**Project Management: Brooklyn Bridge**

The Brooklyn Bridge, designed and built by John Roebling and son, is a masterpiece of engineering that has particularly fascinated me, as a civil engineer. If we stop to think, when it was built most of the constructions were real challenges for engineers of the time. The main challenges that their creators were found, have been collected in summary form in this post and they showed a remarkable degree of project management skill.

**Planning the project:**Successful execution in the longest suspension bridge until that moment, result of good planning and involvement by the Roeblings.

**Customer management:**Political controversy, because linking two municipalities, as were the suburbs of Brooklyn with the business district of Manhattan, they had to deal with the interests of both stakeholders, and the increasing jealousy from their competitors.

Another challenge Roebling had to face was the financing of the bridge, which came from both municipal governments and private industry. Financing was not always received according to the project plan which not only made completion of the project to any sort of schedule difficult, it also increased the cost of the project.

**Managing Change:**The first change request for the project was received before work had actually started, and it came up to anticipate future demand. The change request was to increase the carrying capacity of the bridge and this was followed by the request  of changing the projected pilings as foundations for the twin towers of the bridge into foundations that needed to rest on bedrock.

**Corrective Action:**The challenge now was how to dig that magnitude of hole, at that deep underwater.

The solution Roebling made up was caissons, based on the diving bell, proving his ability to learn quickly and avoid unnecessary mistakes. Water tight structures lowered into the river until they rest on the bottom. Then, with compressed air pumped into these caissons, they could create a breathable atmosphere where the workers could perform their digging.

Manual excavation would have taken forever and Roebling decided to use dynamite to speed the process. Until that time this all was new for bridge building, so Roebling and his team had to improvise these solutions on the fly, without having an opportunity to prove his methods with pilots.

In the Brooklyn Bridge was also the first time that steel was used for the cables that supported the bridge deck instead of iron as had been done so far.

**Managing the Risks:**Find a solution to perform safely and invented a new technical solution. Sorry for the repetition, but it is true that the Brooklyn Bridge was a bridge of many firsts, that had to be manage with new security measures associated.