2018 INFORMS O.R. & Analytics Student Team Competition – ENTRY FORM

Entry Number: [2018ORASTC252]

Executive Summary (not to exceed 2 pages)
In this section, provide an executive summary for Principal executives. Your summary should briefly address your understanding of the business problem and how you approached solving it, covering not only the technical decisions and analysis but also the process your team used. The summary should also briefly describe your recommendations to Principal.

Team Makeup & Process
Without providing the names of individuals, describe the makeup of your team and the process your team used in working on the problem. This may include team members' background and experience, particularly as they may relate to the role each member played in the project. In addition, describe the process your team used, including elements such as how the work was allocated, how the team demonstrated the value of team members' ideas, how work from individuals was synthesized into the final analysis. You can also address any challenges and learnings from the team experience.

Framing the Problem
Describe your understanding of the business problem presented by Principal through the written problem statement, the webinar and other interaction with company executives, and their answers to questions posed by teams. Then explain how your team analyzed the requirements and determined the goal of the analysis. This may include determining which constraints to analyze, as well as defining a set of assumptions and key metrics of success.

Data
Data for the problem was provided by Principal. If you used other data or sources, please define them here. Describe any work your team may have done with the data itself, such as rescaling, cleaning, identifying relationships, etc. If your analysis of the data helped to refine your understanding of the business and/or analytics problem, describe that here.

Methodology Approach & Model Building
In this section, describe the decision making process for selecting an analytics methodology(ies). What other methodologies did your team consider and what were the reasons for the final selection? You may want to include discussion and considerations – such as the assumptions that were made, the scope and early considerations—to provide a useful framing for your selection. Then describe and document the chosen methodology and model in sufficient detail and clarity that it can be understood and evaluated. Your selection of software should also be addressed here. Given the multi-disciplinary aspect of the problem, background information may be useful to include or reference.

Analytics Solution and Results
In accordance with your methodology and model, present your analytics solution and results using **two forms:**

- <u>This Entry Form</u>: Present your solution and results in this section, including completion of the Portfolio Performance Statistics chart below. You may supplement your analysis with additional charts, diagrams and/or other visualization; these supplements must be incorporated into this section of the Entry From.

Portfolio Performance Statistics

2007-01-01 to 2016-12-31	Portfolio	Benchmark
Cumulative Return	%	%
Annualized Return	%	%
Annualized Excess Return	%	–
Annualized Tracking Error	%	–
Sharpe Ratio		
Information Ratio		–

- <u>Results Template</u>: Populate and submit your numerical results using the Results Template. This template is provided as a separate file on the Competition download site. You can use either the Excel or CSV version.

References

Please follow guidelines in the *Chicago Manual of Style,* 16th Edition. Here are examples:

– Journal article: Flynn J, Gartska SK (1990) A dynamic inventory model with periodic auditing. *Oper. Res.* 38(6):1089–1103.

– Book: Makridakis S, Wheelwright SC, McGee VE (1983) *Forecasting: Methods and Applications*, 2nd ed. (John Wiley & Sons, New York).

– Edited Book: Martello S, Toth P (1979) The 0-1 knapsack problem. Christofides N, Mingozzi A, Sandi C, eds. *Combinatorial Optimization* (John Wiley & Sons, New York), 237–279.

– Online reference, fictional example: American Mathematical Institute (2005) Better predictors of geospatial variability. Retrieved June 14, 2005, <u>www.mathematicsinstitute</u>.