

# Titanic Passenger Profile

## Summary

In this project, a dataset containing information about the passengers aboard the Titanic is visualized using Tableau with the aim of analyzing whether factors such as sex, socio-economic class, age, and travelling with family members influenced whether a passenger survived or not. As a result, in the second iteration, an interactive tool is constructed that, when input with the age, sex, and status of a possible passenger, returns information on the fate of passengers with a similar profile.

## Design

I used the following visual elements to visualize the categorization of passengers by sex, socio-economic class, age, and presence of family.

**Packed bubbles** are used to illustrate categorization by sex as the number of combinations was small (4 possibilities) and the bubble sizes brought out the disparity in survivability with respect to sex. It is clear that more females survived than died, while the number of males who did not survive was more than four times the number of those who did.

**Side-by-side circles** show the categorization of passengers by socio-economic class. The height provides an intuitive comparison in the levels of passengers who survived or not in each class. It is observed that in the upper classes, those who survived outnumber those who did not, and the numbers are roughly comparable in the middle class. However, in the lower class, the number of people who did not survive is far more than those who survived.

A **Stack bar chart** comprising of percentage of total count is used to visualize how age affected the survivability of passengers. The bin size was set to 10; the first bin shows infants and children, the second pre-teens and teenagers, and so on. It is observed that the chances of survival were greater (more than 50%) for children (0-10 years) than for those in other age groups. A single passenger in his 80s survived but the sample is too small to draw any conclusions. There is no clear trend in adults.

A **side-by-side bar chart** shows the distribution with respect to the number of family members who were travelling together. The objective was to see if the presence/absence of family affects survivability. However, the direction of the difference between heights of the “yes” and “no” bars varies randomly and hence no conclusions can be drawn about the effect of the presence of family.

A **highlight table** is used to show a summary of the passenger data in terms of the relevant parameters of sex, age, and class. Interactive filters allow the users to set the various criteria of a possible passenger and observe how similar passengers fared.

Please find attached the Initial Visualization: Initial\_Titanic\_Visualization.twbx

## Feedback

The main feedback I received on my initial work was that the numeric summary, while being clear, was not appealing enough. Drilling down into a particular data of interest; for example, the age and class distributions of females who survived, was found to be cumbersome as various filters had to be reset/selected. Further, the descriptions were apparently more like titles than a storyline.

In response to the feedback, I replaced the **highlight table** by a **dashboard** that simply consisted of the previously shown visualizations of the passenger profile with respect to age, sex, and class. However, I included a **filter action** in addition to the usual filters that allows users to simply click on any one of the visualizations and obtain information about that filtered data on visualizations corresponding to the other two parameters. Further, I added a reset filter option that allows users to reset the filters more easily. The family analysis was omitted as it did not provide any insights into the question in consideration.

## Update after first review

The reviewer suggested that the story captions be improved to convey the findings more clearly and provided an example link. I have modified the storylines in the final version accordingly.

Please find attached the Initial Visualization: Final\_Titanic\_Visualization.twbx

## Resources

- Resources from Udacity's course materials
- Tutorials on the Tableau website
- The reset button was created using the instructions in <http://kb.tableau.com/articles/howto/creating-a-button-to-clear-all-filters-in-a-dashboard>
- Description of the variables in the dataset was obtained from <https://www.kaggle.com/c/titanic/data>
- Storyline example <https://public.tableau.com/profile/mat.leonard#!/vizhome/shared/8B7RH9JPC>