

COMPANY OVERVIEW

COMPANY WEBSITE
www.designergrp.com

Designer Group is a leading International Mechanical, Electrical, and Energy Provider. It was founded in 1992, and is a wholly-owned Irish company headquartered in Dublin with regional offices in Limerick, UK, Germany, Africa, and the USA. Its 2017 global turnover was approximately €180M. It directly employs 1,080 staff across the Group,

and the health, safety and wellbeing of our people is at the core of our business. We aim to do things right first time, every time.

AUTHORS

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OVERVIEW OF THE LEAN INITIATIVE

This case details an internal continuous improvement project and the application of 'Lean in the Office' to improve the Business Process Facility Management (FM) Procurement within the Designer Group Head Office, Blanchardstown Business &

Technology Park, Dublin 15. This was a company-wide Lean improvement initiative with zero capital expenditure.

BACKGROUND TO THE LEAN INITIATIVE

Historically, there was an issue with the efficiency in which we enter our FM orders into our "Redsky" accounting package. Unlike our main business in which procurement is generally in bulk (high quantity), orders carried out for our FM business are of a different magnitude. While the current input order process caters very well for our bulk buys, it is a very tedious and cumbersome process that takes a lot of time for our FM business as they have a higher number of orders with smaller quantities per order.

Prior to this project it was necessary to add multiple details to multiple low value orders on a daily basis, and that work did not add value to the business. Too much detail was required during processing, with an average of 7 items/lines per order required. The procurement department received requests to order goods for FM works. Each item was then added to the purchase orders (PO), then items were selected from a database, and there was a process path to these items varying from 1-to-6 steps depending on the item's location.

There was also an issue with fitting new FM works into the procurement department's policies and procedures. One of the main issues was how to deal with purchasing for reactive works in the FM business. Reactive works created multiple orders that would come into the procurement department daily, which in turn created email backlogs and

resulted in delays for POs for more important areas of purchasing.

Taking the example of one of our government agency customers, the following process was used when buying materials for a reactive maintenance job:

- A ticket was raised on the Designer Group system to correspond to a reactive call that was made to the FM Helpdesk.
- After an engineer was dispatched to deal with the call, a material request was made to the company buyer.
- There was an average of 5 calls per day, which equated to approximately 25 Internal Requisitions per week (100 per month) from FM Engineers for the reactive Government Agency Helpdesk.
- The engineer would obtain the required goods at a wholesaler counter and send a list of items to the buyer – in parallel to the wholesaler sending a quotation.
- On a weekly basis, 25 Internal Requisitions were sent by mail in addition to the 25 quotations received from the wholesaler, yielding an estimated 50 emails per week for this process and equating to 200 per month.
- 100 separate POs per month were also resulting in 100 separate invoices for accounts payable to process.
- Designer Group would then in turn bill the client per month based on the associated ticket number.

LEAN INITIATIVE UNDERTAKEN – LEAN THINKING, TOOLS, TECHNIQUES

One of the Lean initiatives undertaken was to address the 'Failure Demand' that was occurring in the procurement department – in a service organisation this is the demand caused by a failure to do something or to do something right for the Client. Due to the significant volume of orders the department dealt with daily, any form of improvement would have a positive impact on the company. Other steps used along the way included Plan Do Check Adjust (PDCA) and the use of A3s.

Low Value FM Procurement

As part of a financial analysis function of the enterprise resource planning (ERP) system, the database contains cost-

head data. These cost-heads are used for budgeting and reporting purposes against all of our projects. The cost-head system allows us to group various costs up to 9 levels. Each item purchased will go against a certain cost-head in a project so that we can track where the money has been spent. At the same time our estimators budget projects against these cost-heads so that we can monitor where purchases must be made.

As noted earlier, goods are purchased for our FM business in a higher volume but are of lower quantity. The goods are generally picked up at the counter by FM staff. The supplier returns a docket to us containing item details, ticket/PO number, quantity, unit cost, signature (POD), and a total order value. A PO is raised to account for these goods.

The first step was to Analyse the problem. To carry out this analysis, all order details for FM works were downloaded from a selected period. Looking at this chosen data-set allowed us to see what type of spending was carried out by the FM department. The aim of this analysis was to see if we could identify groups and patterns within the ordering data. The following groups were identified so we could find out the frequency on orders with respect to the chosen groups:

- Small value orders are orders that total to €200 or less (“OS”).
- Large value orders are orders that total to above €200 (“OL”).

When comparing the order groups, it was found that the OS group accounted for 52.44% of all orders. It was also identified that the value of OS only accounted for 5.18% of the total value of all the orders from FM. The next step was to identify how to create a more efficient way to process the OS as they accounted for 52.44% of all orders being processed. Any reduction in time on OS would have a positive impact on the overall efficiency and performance of the FM procurement function.

