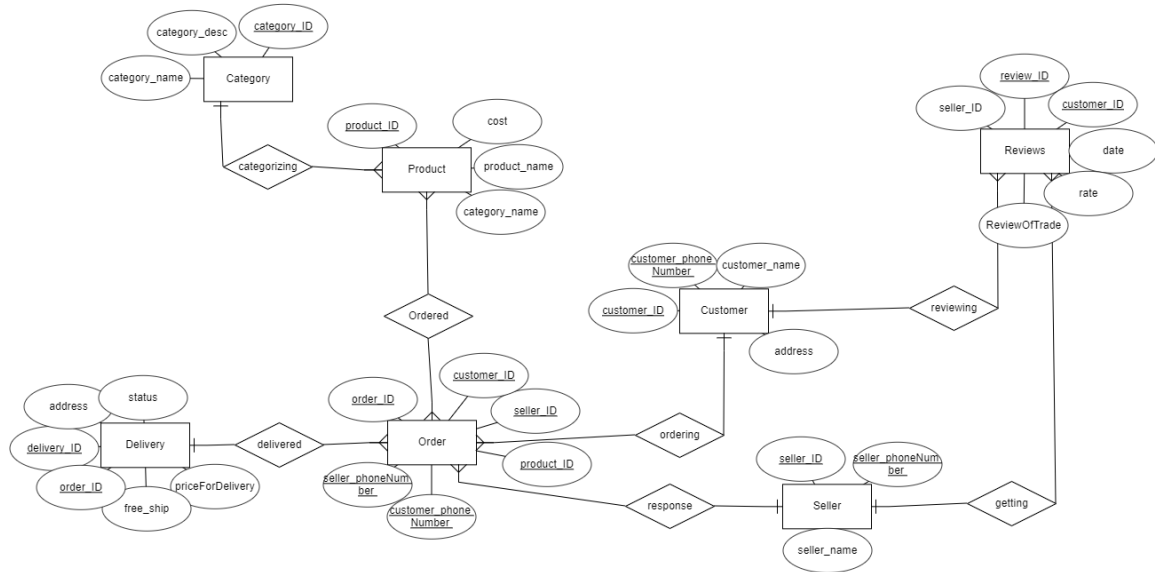Entity relational diagram for e-commerce system

For an Internet commercial system, the group created a database that retains all three normal form structures. The database consists of such tables as: category, product, order, delivery, customer, seller, reviews. There are seven in total. It is a system of a client and a seller in which they can sell or purchase the necessary things from the category of goods. And there is also a separate table that records reviews for certain sellers from buyers with comments and ratings left by them. The product table is responsible for storing the available products and their categories. Seller and customer store users with their unique identifiers. The order contains data that describes from which customer with which seller the purchase was made. The delivery table indicates delivery with the customer's address, as well as the opportunity to receive free delivery if the price exceeds a certain threshold.

The table follows all three normal forms. Customer for the first normal form, this table has unique column names, as well as the data is painted for each row separately. For second normal form, all non-primary-key attributes are entirely dependent on the primary key. In the case of third normal form, we do not have any transitive non-primary-key attribute dependency (below is a screenshot of the table).

FD: ID, phone_number →ALL

ID	CUSTOMER_NAME	PHONE_NUMBER	ADDRESS
8	La verne Crellin	613-766-1983	88975 Del Sol Pass
9	Keenan Phinn	802-501-2057	448 Clove Circle
7	Alistair Sealy	430-379-7635	140 Monument Junction
18	Basil Pirdy	719-729-6659	1 Acker Crossing
20	Emmi Misk	979-889-8901	7278 Forest Alley
23	Rahel Serjent	586-534-3691	6892 Nelson Park
1	Franciska Goalley	102-382-4989	88086 Burning Wood Drive
3	Verile Inseal	505-582-7650	11780 Anzinger Park
2	Robers Dameisele	803-734-2915	3083 Milwaukee Court
4	Dorey Eleshenar	188-463-8572	28 Hazelcrest Crossing
5	Carey Stopp	385-662-1981	3 North Circle
6	Ilka Burdon	811-131-1054	9 East Court
10	Trudey Kynnd	254-610-0071	74506 Valley Edge Plaza
15	Delphinia Hebburn	932-416-2644	78 Tennyson Avenue
11	Shaun Jaan	877-878-6665	901 Old Shore Crossing
12	Janene Ferreras	519-792-1256	194 Ridgeway Drive

The seller table also retains all three normal forms. It has unique table names in which the data is listed for each row separately. For second normal form, all non-primary attributes depend on the primary attribute. For the third form, there is no transitive dependence of non-basic key attributes. FD: ID→ALL

