

Six Sigma in passenger transport

In the current competitive market, many transport companies offer the same services of person transport. The main distinguishing factor in front of users is, most of the time, the quality of these services. Six Sigma can help improve the quality in person transport.

Six Sigma is a data driven process improvement methodology based on **DMAIC** cycle (Define – Measure-Analyze – Improve – Control). Examples of measurable indicators for the specific activity of transport could be: time of travel; workload of the transport vehicle; specific cost of transport as example the cost per km; the number of passengers transported in a certain period; daily average distance, etc.



An example of a successful project using Six Sigma is "Increasing the number of passengers per day on the route x". The key indicator which give the performance of the process and choose to be improved is daily average of number of passengers (C).

In defining the problem, the process is identified and the team which will work on this project. Specific tools this phase (**Define**) for this case was: process map and collect voice of customer VOC.

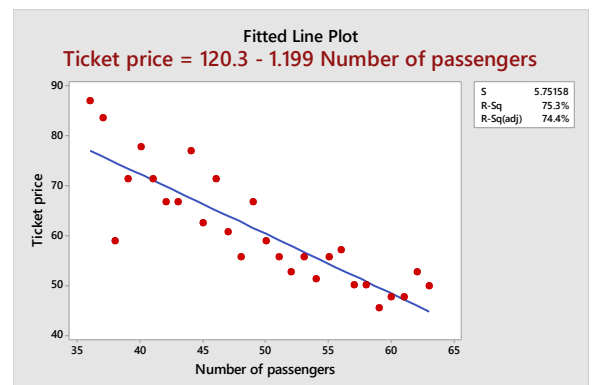
Were collected data for C and for parameters that would influence it, x_i (**Measure**). Identification of factors which influence was done by Brainstorming. C is influenced by: the ticket price (p) the number of companies competing on the same route (n) number of population from the route (N), unemployment in the area (s), etc. These parameters are called potential causes.



Using specific tools, were been demonstrated with data the relationship between the average number of daily passenger and factors that would influence (**Analyze** phase).

Regression was used to demonstrate that ticket prices affects the number of passengers (see picture below).

After finding the root causes, in our case for example the ticket price (p), we proceed to identify solutions that implemented would eliminate or diminish the negative effects for which it was made the project (**Improvement**).



"The acquisition of three new vehicles" was the chosen solution. Expenses with maintenance of old ones rise the ticket price. After implementation costs was reduced, ticket prices (b) was reduced from 10 lei up to 7 lei and the average number of passengers (C) increased from 20 up to 35 (**Control**).

We invite you to Six Sigma courses organized by Effective Flux to reap the benefits of this methodology.