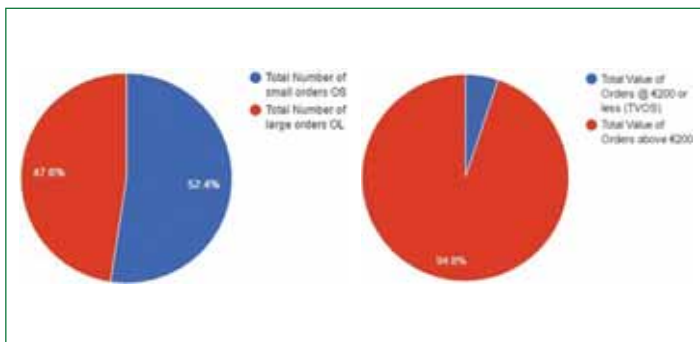


Figure 1. Quantity Vs. Value Analysis.

Therefore, we identified that OS did in fact account for half of the volume of orders, but this did not have a significant monetary value. Due to these findings, the decision was made to create new cost-heads that would be assigned to OS. The aim of this was to reduce the amount of time entering ordering details for the OS as they could all be grouped together as they didn't have that much of a monetary value. This meant they could be grouped together at a high level and could all be grouped under one cost-head level. Grouping the OS at higher level cost-head would result in a lower amount of lines needed for putting through the order into Redsky, thus resulting in a more efficient function where OS were still accounted for, but in a more time-efficient manner.

Firstly, a new menu was created for FM orders in Redsky. To accompany the new menu, two new cost-heads were created in the systems for the FM business:

- FMEXXXXXX for Electrical goods.
- FMMXXXXXX for Mechanical goods.

The purpose of the new cost-heads was to capture the 52.44% of orders that only accounted for 5.12% of total FM spend. Management was happy that orders under €200 would be grouped together for reporting purposes as they accounted for such a small percentage of overall spend. In this case we would only have created one new cost-head for all OS to fall under, but it was decided they needed to be split between electrical and mechanical spend. Now the analysis of these orders (OS) is limited to a breakdown between electrical and mechanical goods only. All the electrical items are added together and added as one line in the order, the same for mechanical items, and there will typically only be one line per OS order with a maximum of two lines. The sum of the

order will match the supplier's docket.

Lean Purchasing for Reactive Works

As part of the Check phase, the procurement department decided to monitor work carried out on a government agency project over a week. It was found that multiple orders per day from the government agency's helpdesk were creating an email backlog and PO delay for more significant areas of purchasing.

Analysis of the Problem

When analysing the problem it was found that there were approximately 50 unnecessary emails coming into the procurement department every week, which equated to 200 unnecessary emails per month. This resulted in the time-consuming exercise of creating an additional 100 POs per month, as well as the processing of an additional 100 invoices for the accounts payable department. This amounted to a very long and unnecessary paper trail that clogged-up the procurement department's inbox, as well as created a very long PO process for orders that were relatively small. Overall, this wasteful process accounted for 17% of all emails being received by procurement in a month.

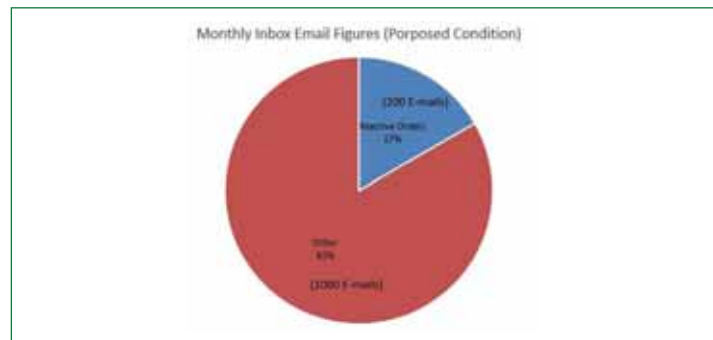


Figure 2. Control Measure.

The new procedure would cut down this wasteful and extensive paper trail, and free-up the procurement department to carry out POs on more value-adding (VA) and significant areas of purchasing. The following steps were introduced to help reduce the backlog that was created by the reactive works purchasing emails:

1. Raise ticket on the system to correspond to a reactive call made to the FM Helpdesk. The engineer is dispatched.
2. Obtain the material from one of two specified wholesalers – strategically located on either side of Dublin – using the job ticket number as a reference (as opposed to the IR number). The wholesaler hands over the goods and keeps a record of the ticket number used to obtain items.
3. The wholesaler quotes Designer Group as buyer on a monthly basis for all materials collected relating to these reactive calls – all through one email issued on the last day of each month.
4. The buyer then raises one PO against this quote which allows accounts to process only one invoice. We bill the client each month as usual, using the ticket associated for each specific call-out.

