The Guac Shop
Integrating Warehouses with BI Tools

The project was a deep dive into Power BI's features, resulting in a well-designed dashboard. It started with fixing the **dim_date** table, followed by installing and setting up Power BI to begin the data analysis process. Once everything was ready, an Excel file- NYS Employment Statistics, containing two worksheets- Employment Numbers and Unemployment Stats, was imported. The calculated column True Employed was added to the Employment Numbers tables to improve its usability and support advanced visualizations.

Line charts were then created for each dataset to highlight trends and patterns. A key highlight was the use of the forecasting tool, where settings were adjusted to match specific goals, offering insights into future trends. This step helped bring the data to life and made it more meaningful.

The project progressed to a more advanced stage with the integration of Power BI and Oracle Data Warehousing. This step required the download and configuration of essential Oracle tools and components, demonstrating technical proficiency and the ability to navigate complex systems. The integration not only enhanced the project by expanding the available data pool but also underscored the versatility of Power BI in connecting with diverse data sources.

In the final phase, the focus shifted to crafting a narrative from the analyzed data. Through a combination of strategic interpretation and visualization, a story was developed to provide deeper context and meaning. This narrative was skillfully brought to life on the dashboard, which featured clear, visually engaging graphs and a user-friendly design that catered to a broad audience.

The result was an interactive dashboard that achieved its purpose of highlighting key trends and patterns while delivering actionable insights. This assignment served as a powerful demonstration of the immense potential of data visualization and analytics when combined with storytelling. It not only emphasized the importance of presenting data effectively but also showcased how insights derived from data can drive informed decisions and foster meaningful understanding.

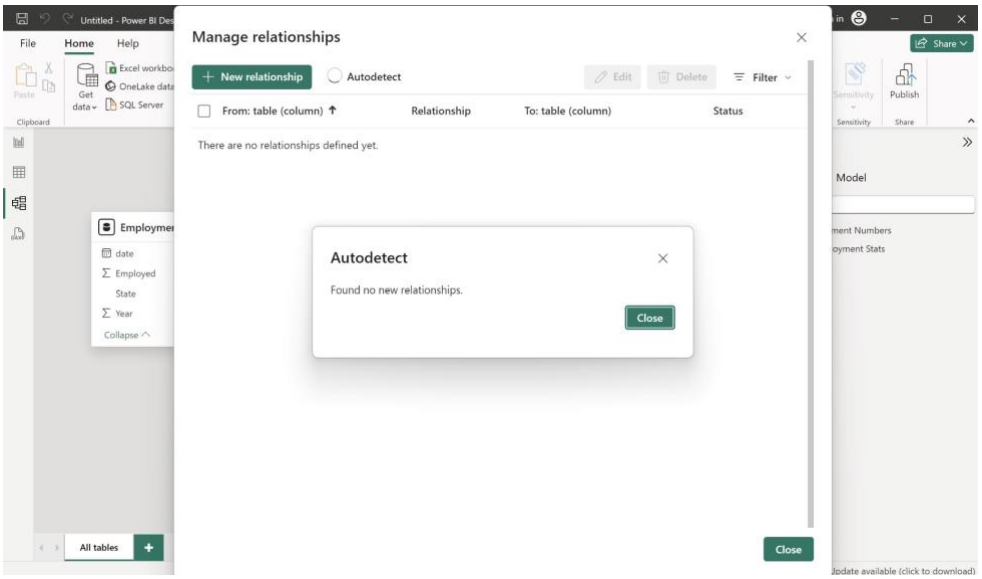
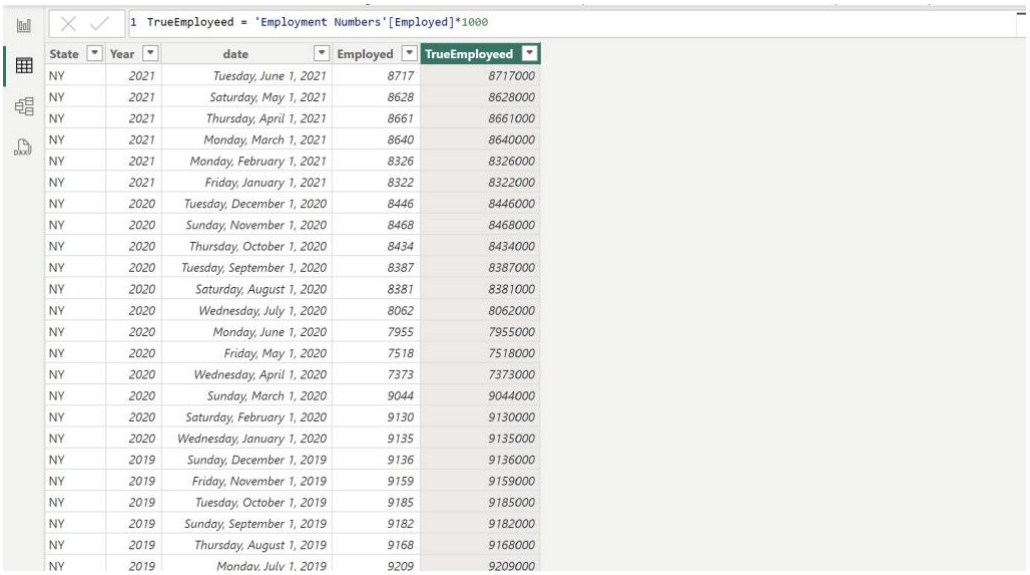


