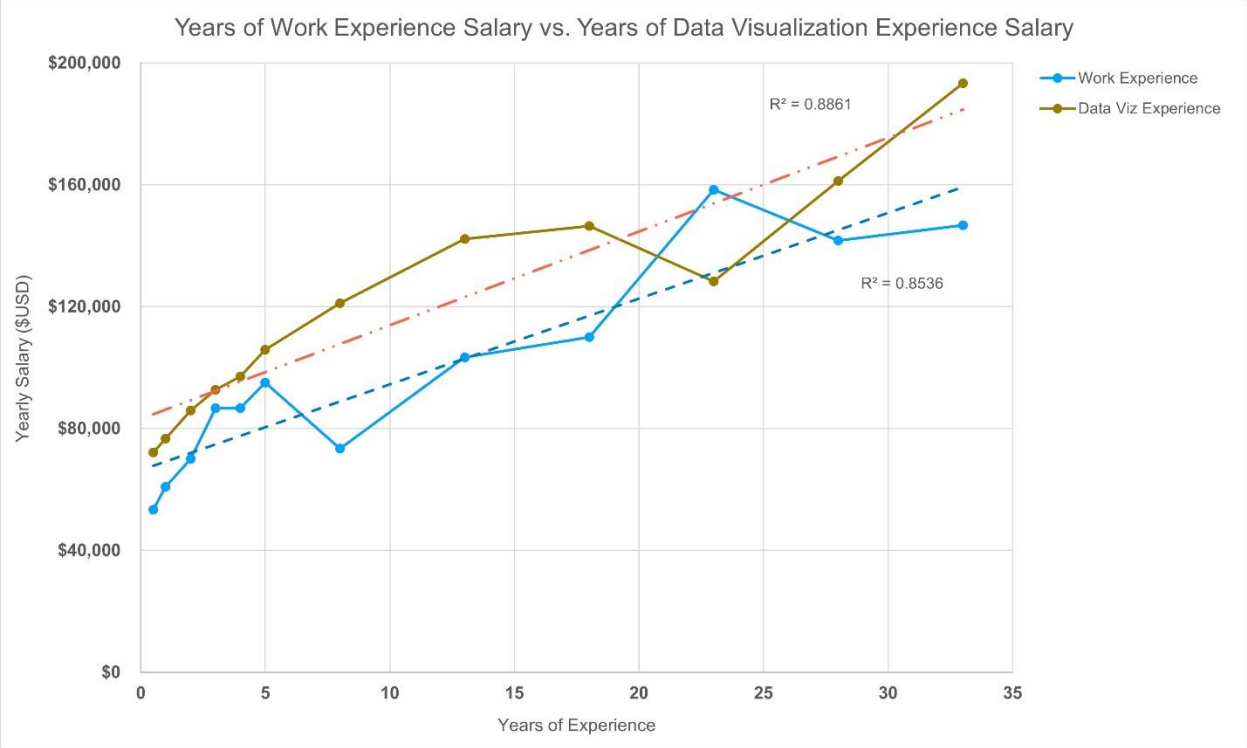
Data Visualization Hackathon



Team Data Visualizers 2

Name (full name)	**Purdue Email address**
Ryan Smith	smit4361@purdue.edu
Grace Combs	gcombs@purdue.edu
Jack Kinzig	kinzig@purdue.edu

Project URL: https://gracecombs5674.wixsite.com/my-site-3

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Data Visualization Hackathon

Introduction

For this project, our group decided to focus on how experience relates to salary, both in terms of work experience and data visualization experience.

Background

The dataset we used was provided to us by the instructor of the course. The dataset is the State of the Industry survey, conducted by the Data Visualization Society. We felt that the scale of the data was great enough to complete the project using it alone, so we did not acquire any additional data.

Questions

We chose to answer two questions for this project: Is there a correlation between both work experience and data visualization experience and salary?

Our audience is anyone interested in data visualizations, specifically people who are thinking about or already have a career in the industry.

