

Office Products Galore

Office Products Galore (OPG) is a wholesaler that buys office equipment and supplies from manufacturers and sells them to retail office supply stores. OPG wants to be able to enter data for all resources and agents before entering any transactions involving those entities. This narrative describes OPG's revenue cycle. OPG's database will also need to encompass its financing, acquisition, and payroll cycles. Those cycles are not described nor illustrated in this problem to narrow scope; however, effects of having an integrated database that encompasses all the cycles should be considered (for example, cash receipts will not just include cash receipts from revenue generating transactions, but also from other cycles).

Most of OPG's products are tracked at the type-level, whereby one SKU represents thousands (or even millions) of different physical items of the same type. Some of OPG's products, such as computers and copy machines, are tracked individually, by serial number. All individually tracked items are also tracked at the type level by SKU.

OPG's salespeople are each assigned to different customers, so they don't officially work together on any revenue-cycle events. OPG wants to track each salesperson and each customer involved in each revenue-cycle event. OPG's salespeople call on their customers to ensure existing products are meeting their needs, as well as to present new product offerings to them. Some of these sales calls result in customers ordering products from OPG.

OPG is typically able to fulfill the orders placed by its customers; however, once in a great while, OPG has to inform customers that a product ordered is no longer available or will take so long to deliver that it won't satisfy the customer's needs. One order may result in multiple sales (separate shipments are considered separate sales); however, separate orders are never combined into a single sale.

Approximately 5% of items sold to customers are returned to OPG for various reasons, including receipt of the wrong item, the item received was defective, or the item turned out not to meet the customer's expectation. A single sale return may relate to multiple sales and a single sale may result in multiple sale returns.

OPG's cashiers are not assigned to customers or to salespeople. Every cash receipt is deposited into one of OPG's cash accounts and is processed by just one of OPG's cashiers – they don't ever officially work together to process a cash receipt.

The REA business process level conceptual data model for OPG is shown in this handout along with the database tables derived from that model. Some previous data has been entered into the tables. To make the volume of data manageable, you are only seeing a small, representative sample of the data that would actually exist in OPG's database. Also for manageability, the quantities of products in each transaction are unrealistically small. Hopefully sufficient data is here to allow you to understand how this would scale up to accommodate a real company's database.

Some rows have been left blank to accommodate entry of new data. Enter the following transactions into the appropriate database tables. Then using only the data that is shown in the tables (after your additions), calculate Net Sales for the time period April 11 to May 10, 2016, and calculate Accounts Receivable and Unearned Revenue as of May 10, 2016.

May 1: Salesperson Mary Gerard called on Educator Source and presented three products: GB1, a 3'x4' glassboard, QC24, the newest desktop model of Quandrax computer, and PM17, a 4-pack of neon paint markers. Unit selling prices quoted for these items were \$300.00, \$450.00, and \$9.00, respectively. She reported this sales call on document SC617. The ES purchase agent liked all three products but wasn't quite ready to place an order yet.

May 1: Salesperson Joe Wilcox called on Office Extreme and presented two products: QC24 and QC24L, the newest laptop model of Quandrax computer. Unit selling prices quoted for these items were \$460.00 and \$780.00, respectively. He reported this sales call on document SC620. The OE purchase agent said he would likely order both products in a few days.

May 2: Educator Source placed an order for 10 GB1 @ \$300 each, 20 PM17 @ \$9 each, 3 QC24 @ \$450 each, and 100 CP10 at \$20.00 each. Shipping cost was quoted as \$150.00 total for the order. OPG numbered this order as SO252.

May 5: OPG shipped the goods ordered May 2 by Educator Source in full, FOB shipping point, with terms 2/10, n/30. The serial numbers for the QC24s were 1235YG-13265, 3153YZ-31569, and 7315YL-31590. OPG numbered this sale as S277.

May 5: Office Extreme placed an order for 4 QC24 @ \$460 each and 2 QC24L @ \$780 each. OPG added a shipping charge of \$100 to the order. OPG numbered this order as SO265.

May 6: OPG shipped 3 QC24 @ \$450 and 1 QC24L @ \$750 (note that the prices quoted by Joe were too high) to Office Extreme with a promise to send the remainder within 3 days. These goods were shipped FOB shipping point, with terms 2/10, n/30. The serial numbers for the QC24s were 6315YJ-13256, 9315YP-93561, and 8315YQ-83156. The serial number for the QC24L was 8315LP-51265. OPG numbered this sale as S291.

May 8: OPG shipped the remainder of OE's May 1 order FOB shipping with terms of 2/10, n/30. The serial number for the QC24 was 3153YJ-53168. The serial number for the QC24L was 4725LY-53165. OPG numbered this sale as S317

May 8: Supply Circuit placed and paid in advance for an order for 10 GB1 @ \$300 each, 5GB2 @ \$940 each, 15 MF17 @ \$15 each, and 15 PM 17 @ \$9 each. The shipping charge was \$160 for the order – salesperson Jim Wood had already quoted that charge to Supply Circuit, so that was include in the total payment. The payment of \$8,220.00 was processed by cashier Carrie as CR170 and deposited to cash account 5. OPG numbered the order SO321.