Image 1: No relationship between Employment Numbers and Unemployment Stats tables

There is no relationship between the tables because different date reporting formats are used in each, resulting in no matching rows. Additionally, there is no primary key.



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1 TrueEmployeed = 'Employment Numbers'[Employed]*1000
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State	Year	date	Employed	TrueEmployeed
NY	2021	Tuesday, June 1, 2021	8717	8717000
NY	2021	Saturday, May 1, 2021	8628	8628000
NY	2021	Thursday, April 1, 2021	8661	8661000
NY	2021	Monday, March 1, 2021	8640	8640000
NY	2021	Monday, February 1, 2021	8326	8326000
NY	2021	Friday, January 1, 2021	8322	8322000
NY	2020	Tuesday, December 1, 2020	8446	8446000
NY	2020	Sunday, November 1, 2020	8468	8468000
NY	2020	Thursday, October 1, 2020	8434	8434000
NY	2020	Tuesday, September 1, 2020	8387	8387000
NY	2020	Saturday, August 1, 2020	8381	8381000
NY	2020	Wednesday, July 1, 2020	8062	8062000
NY	2020	Monday, June 1, 2020	7955	7955000
NY	2020	Friday, May 1, 2020	7518	7518000
NY	2020	Wednesday, April 1, 2020	7373	7373000
NY	2020	Sunday, March 1, 2020	9044	9044000
NY	2020	Saturday, February 1, 2020	9130	9130000
NY	2020	Wednesday, January 1, 2020	9135	9135000
NY	2019	Sunday, December 1, 2019	9136	9136000
NY	2019	Friday, November 1, 2019	9159	9159000
NY	2019	Tuesday, October 1, 2019	9185	9185000
NY	2019	Sunday, September 1, 2019	9182	9182000
NY	2019	Thursday, August 1, 2019	9168	9168000
NY	2019	Monday, July 1, 2019	9209	9209000

Image 2: New column in Employment Numbers table

The TrueEmployed Value for Saturday, February 1, 2014 was 8818000.