We want to provide more insight into how experience affects someone's salary. Also, we wanted to see if data visualization experience can result in a higher salary. This is to, hopefully, guide future data visualizers in where they should focus their work.

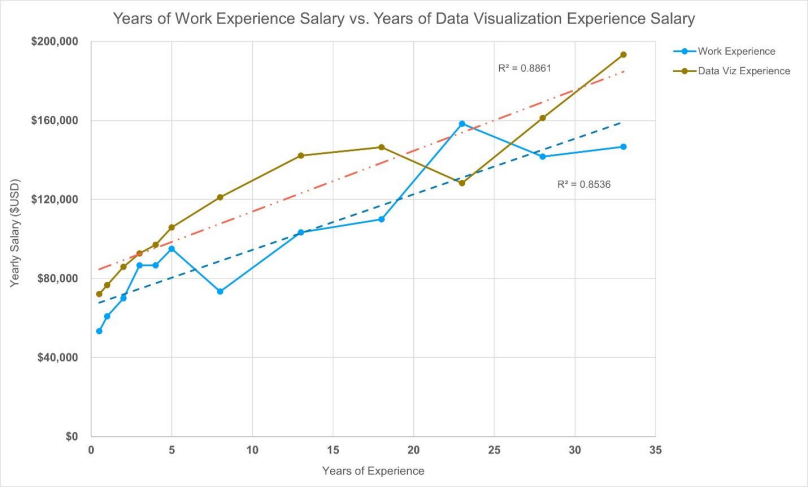
Problem Statement

People should care about our work because it shows how workers with data visualization experience get paid compared to those who don't. If we were to do this again, we would try to create more complex visualizations that are easy to understand. Whenever we made complex visualizations this time, they were hard to understand, so we decided to use simple and understandable ones.

Methodology

After deciding what questions we wanted to answer, we first filtered the data down to the fields we would need. Specifically, peoples' work/data visualization experience and their salary. Additionally, we filtered out any person who did not reside in the US, to keep the salaries consistent due to various costs of living around the world. After looking at several different types of visualizations, we first settled on the stacked bar charts seen in our presentation. We also decided to use a scatter chart to further illuminate the correlation between experience and salary, as well as how valuable each type of experience is.

Results



Salary comparison between years of work experience and data visualization experience.

Made by Jack Kinzig

Discussion (What's the story?) and Conclusion

This figure shows that people with data visualization make more money than people without it for the majority of years of experience. It addresses that people with data visualization experience typically get paid more. We found that having experience in data visualization can help you make more money and recommend that everyone have some experience with it.

References

If references are listed, make sure they are cited in the body of the document. See Purdue Online Writing Lab for how to cite and list full citations. Improperly cited work will be treated as plagiarism and handled accordingly.

Appendix A – Resources Used

Datasets

We used the main data 2021 sheet from the original Hackathon data that was given to us.

Tools used

List all tools used in the project and a brief description (see the *examples* below); update accordingly.

Tool/Application	**Description**
Excel	Data cleaning, data visualization
Tableau	Data visualization
Wix	Web development

Appendix B – Project Web Page

The project web page will be an extension of the final report. You will be allowed to add content to the project web page up to last day of classes. The project web page should contain *(at a minimum)* the following sections:

About The team

List each team member, provide a short bio (150 words or less) for each team member, Provide photo (headshot only) dress appropriately.

The Hackathon Challenge

Describe the team's focus/goal related to the challenge, Who's the audience? What assumptions are made?

Methodology

Describe the team's data visualization workflow and process.

Deliverables

5-minute video (1 pt deduction for each minute over if over 5:00:00 minutes), Hackathon Report, Team agreement (signed by all team members)

Results

This the team's time to shine! Visualizations created by the team that support the team's solution to the challenge, Visualizations must be relevant to the question(s) the team is answering in regards to the visualization challenge.

Conclusions

What insights are presented? What recommendations did the team make?

Appendix C – Percent Contribution

Group Contributions

In this section list the tasks that were completed by all team members for example: contributed to the data visualization process, brain stormed topic ideas, served as rotating team leader, contributed content to the short story (summary), contributed content to the 5-minute video, reading the final deliverable before submission.