May 10: OPG received goods returned by Educator Source, 20 PM17 for the reason that they were too brightly colored. OPG accepted the return and numbered it SR18, and Mary encouraged ES to consider buying PM16 instead (primary paint markers). ES's purchase agent said he would think about it and perhaps order those in June.

May 13: OPG received a check for \$6,370 from Educator Source to pay for its May 5 shipment (less the May 11 return and early payment discount of \$130); this payment was processed by cashier Carrie as CR179 and deposited to cash account 5. (hint: amount applied is the amount by which ES's accounts receivable should be reduced).

May 15: OPG received a check for \$3,332 from Office Extreme to pay in full for its May 6 and May 8 shipments; this payment was processed by cashier Larry and deposited as CR188 to cash account 5.

Customer

Customer_ID	CustomerName	CreditRating	StreetAddress	City	AssignedSP
C0000001	Office Extreme	A-	123 Elm	Bedrock	E00008
C0009032	Educator Source	A+	45 Birch	Tally	E00002
C0000715	Gibby's	B	62 Tiger	Detro	E00002
C0001012	Office Station	A-	452 Clip	Lance	E00011
C0000047	Supply Circuit	A+	271 City	Tally	E00011
C0010230	Henry's	B+	24 Plot	Lance	E00002
C0008643	Books-n-more	A	33 Park	Tally	E00008
C0003521	EverythingPlus	B	147 Mahan	Bedrock	E00002

Salesperson

Employee_ID	CommissionRate
E00002	.0125
E00008	.0150
E00011	.0115

Cashier

Employee_ID	FidelityBondRating
E00007	B+
E00013	A

Employee

EmployeeID	FirstName	LastName	City	Street	HourlyPay	YearBorn	Title
E00001	Ned	Cook	Bath	48 Oak	\$65.00	1962	President
E00002	Mary	Gerard	Tally	12 Beech	\$32.45	1970	Sales
E00003	Caitlyn	Joseph	Tally	57 Maple	\$28.70	1992	VP Advertising
E00004	Greg	McCarthy	Tally	91 South	\$45.20	1969	Controller
E00005	Bill	Scott	Bath	133 Elm	\$57.15	1950	CFO
E00006	Martha	Simmnett	Detro	452 1 st	\$17.52	1965	Custodian
E00007	Larry	Stout	Lance	921 Wood	\$15.50	1960	Cashier
E00008	Joe	Wilcox	Detro	452 1 st	\$32.30	1963	Sales
E00009	Rich	Wrong	Detro	103 North	\$16.25	1962	Asst Custodian
E00010	Sue	Hubbard	Lance	198 West	\$25.50	1964	Accountant I
E00011	Jim	Wood	Bath	882 Scott	\$33.10	1962	Sales
E00012	Sarah	James	Bath	77 Oak	\$18.95	1994	Accountant II
E00013	Carrie	Bychek	Tally	38 Lake	\$15.50	1959	Cashier

Inventory Type

SKU	Description	StdUnitCost
CP05	Copier paper, 5 ream case	\$10.00
CP10	Copier paper, 10 ream case	\$20.00
DE01	Dry erase markers, 4 pk, multi-colors	\$2.00
GB1	Glassboard, 3' x 4', on metal stand	\$140.00
GB2	Glassboard, 4' x 6', on metal stand	\$480.00
MF17	Microfiber cleaning cloth, 2 pk	\$6.00
PM16	Paint markers, 4pk, primary colors	\$3.00
PM17	Paint markers, 4pk, neon colors	\$3.00
PN42	Post-it notes, 12 pk 3"x4"	\$4.00
QC24	Quandrax desktop computer	\$220.00
QC24L	Quandrax laptop computer	\$350.00
X4005	Copy machine, light duty	\$1,200.00
X9002	Copy machine, heavy duty	\$4,500.00

