

In this ER diagram, we have a total of 5 entities (4 strong, weak), each corresponding to their own attributes and relationships.

- Starting off, we have a Customer entity that represents each customer. Each customer has a unique CustomerId in addition to their email, custName, age, and gender for the company to see.

- We also have an EmailList entity. Each email list has a unique listId in addition to their createdDate and listTitle.

- We have an Employee entity that represents each employee in the company. Each employee has a unique employeeId in addition to their tenure, empName, and empTitle.

- We have a purchase entity, which represents purchase(s) made by a customer. Each purchase has a unique purchaseId, along with the date of said purchase, quantity, category, amount, and if returned (yes/no). Each purchase that has been returned has a date of when the return was made and a csat_score, customer satisfaction score.

Relations & Explanations)

- Each Customer is in multiple EmailList meanwhile each EmailList contains multiple customers.

- A customer can be in zero to multiple email lists depending if they meet multiple requirements for different email lists we create. Since every individual email list does contain its own requirements for customers it's looking to market. Obviously, an email list can have anywhere from zero to multiple customers depending on who meets the requirements.

- Each Customer can make multiple purchases, and each purchase is made by exactly one customer.

- A customer is not limited to a number of purchases, therefore they can make zero to multiple. When it comes to the purchase, the transaction itself is made by only one customer.

- Each Employee can process many returns while each return is processed by exactly one employee.

- As an employee, they are supposed to process zero to multiple returns, but a return should only have to be processed by one employee instead of multiple.

- Each Purchase at most has been returned once. Each return belongs to exactly one purchase.

- A purchase is technically allowed to only be returned at most once. If said purchase was bought, returned, then bought again then we are now looking at two different purchases instead of the same one, therefore it's not possible for a purchase to be returned more than once. As for each return, it corresponds to exactly one purchase.

Explanations for Entities:

- This diagram represents the relationship a purchase, customer, employee, email list, and return all have and how they're all connected. We chose these 5 entities to represent our overall database as they altogether provide the company with enough information needed to improve product quality and customer satisfaction.