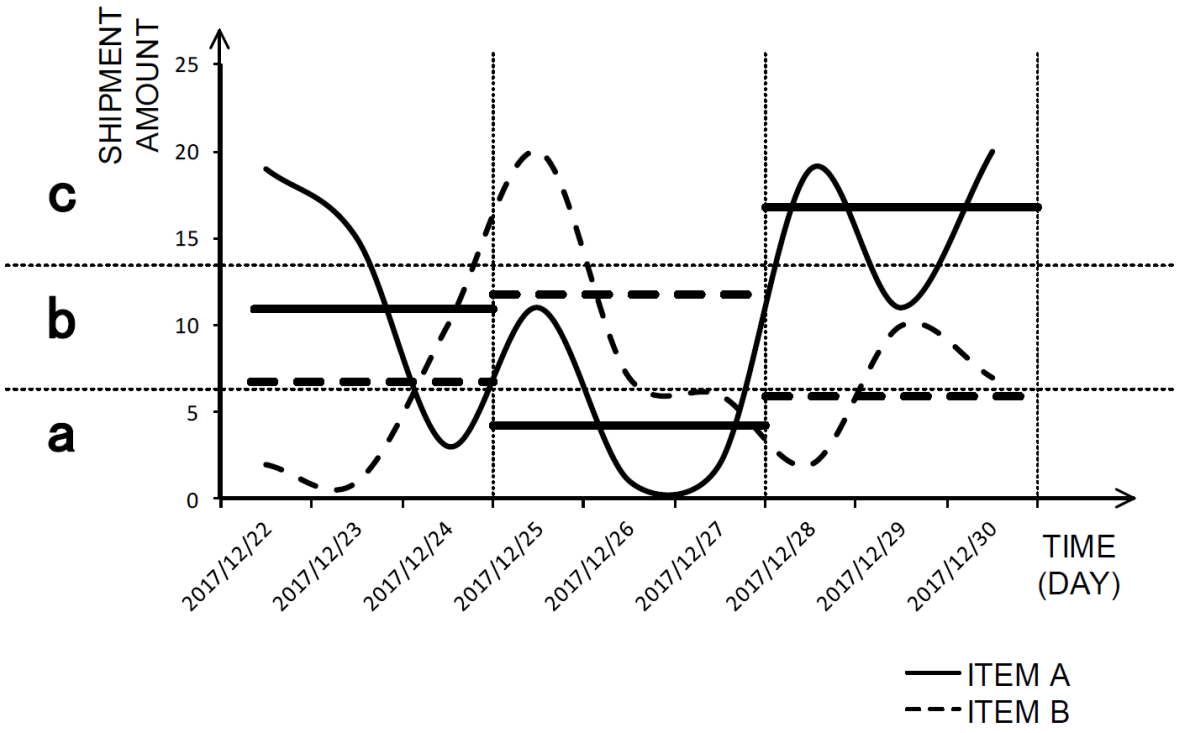

SHIPMENT AMOUNT
25
20
15
10
5
0
c
b
a
2017/12/22
2017/12/23
2017/12/24
2017/12/25
2017/12/26
2017/12/27
2017/12/28
2017/12/29
2017/12/30
TIME (DAY)
ITEM A
ITEM B

Fig. 11

	a	b	c
a	0	0.53	1.39
b	0.53	0	0.53
c	1.39	0.53	0