Individual Contributions

The Table 1 shows an example of what a team contributions table might look like.

Table 1 Example Team Contribution Table.

Team Member	**Contribution**	**Contribution**
Example Team Member 1	*Developed the project web page, acquired additional data for the project*	*25%*
Example Team Member 2	*Responsible for gathering written contributions from the team and combining them into a cohesive story, data wrangling (parsing, filtering) ,*	*20%*
Example Team Member 3	*Videographer for the 5-minute video (recording and editing)*	*15%*
Example Team Member 4	*Creating visualizations of the data, revising and refining*	*40%*
	Total	100%

In the table below list each team member's full name, their contribution (body of work) and their % of the work completed. The total must add up to 100%.

Team Member	**Contribution**	**Contribution**
Grace Combs	Created the website, made descriptions for visualizations, recorded part of the video.	*33%*
Ryan Smith	Filtered the data, recorded part of the video, and created visualizations	*34%*
Jack Kinzig	Edited the video, made the slideshow, recorded part of the video, and created a visualization	*33%*
	Total contributions must equal 100%	100%

Appendix D – Individual Contributions

In this appendix each team member must contribute a one-page document relating the team's topic/data. The one-page document must contain: (1) a description of the problem, (2) a comparison to the team's findings with insights related to the hackathon data (3) a visualization to support items (1) and (2).

Each person should create their individual page **(1-page only)** and make it available to the designated team member who will upload the final document.

This will be viewed and assessed as part of each person's individual contribution.

Leave this page as is.

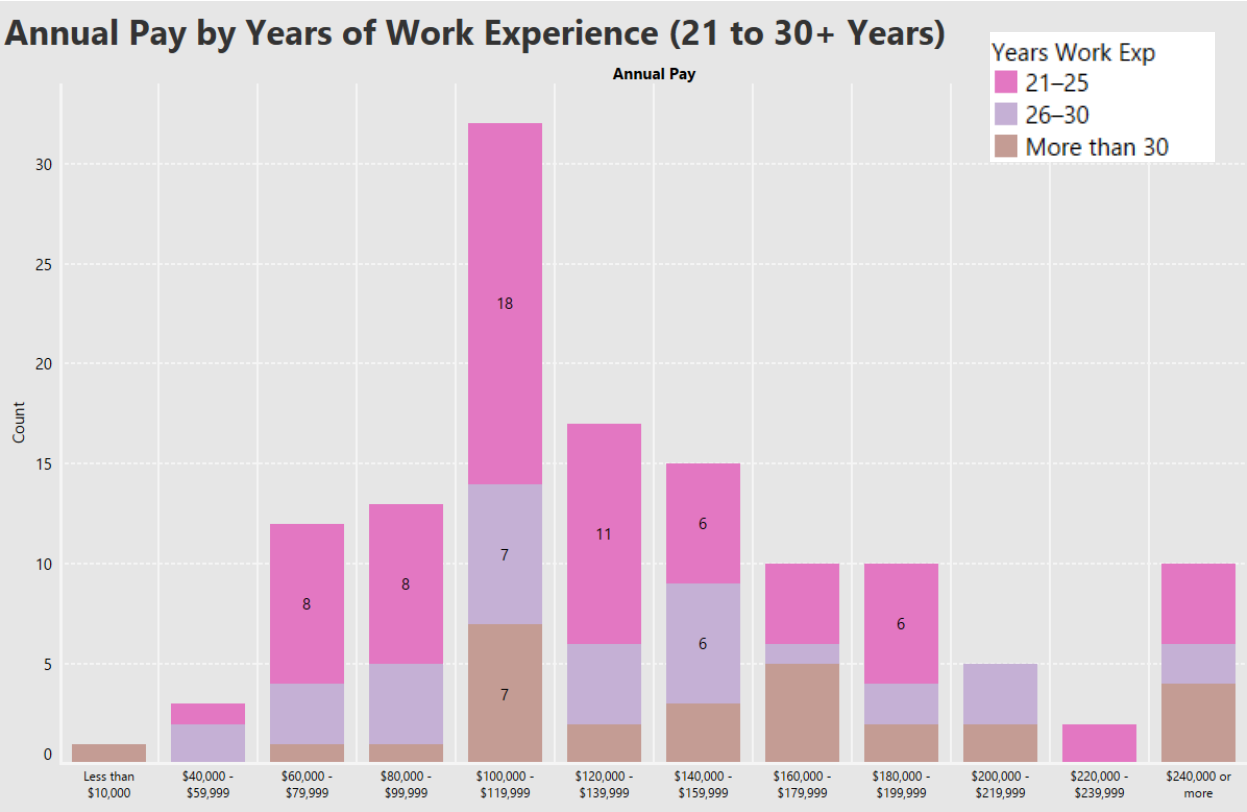
Start adding individual page content on the next page.

