

## The BOM Squad at Goodman Fielder digs deep to find the Root Cause on the Irvines Pie Line

The **Goodman Fielder – Irvines** site in Auckland New Zealand, have started down their Continuous Improvement (CI) journey with CTPM. Kicking-off their first cycle of improvement activity in October 2015 with three Cross-functional Teams.

One such team known as the ‘BOM Squad’ was formed to better understand their Irvines Pie Line planning processes in SAP, including BOM recipe, so they could *better understand and control material usage variance* they were encountering.

Undertaking the Special Micro Focused Process Improvement 9-Step process, the team discovered there were high levels of material usage variations on the Main Pie Line which was distorting the monthly financial reporting results.

The majority of the material variances were in the pie pastry ingredients of flour, water and margarine. The team needed to understand whether it was caused by the actual practices of the pastry makers deviating from the BOM recipe, if the BOM recipe did not correctly represent the actual pie making process, or if it was or a combination of both.

**Figure 1: The ‘BOM Squad’ Team**



**L to R:** Ofelia – Panning Manager and Team Leader, Manohar – Inventory Controller, Karen – Hub Manager, Henry – Finance, Alan – SAP Guru and Wayne – Distribution Manager

The first thing they did was to ensure that all the shop floor SOP recipes were the same as the BOM

recipe in SAP across all SKUs. Once they confirmed that the two were the same on paper, they decided they needed to check the actual practices on the shop floor.

To better understand what was happening they decided to go out on the floor and observe the quantities of raw materials actually used when making pastry and compare it to the Shop Floor recipe. They soon discovered that was quite a lot of work!

**Figure 2: Wayne and Karen discuss results of Material Usage Audit**



To ensure they put their efforts into the right area to get the biggest impact, they conducted a **Glenday Sieve Analysis\*** to help them prioritise their efforts.

*\*Glenday Sieve Analysis is a method for identifying high-volume production processes upon which to focus process improvement initiatives. The Glenday Sieve approach states that a small percentage of procedures, processes, units or activities account for a large portion of sales, and includes a colour-coding system for labelling processes by output volume.*

The team found that 5 of the SKUs accounted for 50% of volume on the line. They went one step further looking at the “naked pie” (same pie used in multiple SKUs) and *discovered that six pies accounted for 87% of the total lines production*. If they could get those six pies BOM recipes correct

they would eliminate 87% of the possible variances.

To get a better understanding, the team ran through the pie making process on site. When the pies on the continuous line are made, they first prepare the top pastry, and then the bottom pastry is made and sent down the line. The bottom pastry is laid on top of the pie trays and the depositors put the ingredients in. The top pastry is then laid over the pies to seal the ingredients inside. A roller stencil then cuts through the top and bottom pastry, leaving the completed pie ready for baking in the pie tray. The residual top and bottom pastry is pulled off the trays and conveyed back to the start of the line and mixed in with the fresh bottom pastry.

*Then the penny dropped* and through taking a closer look at the process the team realised that the bottom pastry BOM recipe, which had been set up during implementation of the SAP system, had not properly accounted for the volume of rework that went into the pastry. This meant that the material mass equation would never balance as it understates a key component.

The next step for the Team is to quantify the actual percentage of rework pastry that is added to the bottom pastry, in relation to all the other ingredients, to correct the recipe and balance the books.

We congratulate the 'BOM Squad' Team on getting out on the shop floor and making their observations which led to discovering the flaw in their BOM recipes. We wish them well as they refine BOM recipes to reflect actual material usage and minimise material variances.

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