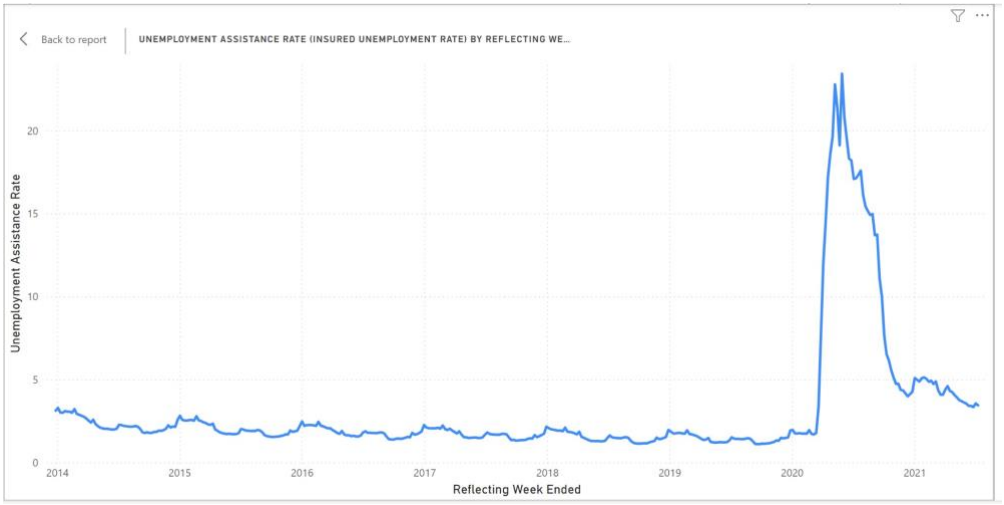

Image 3: Insured Unemployment Rate vs Reflecting Week Ended

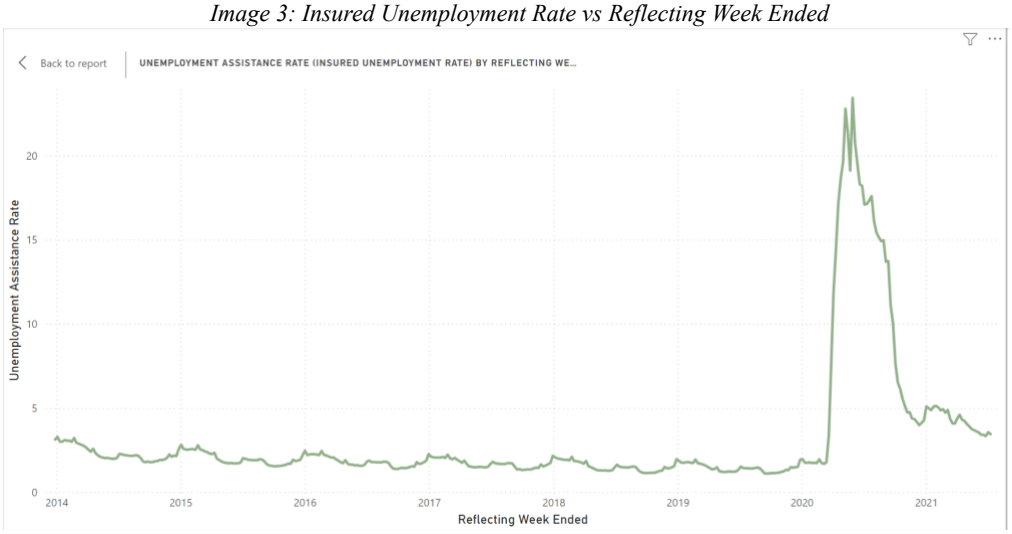

Image 4: Insured Unemployment Rate vs Reflecting Week Ended (Color Change)