REMOVE any blank pages before submitting.

Team Member #1: Grace Combs

Group Topic: Comparing Salary with Work Experience vs. Data Visualization Experience
Your Topic/Question: Comparing General Work Experience to Salary
Describe the diversity YOU bring to the group (150 words or less): I come from a small town and went to an all-girls Catholic school. My small town lacks a lot of diversity, so I am eager to hear stories of other people and learn about their perspectives. Coming from an all-girls school, I learned to work in groups well but lack experience working with men. I am open minded to hear new opinions and learn how other groups of people work together. On the other hand, I as a woman bring my unique perspective based on my life experiences and can provide that during group work and discussion.

Include your story and visualization below (**do not go over one page**). Single spaced, 11-pt font, Times New Roman.



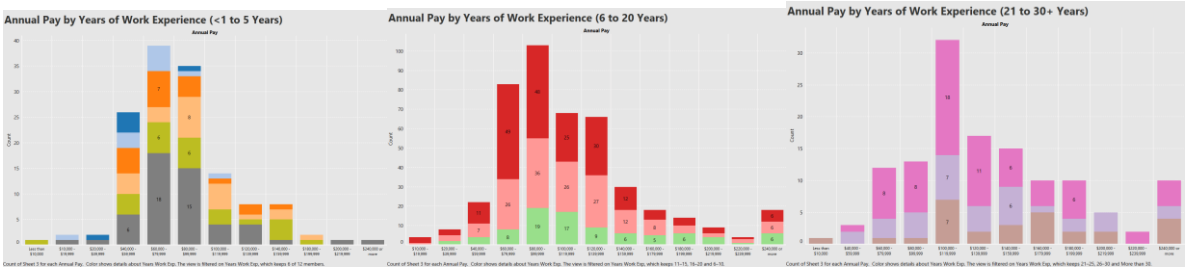
This visualization was created by Ryan Smith, however, I was responsible for creating descriptions of all the visualizations on our website so that we all had equal opportunity to study our topic and understand the impact of our visualizations. Our problem or topic was comparing data visualization experience and work experience to salary and seeing if one was more important than the other. This visualization highlights the differences in salary for people in data visualization positions with 21-30+ years of ANY work experience. We noticed there is a striking number of people within the $100k-$119k range, with the majority of them having 21-25 years of experience. Learning this we were able to continue to make visualizations and compare them to each other and learn that data visualization experience offers a higher salary, but more general experience or data visualization experience correlate with higher salaries.

