Transcribed notes by Gary Gregg.

On Wednesday, January 24, 2018 at approximately 7:50 PM, a standup meeting was held at 164 Savery Hall at the University of Washington. Present were Megan Hazen, Gary Gregg, Jahnavi Jasti, and Abhishek Varma. The meeting lasted approximately 20 minutes. The following topics, or points were discussed:

Recommendations for Data Analysis -

- By e-mail to Gary earlier in the day, Megan suggested normalizing average (or mean) sales-per-month data by dividing by average item count purchased. Our assumption when making conclusions about previous results was that the number of items purchased per month was relatively constant. This assumption is questionable for April 2017 when the store was expected to close, and consignor partners where trying to use up their credits. It is also questionable for back-to-school season, and the holiday season. By normalizing in this way, we may be able to restore the outliers that had been struck from the previous model that shows price inflation. In this way we may also be able to reduce model variance, and obtain a more accurate model.

- Megan suggests trying to determine price increases over time for different categories of items. This may show greater or lesser trends in inflation for different types of items, e.g., shoes, pants, sweaters, etc. If differences exist, these can be visualized by comparative trend lines on a graph.

- The team should look at stationary and non-stationary time series for modeling trends in inflation. Look for relevant scholarly articles on-line.

- For Gary: Try to join **Custdata** with **Sales** and/or **Products** to glean some new insights.

- Gary is currently taking the data visualization course required for the M.S. in Data Science degree. He is learning about Tableau, and a University of Washington tool called "Voyager" (see: https://idl.cs.washington.edu/papers/voyager/). Abhishek and Jahnavi have already taken visualization. Although it is late, it is not too late to consider these tools for exploratory data analysis of the *Kids on 45th* legacy sales data. Also, consider these tools for presentations in the report that will be expected (see "Recommendations for the Final Report," below).

Questions for *Kids on 45th* -

- Question for Elise Worthy: Are there only consignment items in the legacy sales data, or are there also new items as well? We think that there are only consignment items, but uncertainty remains.

- Consignor partners receive 20% off on purchases of new items. Because of this, we believe that they are not currently allowed to use their consignor credit for new items, but only other consignment items. Verify with Elise.

- As a matter of interest, how does Kids on 45th price their new items for sale? Is there a suggested retail price set by manufacturers? What is the markup? Does the retailer have some leeway for setting the price of new items for sale?

Interim Results Presentation Next Week -

- There is an interim results presentation for the class for all teams next week. Visualizations for the presentation that bring out salient features of the research will be important things to show. The presentations will be about 15 minutes per team, with 5 minutes of question-and-answer.

- If there has been an inability to keep to schedule with the research, each team should discuss how they will adjust, and get back on schedule. Look at the proposal to see what results were expected, and when.

- The team will meet either at Chocolati (on N 45th in Wallingford, near *Kids on 45th*), or at the University on Monday, 1/29/2018 to go over the presentation. The presentation will be on Wednesday evening, 1/31/2018 at 6:00 PM. All teams should plan to be in class for the full three hours.

Recommendations for the Final Report -

- *Kids on 45th* is most interested in a report showing the results of research into their legacy sales data. Gary asked how this report should be formatted for maximum professionalism. Megan suggests to make certain of excellent spelling and grammar, and removal of unnecessary verbiage. Also, she suggests clearly understandable visualizations, and clearly delineated sections in the report.

- One goal of the report should be to make suggestions to *Kids on 45th* for how to most please customers (and maximize profitability) through optimal pricing.

- Something to include in the final report: A "Recommendation" section for data collection by the enterprise. See previous meeting minutes where this was discussed.

- Another possible section for the final report would be recommendations on how to "build the business."

- *Kids on 45th* was profitable before the ownership change, but it isn't now. Try to determine what has changed, and if the store can get back to profitability.

- One place to look for insight into customer behavior is determine how customers that purchase both new and consignment items are different. How are their habits different than customers that buy only new, or only consignment items?

Try to Build a Model -

- Team: Try to determine if sufficient data exists to build a model that will be usable by the store for item pricing. Does the data exist for this, and is it good enough quality?

- Gary suggests using a model-view-controller (MVC) software pattern to separate any modeling code from the user interface. Both the model, and the view would have a well-defined interface, so that different instantiations of model or view can be swapped in without changing the other. The “controller” ties the model and view together. Question: What tools exists for application U.I. in Python? “Shiny” and “Bokeh” are Python U.I interactivity toolsets. Are they applicable here? Java-based U.I. APIs are another option, but they would need some glue code to interface to a Python model.

Unrelated Discussions -

- The pricing of Girl Scout Cookies was discussed, as well as the dos-and-don’ts of how to sell the cookies.