ID	SELLER_NAME	PHONE_NUMBER
3	Almeda Wellum	166-365-0105
4	Bambie Rozsa	410-367-5461
5	Kort Flament	458-628-5284
6	Kristos Curnow	181-348-7839
7	Mickey Dudding	591-674-1053
8	Winifred Normanville	916-373-7771
9	Elisha Aimson	935-824-0673
10	Cami Ratter	314-279-6859
11	Orlando Eggleton	394-382-4677
12	Costanza Espinet	491-147-0847
13	Neddy Godehard.sf	248-917-3462
14	Tanya Harbison	408-499-1352
15	Kitty Winsborrow	852-525-0640
16	Sheridan Babar	504-743-3177
17	Antonia Hambelton	267-178-9946
18	Alleyn Linnard	349-445-2235

Below I will give the name of the tables and screenshots with their tables, as well as the functional dependencies prescribed for them.

Category
FD: category_name→category_description

CATEGORY_NAME	CATEGORY_DESCRIPTION
Children's products	Products intended for children aged 1-13 years
Home appliances	Household appliances include: vacuum cleaner, iron, washing machine, dishwasher, etc.
Footwear	Different models of shoes from sneakers to women's shoes
Clothes	Clothing for men and women
Furniture	Decorative furniture, as well as the usual ones designed for home decoration and comfort.
Pet Products	In animal products, you can buy food, a collar, toys, houses and everything else that is intended for animals

Delivery
FD: Delivery_ID, order_id→all

DELIVERY_ID	ORDER_ID	PRICEFORDELIVERY	ADDRESS	STATUS	FREE_SHIP
1	13	3841	194 Ridgeway Drive	On the way	False
2	1	3978	242 Hagan Point	Delivered	False
3	9	0	8181 Dorton Point	Pending	True
4	8	0	28 Hazelcrest Crossing	On the way	True
5	15	7785	4570 Summer Ridge Trail	Delivered	False
6	3	3444	8181 Dorton Point	Pending	False
7	5	0	78 Tennyson Avenue	On the way	True
8	14	0	6892 Nelson Park	Delivered	True
9	10	5641	75 Portage Street	Pending	False
10	4	0	11780 Anzinger Park	On the way	True
11	12	0	11780 Anzinger Park	Delivered	True
12	2	0	28 Hazelcrest Crossing	Pending	True
13	6	0	88086 Burning Wood Drive	On the way	True
14	7	2555	74506 Valley Edge Plaza	Delivered	False
15	11	5389	3083 Milwaukee Court	Pending	False

Order
FD: Order_ID→all

ORDER_ID	CUSTOMER_ID	SELLER_ID	PRODUCT_ID
16	17	25	11
1	17	13	10
2	4	8	13
3	13	25	11
4	3	14	9
5	15	4	14
6	1	20	4
7	10	1	2
8	4	17	3
9	11	3	6
10	14	1	1
11	2	10	15
12	3	5	7
13	12	15	5
14	23	9	8
15	24	12	12

Product
FD: product_id, (seller_id, product_name)→all

PRODUCT_ID	COST	PRODUCT_NAME	SELLER_ID
1	2000	Black T-shirt	1
2	408412	Sofa for lounge room	1
3	899657	Bed for 2 persons	17
4	473061	Collar	20
5	141780	Diaper	15
6	245524	Nike Air Force	3
7	717570	Dishwasher	5
8	989035	Vacuum cleaner	9
9	87872	abibas sneakers	14
10	895652	Feed for birds	13
11	2000	Hoodie	25
12	858685	Baby powder	12
13	169813	Pacifier for children	8
14	458401	Chair	4
15	621193	Chandelier	10
16	9000	Black T-shirt	2

Product 1 is the table that was cut from product table, due to violating second normal form
FD: product_name→category_name

PRODUCT_NAME	CATEGORY_NAME
Black T-shirt	Clothes
Sofa for lounge room	Furniture
Bed for 2 persons	Furniture
Collar	Pet Products
Diaper	Children's products
Nike Air Force	Footwear
Dishwasher	Home appliances
Vacuum cleaner	Home appliances
abibas sneakers	Footwear
Feed for birds	Pet Products
Hoodie	Clothes
Baby powder	Children's products
Pacifier for children	Children's products
Chair	Furniture
Chandelier	Furniture

Review
FD: review_id→all

REVIEW_ID	CUSTOMER_ID	SELLER_ID	DATEOFCREATE	RATE	REVIEWOFDATE
1	17	1	05/05/2022	5	I really enjoyed doing business with this …
2	24	20	03/17/2021	2	Extremely dissatisfied with trading with t…
3	23	18	07/21/2019	3	Quite an ordinary seller, with whom it wa…
4	3	4	12/01/2023	1	I would advise you to be able to commun…
5	10	3	10/19/2019	5	Everything is great, I recommend it to ev…