

# *The Red Balls Game – Key Lessons*

## There Are Two Sources Of Variation

### *1 Faults of the system (Common Causes)*

- Stay in the system until reduced by management
- Overall level is usually easily established
- Isolation of contributing factors can be by:
  - judgement
  - experiment
  - use of historical data

### *2 Special causes (Assignable Causes)*

- Specific to a certain worker, machine, events, raw material, batch etc.
- Removal of a special cause of variation does not improve the system: it merely reduces the variation to a level that identifies the system's current capacity.
- Removal of a common cause of variation decreases the variability of the process and brings the output closer to the target.

## Key Lessons

- Variation is part of any process
- Workers work within a system that – try as they might – is beyond their control. It is the system, not their individual skills, that determines how they perform
- Only management can change the system
- In a random system workers will be below average sometimes and above average at other times.

## The only way to increase productivity and reduce costs is:

- Improve the system to reduce the variation and number of defects produced
- Remove the inspectors
- The target of 20 defects per day was not achievable under the current process – the only way to achieve that consistently was to improve the process
- In pricing a job we would need to do it at the current processes capability otherwise we could send ourselves broke (and mad trying to hit impossible targets)
- Improving the process is THE most critical issue we could spend our time on as business owners. It is not something we can just ask the most junior member of our team to look at. (Get professional help if it's not your skill set - highly recommended)

*Advise Better  
Live Better*