Inventory

SerialNumber	DateManufactured	ActualCost	SKU
8316YW-31569	1/15/2016	220.00	QC24
3516YK-63189	1/15/2016	220.00	QC24
7783YF-43175	1/15/2016	220.00	QC24
1235YG-13265	3/1/2016	225.00	QC24
3153YZ-31569	3/5/2016	225.00	QC24
7315YL-31590	3/5/2016	225.00	QC24
6315YJ-13256	3/5/2016	225.00	QC24
9315YP-93561	3/1/2016	225.00	QC24
8315YQ-83156	3/7/2016	225.00	QC24
3153YJ-53168	4/29/2016	218.00	QC24
3125LP-50276	1/20/2016	348.00	QC24L
8751LQ-31056	1/20/2016	348.00	QC24L
7442LU-17325	2/28/2016	355.00	QC24L
8315LP-51265	4/10/2016	358.00	QC24L
4725LY-53165	5/01/2016	345.00	QC24L
3215LK-63158	5/01/2016	345.00	QC24L
7214LJ-42186	5/01/2016	345.00	QC24L
8829LS-90987	5/01/2016	345.00	QC24L
81Xu3112-31	1/20/2016	1210.00	X4005
44Xyj915-274	2/15/2016	1195.00	X4005
73Xygg1-486	2/15/2016	1195.00	X4005
34Xasb8-729	2/15/2016	1195.00	X4005
48Xaseq-1235	3/18/2016	1203.00	X4005
9731Xu4-3216	1/27/2016	4,498.00	X9002
7908Xy31-884	3/04/2016	4,555.00	X9002

Cash

AccountID	Type	Location
1	Savings	First Bank
2	Petty	Room 102
3	Imprest	First Bank
4	Money Market	First Bank
5	Checking	First Bank
6	Savings	American Bank

Sales Call

SC_ID	SC_Date	Nbr_Items_Presented	Overall_Reception	Customer_ID	Salesperson_ID
SC171	04/02/2016	2	Favorable	C0000001	E00008
SC185	04/02/2016	2	Neutral	C0000715	E00002
SC201	04/09/2016	3	Favorable	C0009032	E00002
SC222	04/12/2016	2	Unfavorable	C0000001	E00008
SC234	04/12/2016	2	Favorable	C0001012	E00011
SC410	04/20/2016	3	Neutral	C0000047	E00011
SC502	04/29/2016	2	Favorable	C0010230	E00002

Proposition

[illegible]

SO_ID	SO_Date	SO_Amount	ShippingCharge	Customer_ID	Salesperson_ID
SO97	04/02/2016	\$5,200.00	\$145.00	C0000001	E00008
SO142	04/12/2016	\$14,000.00	\$80.00	C0001012	E00011
SO210	04/29/2016	\$2,500.00	\$100.00	C0010230	E00002
SO244	04/30/2016	\$340.00	\$30.00	C0010230	E00002

SC_ID	SO_ID
SC171	SO97
SC234	SO142
SC502	SO210
SC502	SO244

[illegible]

Sale

Sale_ID	Sale_Date	Sale_Amount	SO_ID	Customer_ID	Salesperson_ID
S102	04/06/2016	\$4,820.00	SO97	C0000001	E00008
S156	04/15/2016	\$14,000.00	SO142	C0001012	E00011
S221	05/03/2016	\$2,500.00	SO210	C0010230	E00002
S260	05/04/2016	\$340.00	SO244	C0010230	E00002
S265	05/04/2016	\$330.00	SO97	C0000001	E00008

StockflowITS

SKU	Sale_ID	Quantity_Sold	Actual_Sell_Price
GB1	S102	10	\$310.00
PM17	S102	20	\$9.00
CP10	S102	40	\$33.00
PN42	S102	15	\$5.00
X4005	S156	2	\$2,250.00
X9002	S156	1	\$9,420.00
QC24L	S221	2	\$750.00
QC24	S221	2	\$450.00
GB1	S260	1	\$310.00
CP10	S265	10	\$33.00

Fulfillment SOCR

SO_ID	CR_ID	Amount_Applied
SO97	CR145	\$4,820.00
SO97	CR196	\$330.00
SO142	CR121	\$14,000.00

[illegible]

CR_ID	CR_Date	CR_Amount	Cash_Acct_ID	Cashier_ID	Customer_ID
CR1	01/01/2016	\$350,000.00	4	E00007	
CR2	01/01/2016	\$150,000.00	5	E00007	
CR121	04/24/2016	\$13,720.00	5	E00013	C0001012
CR145	04/29/2016	\$4,820.00	5	E00013	C0000001
CR196	05/15/2016	\$330.00	5	E00007	C0000001

Sale_ID	CR_ID	Amount_Applied	Sale_Discount
S156	CR121	\$14,000.00	\$280.00
S102	CR145	\$4,820.00	\$0.00
S265	CR196	\$330.00	\$0.00

Sale Return

SaleReturn_ID	SaleReturn_Date	SaleReturn_Amount	Customer_ID	Salesperson_ID
SR17	5/10/2016	\$750.00	C0010230	E00002

ReversalSSR

Sale_ID	SaleReturn_ID	Return_Amount_Applied
S221	SR17	\$750.00

StockflowISR

SerialNumber	SaleReturn_ID	UnitPriceCredited
3125LP-50276	SR17	\$750.00

StockflowITSR

SKU	SaleReturn_ID	UnitPriceCredited	QuantityReturned
QC24L	SR17	\$750.00	1

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