Tucker Atwood
WGU MSDA
D205 Performance Assessment
1/26/24

A. Research Question

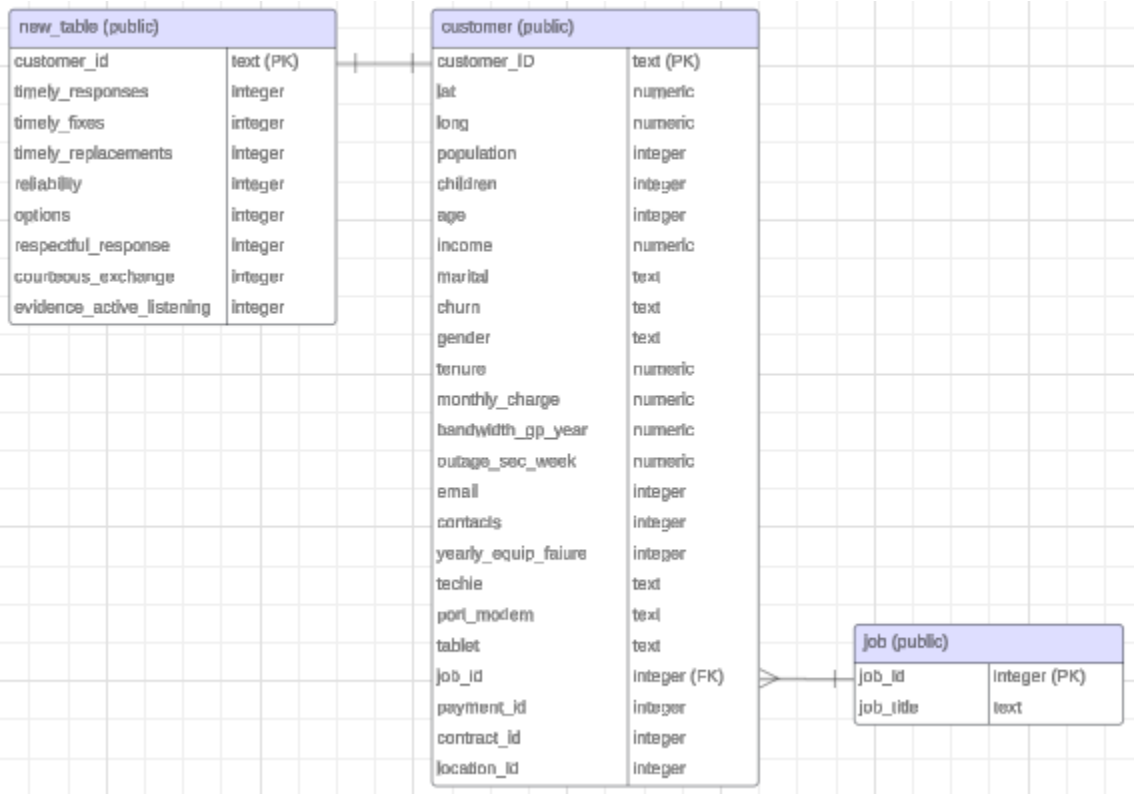
Using data from the pre-loaded database "churn" and the additional CSV file "Survey Responses," I will answer the question "Which types of teachers show the highest average evidence of active listening?"

A1. Required Data

To answer my research question, I will use the following data: the customer_id column (a text data type) from the "customer" table in the churn database; the job_title column (a text data type) from the "job" table in the churn database; and the Evidence of Active Listening column (an integer data type) from the Survey Responses CSV add-on file, which will be renamed "evidence_active_listening" in a newly created table named new_table.

B. Entity Relationship Diagram (ERD)

The following Entity Relationship Diagram summarizes the relationships between the relevant data in the churn database (the "customer" and "job" tables) and the relevant data that will be imported from the Survey Responses CSV file (into the "new_table" table).



B1. Creating the New Table

The following code creates a table titled "new_table." It also defines each column, identifies the primary key and foreign key, and uses the foreign key to reference data in the churn database.

```
CREATE TABLE public.new_table
	(customer_id text,
	timely_responses integer,
	timely_fixes integer,
	timely_replacements integer,
	reliability integer,
	options integer,
	respectful_response integer,
	courteous_exchange integer,
	evidence_active_listening integer,
	PRIMARY KEY (customer_id),
	FOREIGN KEY (customer_id)
	REFERENCES customer (customer_id));
ALTER TABLE public.new_table
	OWNER TO postgres;
```

B2. Importing Data from Add-On CSV

The following code imports data from the Survey Responses CSV into "new_table."

```
COPY new_table
FROM 'C:\LabFiles\Survey_Responses.csv'
DELIMITER ','
CSV HEADER;
```

C. SQL Query to Answer Research Question

The following code answers my research question "Which types of teachers show the highest average evidence of active listening?" I have joined the "customer," "job," and "new_table" tables, filtered by including only jobs that include the word "teacher," grouped by job title, calculated the average of "evidence_active_listening" for each job, and ordered by this average (with the highest averages appearing first). I have also summated the total amount of customers who hold each job title, as sample sizes are often relevant when comparing averages.

```
SELECT
	j.job_title AS job,
	ROUND(AVG(t.evidence_active_listening),2) AS avg_listening,
	COUNT(t.customer_id) AS total
FROM new_table AS t
LEFT JOIN customer AS c
	ON c.customer_id = t.customer_id
```

```
LEFT JOIN job AS j
        ON j.job_id = c.job_id
WHERE job_title LIKE '%teacher%'
GROUP BY job_title
ORDER BY avg_listening DESC;
```

C1. SQL Data File

The data file containing the results of the above query has been attached as a CSV file.

D. Refresh Time Period

The Survey Responses file should be refreshed daily to remain relevant to the business needs.

D1. Explanation of Refresh Time Period

The research question is dependent on customers' job titles, which are theoretically subject to change on a daily basis. If a business relies on accurate information regarding these job titles, the data should update every day to reflect any changes to customers' jobs.

E. Panopto Video

A link to a video recorded using Panopto has been attached. This video shows the above codes, the execution of the codes, and the results on the codes.

E1. Programs Used

In the Panopto video referenced above, acknowledgement of the program used to create and execute the referenced codes (pgAdmin 4) is provided.

F. Web Sources

I used WGU Courseware to learn and create relevant codes to this project, including DataCamp course tracks (datacamp.com) and Dr. David Gagner's Top D205 Performance Assessment Tips.
I used Lucidchart (lucidchart.com) to create my Entity Relationship Diagram.

G. In-text References

There is no content in this assessment which requires in-text citations or references.