UMD Data Challenge 2019

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Abstract:

In this data analysis, we focused on the performance of Maryland Small Business Development Center (SBDC) using their dataset. SBDC provides free business consulting as well as group consulting to small businesses. The SBDC dataset includes a number of business success criteria, e.g. business successful start, increase in revenue and new jobs created, for businesses which received consulting over the last 10 years (2009-2018). Following our examination of the socio-demographic and general information about the database, we answered the following question: Are there any factors which can help us successfully predict the status of businesses and socio-economical impacts of SBDC services? To answer this question, we analyzed the data focused on three major factors: (1) Successful start of a business: We detected that total consulting time and group training were among the highest factors which helped predict the success or failure of a business. Furthermore, women-owned and White/Caucasian-owned businesses, in addition to those in Anne Arundel county, showed a higher success rate. "Utilities" industry had the highest success rate, too. (2) Increase in revenue: We found that Total Consulting Time, Total Number of Employees and whether a business attended group training were among the highest key predictors of increase in revenue. Moreover, it turned out that the greatest increased revenue per business and per new jobs created is for woman-owned businesses. (3) Capital Investment: The same predictors for increase in revenue were among the top factors which predicted the capital investment. We found that women-owned businesses had the highest value of secured investment per business. We also analyzed industry-based categorized data which showed that the value of each numerical impact (e.g., increase in revenue or secured capital investment) was predicted with high accuracy using our regression model.