This document provides a rationale for the roles of each table within the database and how they relate to one another. The table instance chart is available in the provided Excel document, while a complete diagram of the database design is included in the accompanying Visio document. An updated project timeline is available in the Microsoft Project document. Note that my group and I have chosen not to store credit card information within the database; it is only processed at the point of sale.

**ASSUMED CONSTRAINTS:**

**Phone Numbers & Fax Numbers**

* Must contain exactly fifteen digits.
* Should not include any dashes.
* Should not include any special symbols.

**Emails**

* Must be in lowercase and contain a valid "@" symbol.
* Must include a proper extension (checked via regex).

**Dates**

* Must follow the format MM/DD/YYYY.

**Addresses**

* Should not include city, state, province, postal code, or country information.

**City, Country, and Province Names**

* May not use abbreviations.
* Must have the first letter of every word capitalized.

**Postal Codes or Zip Codes**

* Must be uppercase and contain no whitespace.
* Should follow valid postal code or zip code formats (enforced with regex).

**Person Names**

* Both first and last names must have the first letter capitalized.

**TABLE NAME: CUSTOMER**

The CUSTOMER table represents individuals who explore travel options with travel experts or have one or more associated itineraries. Customers may also have zero or more related entries in the BILLING table.

**TABLE NAME: DESTINATION**

The DzESTINATION table is a lookup table used by the ITINERARY table to associate each itinerary with a destination\_name and destination\_code. This table enforces constraints to ensure that all entries for destination\_name contain no acronyms, and destination\_code values are in uppercase.

**TABLE NAME: ITINERARY**

The ITINERARY table requires associations with a destination\_id, customer\_id, and agent\_id to create an entry. Its primary role is to provide general information about trip dates, the type of trip, and the number of people associated with the itinerary. Each itinerary can link to multiple bookings in the BOOKING table, detailing the specific products reserved. Additionally, the travel\_class attribute has a check constraint that limits entries to valid travel classes such as ECN, BSN, and DLX.

**TABLE NAME: BOOKING**

The BOOKING table is a composite table linking entries in the ITINERARY table to one or more products in an itinerary. Each booking has a composite primary key consisting of product\_id and itinerary\_id, which helps determine the commission owed for a specific product within an itinerary. The table also stores the amount of commission received for each booking. Each booking is linked to at least one itinerary and one or more products.

**TABLE NAME: PRODUCT**

The PRODUCT table represents discrete services like hotels, cars, airlines, or cruises that are part of a supplier’s portfolio. Multiple products can belong to one supplier, and each product can be associated with multiple bookings. Commission for these products can be calculated on a flat-rate or percentage-based system, or both, depending on market conditions and supplier policies.

**TABLE NAME: SUPPLIER**

The SUPPLIER table represents companies or organizations offering products to travel experts. To become a supplier, an organization must provide its name, a contact person’s name, their phone number, email address, and basic location information. This table may also hold additional useful information. Suppliers can be affiliated with other companies or parent companies through the AFFILIATION lookup table, and they may represent other companies through the REPRESENT lookup table. The company\_name attribute requires the first letter of each word to be uppercase.

**TABLE NAME: AFFILIATION**

The AFFILIATION table is a simple lookup table that stores names of affiliated companies associated with suppliers. All affiliation names should be in uppercase.

**TABLE NAME: REPRESENT**

The REPRESENT table is a lookup table that lists various represented companies associated with suppliers. Each entry should have the first letter of every word capitalized.

**TABLE NAME: BILLING**

The BILLING table links entries to customers who have itineraries. These itineraries are associated with products through the BOOKING table, and each product has a price in the PRODUCT table. This price, along with any agency fees and taxes, is used in the BILLING table to calculate the total amount a customer needs to pay, and the amount already paid.

**TABLE NAME: TAX**

The TAX table holds all taxes associated with a particular billing entry, providing information on the tax amount and the type of tax (e.g., GST, PST, HST).

**TABLE NAME: TAX\_TYPE**

The TAX\_TYPE table is a lookup table that stores various tax types like GST, PST, and HST. Each tax type can be associated with multiple entries in the TAX table. The tax\_type attribute is required to be in uppercase.

**TABLE NAME: AGENT**

The AGENT table stores information about agents, who may manage and be linked to one or more itineraries. When an itinerary is created, the agent responsible for its creation is recorded, although other agents can also access itineraries created by different agents.