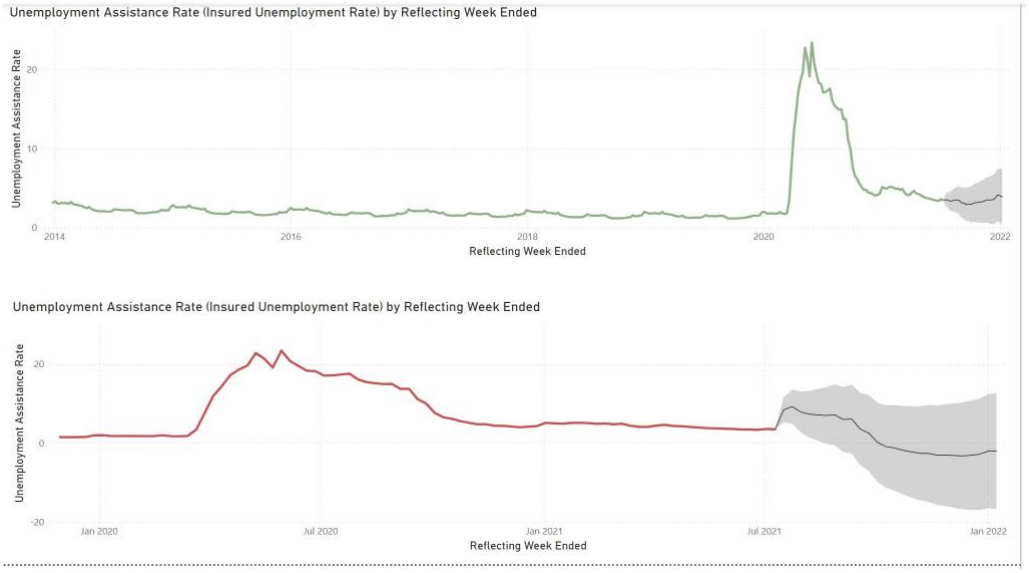

Image 5: Insured Unemployment Rate vs Reflecting Week Ended (Actual and Forecasted for relative date last 5 yrs.)

The unemployment assistance rate remained relatively stable from 2014 to early 2020, hovering at consistently low levels. A dramatic spike occurred around early 2020, coinciding with the onset of the COVID-19 pandemic. This suggests a significant surge in unemployment claims due to pandemic-induced economic shutdowns. After peaking in 2020, the rate showed a sharp decline, stabilizing at levels higher than pre-pandemic norms but substantially lower than the peak. The shaded area towards the end of both charts represents forecasted or expected trends with uncertainty bands. It suggests continued moderation but highlights potential variability in future unemployment rates.