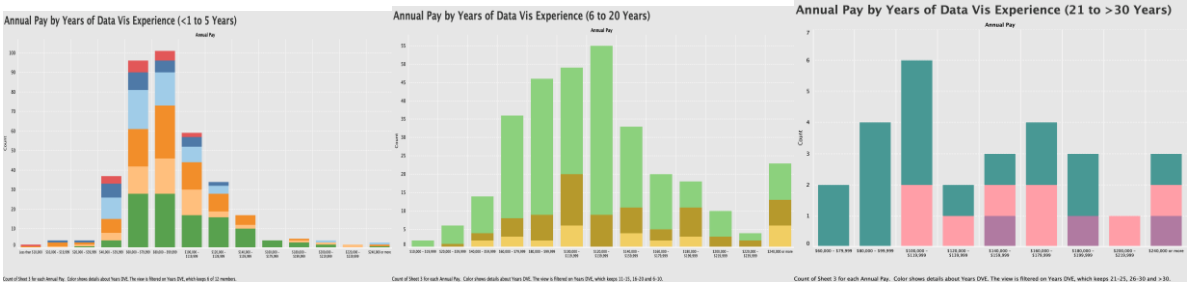
Team Member #2: Ryan Smith

Group Topic: Comparing Salary to Years of Work and Data Visualization Experience
Your Topic/Question: Comparing the salary of different ranges of experience
Describe the diversity YOU bring to the group (150 words or less): I excel well in reading numbers. This makes it very easy for me to clean and filter the data as well as find any outliers within the data.

Include your story and visualization below (**do not go over one page**). Single spaced, 11-pt font, Times New Roman.

The first thing I did was acquire the data and clean it down to just the columns and rows that we wanted to use. This was somewhat frustrating towards the end as I kept finding nulls whenever I would go to make a visualization, so I had to go back and clean the data even more. This happened three times. Once I was able to completely clean the data, I started making a few visualizations that we could possibly use. I made many that I did not end up liking either because they were too hard to understand, or they just looked bad. The only ones that looked understandable and easy to read were the stacked bar charts comparing the salary between work experience and data visualization experience. Also, with these visualizations, I first had them created as comparing all of the different years of experience between the two. This was very confusing and not easy to read or even look at, so I broke it down into three different ranges to get a better understanding. This is when I came up with the new question to compare the different ranges. I thought this was a better idea than just comparing them altogether. The six visualizations are what I ended up making as the final visualizations. By looking at them you can compare which ranges of salary have more people in both of the categories in all three ranges of experience. I also helped work on the slideshow and form conclusions for our work. Lastly, I helped by recording my part in the video explaining the process that we used and discussing my six visualizations.