To ensure the new method for purchasing for reactive works worked and satisfied Designer Group's needs from all departments, the following controls were put in place:

- Monthly review meetings with call-out engineers to discuss in more detail the pattern of materials they are collecting.
- Careful checking of monthly quotations.
- Continuing to bill the client for individual jobs to satisfy their requirements.

LEAN INITIATIVE IMPROVEMENTS & IMPACT

Low Value FM Procurement

The overall impact was a significant decrease in the average time to record an order. Over half of our FM orders were reduced from 6 minutes to 2 minutes – a time saving of 4 minutes per order. To put that saving into context, there is an average of 1,914 small orders per year. The following highlights how much time we have gained from this change:

- Previous 6 Minute Process @ 1,914 orders per year = 11,484 Minutes per year, or 191.4 hours, or 4.9 weeks per annum.
- New 2 Minute Process @ 1,914 orders per year = 7,656 Minutes per year, or 127.6 hours, or 3.27 weeks per annum.

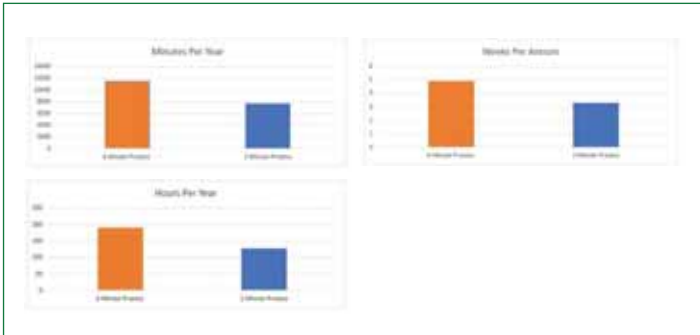


Figure 3. Minutes, Hours, Weeks Comparison Pre and Post Lean.

In an average 39-hour working week, we have gained 1.63 weeks back from this improved process. This resulted in more time being assigned to more VA activities and increasing the overall productivity of the procurement process. Overall, the simplified process is easier to clear shorter tasks and there is a less chance of interruption. Now in our order process, single-line entries sum-up to the total which matches a certain number of lines on the supplier's docket, for example, one-line entry sums to €14.63 while the supplier docket has three lines totalling to €14.63.

Tangible benefits:

- Current average of 7 lines per order. The average order production time is 6 minutes (measured).
- New single line method takes on average 2 minutes (measured).

- This is a time saving of 4 minutes per order.
- Average small order count per year 1,914 taking 7,656 minutes per year = 127.6 hours = 3.27 weeks per annum.

Intangible benefits:

- Simplified process – it is easier to clear shorter tasks, less chance of interruption.
- Deskilled works.

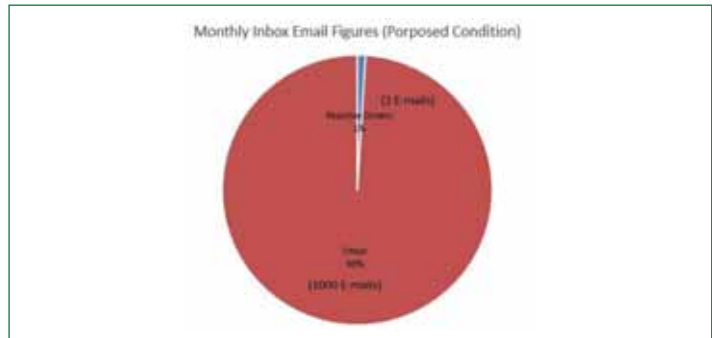


Figure 4. Email Load Post Lean.

Lean Purchasing for Reactive work

Tangible benefits:

- There has been a reduced e-mail count for the buyer of approximately 17% as a result of implementation.
- From an accounts payable perspective, if we consider a 10-minute invoice processing time, we can estimate that 25 invoices per week by 50 weeks per working year yields 1,250 invoices that can be eradicated with this new system, which equates to 12,500 minutes or 5.2 weeks saved per annum.

Intangible benefits:

- Reduced e-mail count of approximately 17% as a result of implementation.
- Faster collection process from an engineer's perspective.
- Trust between Designer Group and specified wholesalers can improve with monthly order.
- Monthly ordering for the reactive contract allows buyer to examine prices with more scrutiny and allows Designer Group to obtain more competitive rates where available.
- Time has been allocated to more significant parts of FM purchasing.