**MISM 6214: Business Analytics Capstone - Term: Fall 2023**

**Project Sponsor: NOVICA**

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**Project Description (Deliverable should be an analysis in presentation form. Student will not build tools):**

**General Impetus of Project:**

Amazon.com is a significant retail channel for NOVICA. NOVICA is characterized by rapid product development and a large number of SKUs. NOVICA faces multiple challenges in trying to increase sales on Amazon.com. The first challenge is generating good sales forecasts to be able to stock units at Amazon’s warehouses (FBA). The second challenge is having a large number of SKUs that do well on other channels but appear not to sell on Amazon. This project aims to help NOVICA with these two challenges.

I. Create a method/ formula to produce forecasts for top selling SKUs at the SKU level for a period of 90 days. Forecast can be applied to prior data and compared to actual sales data for effectiveness. Determine potential sales strength based on sales if SKUs were fully stocked. Calculate Weighted in Stock Percentages for certain periods (WISP) based on different forecasting models. Use of AI tools is highly encouraged (sponsor can provide premium/ enterprise version of Chat-GPT with API capability).

II. Perform sales funnel analysis and recommendations based on parameter changes for a set of approximately 5,000 stock-keeping units (SKUs) being sold by our company on Amazon.com. The case-study SKUs will be those identified by the company as having high sales potential (based on sales data from other channels) but that have no or low sales on Amazon. The analysis will consist of the following:

1. Traffic analysis. Identify which items are getting low or no traffic based on the data provided (page views, conversion rate and sales price)
2. Funnel and Conversion analysis. Identify bottlenecks in the sales funnel. In particular: (a) SKUs getting zero or very low page visits (b) SKUs getting a statistically significant number of detailed page views (30+) but no conversions.

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ADDITIONAL PART II OF PROJECT

1. Experimentation (parameter perturbation, basic sensitivity analysis). For each of the bottlenecks identified in (2), perform parameter changes with the goal of increasing sales. Example parameter changes are: (a) Adding paid keywords to low traffic SKUs (b) lowering prices in items with detailed page views but no sales. Participants will design experiments and propose parameter changes and these will be implemented for a determined time period with approval of sponsor.
2. Post-experiment conclusions and basic sensitivity analysis. Participants will summarize overall trends and identify successful practices and costs, as well as notable outliers, etc.

**Data Sources:**

Note -data below will be read only, please download and reupload to excel or a separate google sheet for your project

**Note** - all files now in this folder:

<https://drive.google.com/drive/folders/1JAtea4WfCYd10O0V_IfPjZyIIEGLsHLG>

**AMZ Traffic & Conversion Data (NE Capstone Project)**

<https://docs.google.com/spreadsheets/d/13eupBpc28-Nry9xiKBdeD05oq0R8kL4acZXdRXpBGLM/edit#gid=1494817212>

**AMZ Forecast Project (NE Capstone)**

<https://docs.google.com/spreadsheets/d/17T8scxbcBuf5f3LOZepxXmoetFGcHgTbKZ6MvDdGwH4/edit?usp=sharing>

**MISM 6214: Business Analytics Capstone - Term: Fall 2023 - Comment and questions sheet**

<https://docs.google.com/document/d/1VaXbEgXR2d8ZD22iVUhTSLexFYHDrTPF4GozfvkENRk/edit>

Additional Traffic Data:

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