2nd OMIS Department

Data Visualizations Competition

Presented by:

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Judge Committee:

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Support / Guidence:

Juan Ramirez (Data Analyst, HAVI)

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Introduction:

The Data Visualizations Competition is an opportunity for the College of Business students to showcase their visualization skills by solving a real-world business challenge (see challenge description below). The goal of the competition is to create visualization/s that can help HAVI to better understand their data and to make an informed decision. A panel of judges will select the top 3 submissions and award prizes and recognition.

Business Challenge: Identifying and Mitigating Supplier Capacity Risks

Supply Chain Planning and Analytics is a key service that HAVI offers. As we are forecasting and planning future demand and orders, we want to make sure that suppliers have enough production capacity available to ensure supply. The goal for the visualization/s is to identify potential future production capacity risks at suppliers based on future demand forecast and recommend effective mitigation plans to address risks.

Participants should consider among one or more of the followings:

- Assess network capacity health level.
- Visualize which supplier will have capacity risks at what time.
- Understand capacity risk sensitivity to the demand forecast.
- Provide insights for potential mitigation options.

Useful tricks/hints for participants:

- A supplier organization might have multiple manufacture sites and can share production capacity across different facilities.
- By looking at different granularity/time window, it might tell us a different story, e.g. If we look at annual level, we might be able to tell if there is a system level risks where we need to add additional suppliers or capacity for long term; if we look at weekly level, we can identify a particular time where the capacity risks might happen for short term and we can leverage some operational mitigation plans.
- During some promotion time period, the demand might peak which will lead to capacity shortage / risks.
- Some potential mitigation options for reference:
    - Build-Up inventory to mitigate the risks of the time period where capcity can not meet demand.
    - The supplier with capacity risks might be able to leverage other suppliers in the system who has additional capacity for the same product; however, there might be additional cost occur.
    - Neigociate with suppliers for more production days during risk time period
    - Think outside the box! Is there other open-source data online that could provide another angle that could help the planning?
- Feel free to make assumption on the business rules and data based on your observations; Please make sure to include the assumption and reasoning in the final submission.

Data Set:

A sample dataset will be shared via email during competition announcement. Once you register to participate to the competition, a sharepoint link will be shared with you to download the full dataset. The data shared is for this competition use only, please do not share them with anyone else.

- Brief description of the main datasets:
    - Dataset 1: Supplier facility weekly production capacity.
    - Dataset 2: Supplier weekly demand forecast.
    - Dataset 3: Supplier organization/company mapping.

Before diving into creating visualization/s, make sure that the data are properly wrangled/cleaned/tidied.

Submission Requirements:

- Participants are required to submit a up to 10mins presentation video/screen recording. The participant should use the video to navigate and walk throught their work to show:
    - How to visualize the capacity risks?
    - How sensitive is the capacity risk to demand change?
    - What insights and actions can be taken to address the capacity risks?
- Submission will be completed via sharepoint. We will use the same sharepoint link also to collect participants' submission. Each participant will be required to upload their submission directly in the sharepoint folder with their full name/zID (we will create a private folder for each participant the day after the registration deadline).

- There are no limitations on the format of their solution. Participants can build a dashboard with navigation and interactions or use multiple charts and leverage them in sequence to tell a story (see judging criteria below).
- There are also no limitations on the tools (tableau, powerbi, python, R, etc.) used to complete the business challenge and they are allowed to leverage multiple tools.
- However, it is mandatory for them to tell a story that clearly explains how they addressed the business challenge/s and what assumptions they made along the way. Another rule is that each participant can only submit one video.

Judging Criteria:

The judges will evaluate the submissions based on the following criteria:

- Informativeness and Usability (40 points): The visualization should be informative and user friendly where users can easily navigate throught the charts and get the information quickly.
- Actionable insights (40 points): the visuals should demonstrate actionable insights that can help HAVI's decision making or process improvements.
- Creativity (20 points): The visuals should be creative and appealing. Be smart about the use of color, chart types, and other creative features to tell the story.

Awards:

The top three submissions will receive the following awards:

- First Place: a $250 Check + Stanley Bottle/Cup & HAVI trinkets.
- Second Place: a $100 Check + Stanley Bottle/Cup & HAVI trinkets.
- Third Place: a $50 Check + Stanley Bottle/Cup & HAVI trinkets

Timeline: The competition will have the following timeline:

- April 2nd: Registration deadline (registration link).
- April 21st: Submissions deadline.
- April 25th: Winners announcement during the MIS Colloquium event [1]

Contact Information: If you have general questions or concerns, please contact the competition organizers at bpalese@niu.edu. If during the competition you have questions about the dataset/business challenge we will make available contact information of the support team in sharepoint.

[1] Winners must be in attendance of the MIS Colloquium (April 25th in BH 301 at 6:45pm) to receive the prizes. Otherwise, the prizes will be awarded to the next best submission created by those in attendance.