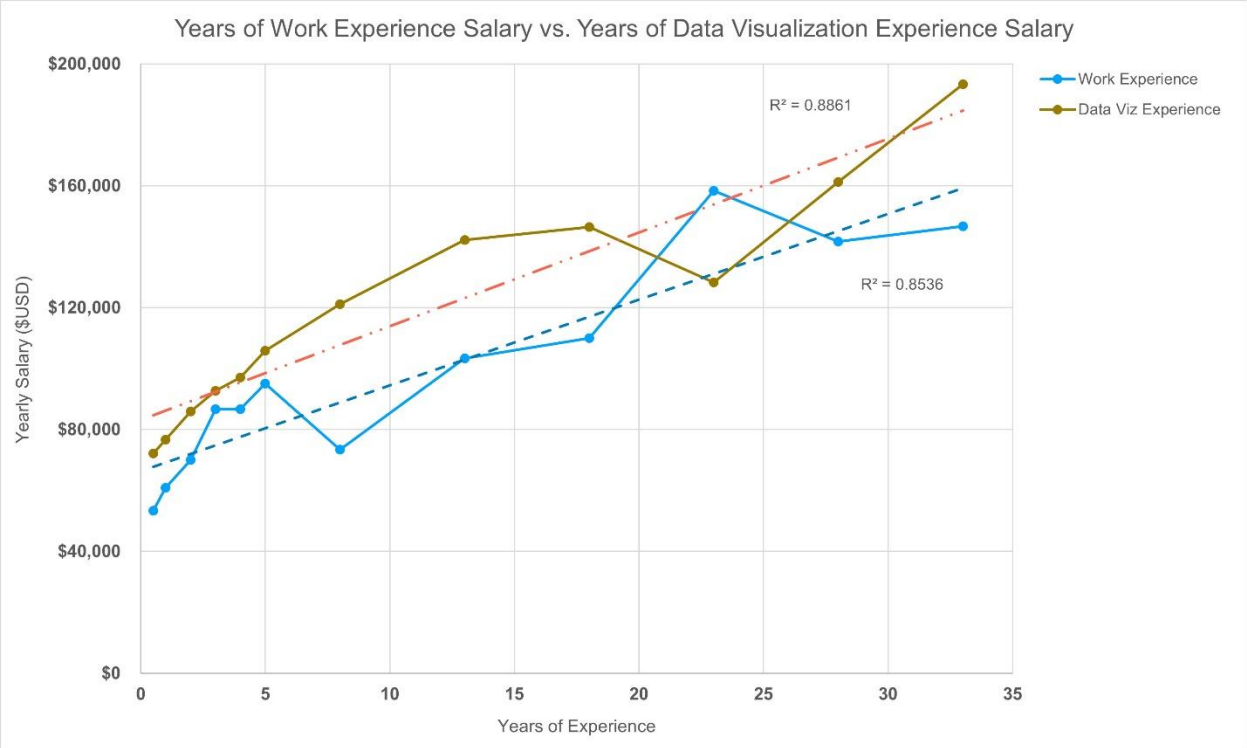




Team Member #3: Jack Kinzig

Group Topic: Work and data visualization experience vs. salary
Your Topic/Question: How do these types of experience compare in terms of salary growth?
Describe the diversity YOU bring to the group (150 words or less):

In terms of diversity, I offer a unique perspective in several ways. For one, I am both a Data Visualization major, as well as a Creative Writing major. This gives me a greater focus on using data to tell a story, which helps improve my visualizations, and further helps the audience understand the point I may be trying to make. In a more literal sense, I also offer a unique perspective in that I am color blind. In a group, this means I can directly critique color schemes and overall designs to help make them more accessible to a wider audience. I'm also a creative thinker, which allows me to offer unique solutions to problems.



Along with this visualization, I also contributed to the project in a few different ways. I helped with the process of creating our other visualizations, and recorded voice lines for the video. I then compiled all of our voice recordings and edited them together with the slideshow.

Appendix E - Diversity Statement

Some of the most enlightening outcomes are generated by diverse teams working together to solve complex problems. What does diversity mean and why is it important? Merriam-Webster defines diversity as: 1) the quality or state of having many different forms, types, ideas, etc., 2) the state of having people who are different races or who have different cultures in a group or organization. When solving complex problems having adequate representation is important. In the context of the hackathon, diversity could mean (but is not limited to): varied perspectives, varied points of view, different academic majors represented, different academic levels (Freshmen, Sophomore, Junior, Seniors) on the team, different ethnicities (state this professionally). Having a diverse team from different backgrounds can boot engagement and productivity and make us smarter (read short article: "How diversity actually makes us smarter").

In the space below, provide a statement describing the group's diverse make up and how the diversity of the group contributed to the outcomes of the team's deliverables for the hackathon. Every team member must contribute to the development of the diversity statement.

Team Data Visualizers 2 is made up of three members: 2 men and 1 woman. We bring diversity in this aspect by having different life experiences based on gender and therefore provide different perspectives. Also, we are all from different majors. Ryan Smith is a Building Information Modeling major, Grace Combs is a Web Design and Programming major, and Jack Kinzig is both a Data Visualization and Creative Writing major. Jack is also a sophomore so he brings more academic experience to the table while Grace and Ryan are freshman. Grace was also a Computer Science major last semester, so she has the insight of someone new to CGT while Ryan and Jack provide more experience. Grace was able to utilize her experience from her Web Development major to make the website, while Ryan and Jack utilized their CGT experience to create visualizations and edit the video. The team worked really well together by constantly checking in and overall supporting a friendly and open atmosphere that included every member. We were able to utilize our different backgrounds and experience levels to create great outcomes.

Appendix F – Team Consensus

Team Consensus

I have read and approve of the content as a representation of the team's work and my contribution.

Print Team Member Full Name	Signature	Date
Jack Kinzig	JGK	4/28/2022
Grace Combs	*Grace Combs*	4/28/2022
Ryan Smith	*Ryan Smith*	4/29/2022

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