Shepherd Payne Uses Innovative Techniques to Achieve Breakthrough Results for Clients

Achieving breakthrough business results often requires unique approaches towards tough problems.

One Shepherd Payne client had a promising drug for the management of asthma and COPD in stage three clinical trials. The drug needed to be delivered by a pressurized metered dose inhaler, which was proving to be unreliable, with batches sometimes passing, and sometimes failing release testing. This was threatening to delay the launch of a product predicted to generate $1 billion annually in revenue.

Statistical analysis of multiple variables by the client had failed to identify any factors affecting performance. Shepherd Payne was brought in to conduct data mining of existing test results, and after just one day, they began to identify underlying patterns of performance.

Through an innovative application of Taguchi Design of Experiment, critical component dimensions and manufacturing settings of the inhaler were identified and changed to optimize performance.

Shepherd Payne also introduced more rigorous product testing and after the component and process improvements were made, the inhaler’s batch performance increased from 30% to 100%. Shortly thereafter the product received FDA approval and launched ahead of schedule. To date, the product has generated more than $16 billion in revenue.

In another instance, Shepherd Payne was asked to help a client build quality into their product from the beginning. This client wanted to avoid possible issues with the assembly of a nasal aerosol device that would deliver an allergy medication. The launch date was critical to the success of this product and the client wanted to avoid any potential delays.

The device was composed of several small plastic pieces, and it was essential that they fit together precisely to deliver a measured and exact dose of medication.
The plastic components were manufactured by a process called injection moulding. Initially, when the moulds were made, they contained a small amount of extra material. This material was gradually removed so that the mould would produce components to the exact size required, and then it was adjusted through process optimization to reduce variability. Unfortunately these adjustments negatively impacted the dimensions and quality of the plastic components and the performance of the final assembled product.

Shepherd Payne found a way to get more precise results. They reversed the order of things, and conducted process optimization using Taguchi Design of Experiment, *before* the mould was trimmed.

This approach was very innovative for the supplier and an improvement over the traditional trial and error optimization process. Shepherd Payne recommended changes to more than 40% of the process parameters, which ultimately produced high quality results and allowed the device to successfully launch on time.

In short, Shepherd Payne helped their client build quality into their product right from the beginning.

Please contact Shepherd Payne to discuss their process understanding in more detail.