a) Entities and their definitions.

- Company: An organization that produces or sells goods or services.
- Producer: Producers supply clothes to our company.
- Clothing: It is the item that our company sells to boutique shops. It is bought in bulks from producers.
- Shop: Customer which buys clothes from our company to sell people.
- Department: Departments of our company are IT, Marketing, Sales, Operation and Quality Control.
- Employee: People that work in our company. They are categorized by their Department.
- Logistics: The firms that are responsible for transportation of clothes between our company, shops and producers.
- Inventory: Inventories keep the clothes that come to our company from Producers.
- Shipment: Records of sales and shipment information.

b) Business processes and their definitions.

- Producer produces the Clothes and ships them to our company by a Logistics company.
- Quality control Department checks whether the shipped clothes are deformed or not. If so, they are returned to Producer. Cost of deformed clothes are sent back to our bank account.
- Shipped clothes are kept in an Inventory and they are categorized by Employees that are working in operation Department.
- Marketing department arranges the shops demands and sales department sells them.
- In each sale, a sale record is kept.
- Clothes are sent to Shops by a Logistics company.
- If a return request is issued from a Shop, the Clothes are sent back to Inventory by Logistic company. Each return request is stored in database. The cost of returned clothes are sent back to shops bank account.
- If a change request is issued from a Shop, the Clothes are sent back to Inventory by Logistic company. Each change request is stored in database.

c) Business rules, constraints, etc.

- Company has a unique tax number, company name, address (composed of country, city, postal code), bank account number.
- Producer has a unique tax number, company name, address (composed of country, city, postal code), bank account number, contracted logistics company tax number (it can be more than one).
  Producer produces many clothes. Producer may issue many shipments.
- Clothing has a unique clothing id, name, brand (producer), type, gender, size, color, bought price, sold price.
  Clothing must be produced by exactly one producer. Clothing can be included by one shipment.
- Shop has a unique tax number, company name, address (composed of country, city, postal code), bank account number, contracted logistics company tax number (it can be more than one).
  A shop can receive many shipments.
- Department has a unique department number, name, manager ssn, number of workers (derived).
  Department must have many employees and managed by exactly one employee.
- Employee has a unique ssn, name composed of firstname and lastname, birthdate, derived age, department number, gender, address (composed of country, city, postal code), salary.
  An employee must work in exactly one department and employee can manage a department.
- Logistics has a unique tax number, company name, address (composed of country, city, postal code), bank account number
  Logistics can transport many shipments.
- Inventory has a unique inventory code, address (composed of country, city, postal code)
  Inventory can issue many shipments. Inventory may receive many shipments.
- Shipment has unique shipment id, shipment date and total price (derived). Shipment must be issued by exactly one producer. Shipment must be transported by exactly one logistics. A shipment sent to exactly one shop. A shipment sent to exactly one inventory. Shipment must be issued by exactly one inventory. A shipment must contain many clothes.

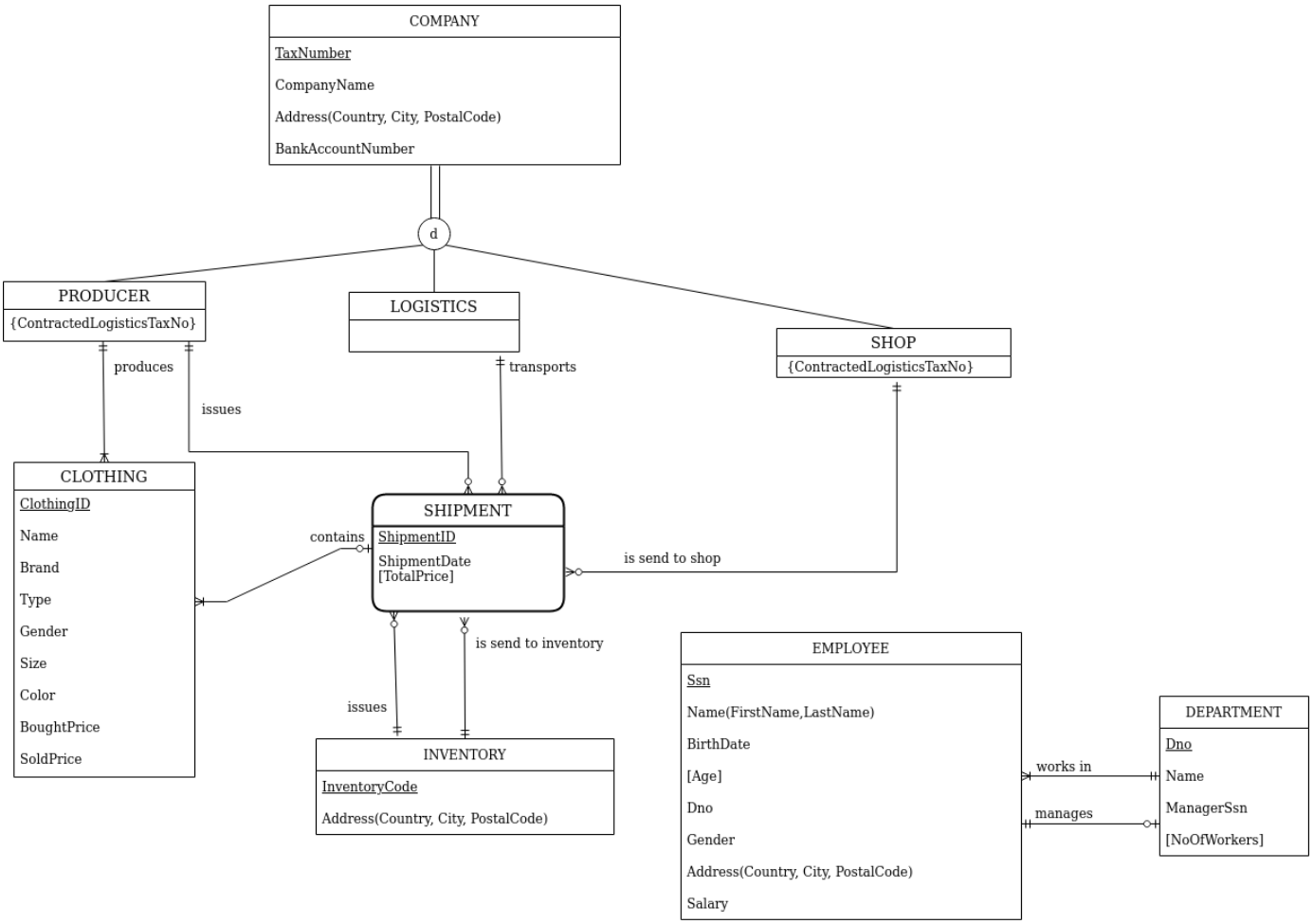
d) Other functional & non-functional business requirements.

Functional Requirements

- Creating, reading, updating and deletion of all entities.
- Filtering of clothes by their attributes.
- Exporting data to excel.
- Return and change features.
- Storage of sale records.

Non-Functional Requirements

- Mobile compliant web interface
- Flask framework along with Python will be for web interface.
- Pyodbc driver will be used.
- Microsoft SQL server will be used as database engine



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