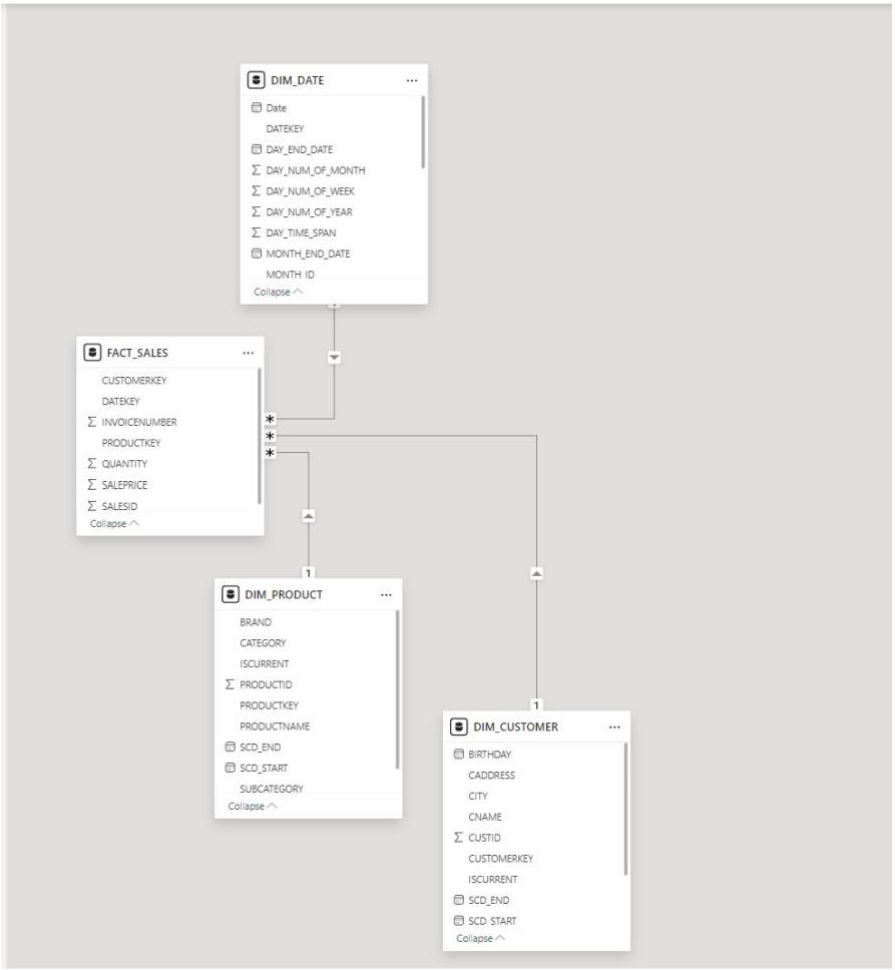

Image 6: Relationship diagram between Dimensions and Fact Tables

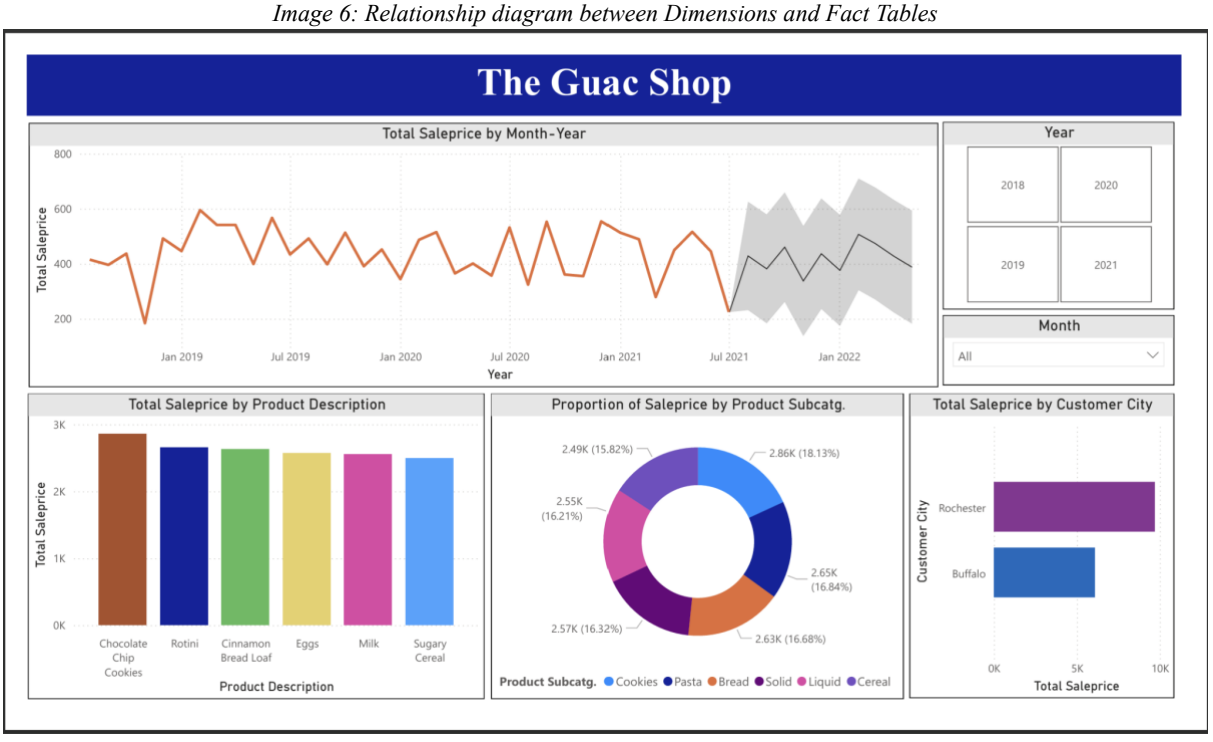

Image 7: Dashboard for The Guac Shop

The storyline begins at a high level, showcasing sales and forecasts on a month-year basis. From there, the business can drill down into product categories to identify which products generate the highest and lowest sales. Similarly, the analysis can be extended to subcategories. Additionally, the business can explore customer cities to determine which cities contribute the most and least to overall sales. Year and month slicers are available to filter the data for specific periods.