

CASE STUDY



Activities undertaken	Workplace Organisation using 5S and Value Stream Mapping	
Company	The Jarvis Print Group	Nigel Reeves Managing Director
Practitioner	DTI MAS Service North West	Carl Tomlinson Process Improvement Practitioner

Background

Jarvis Print Group is an established and successful private limited company, which prints office stationary, booklets, calendars, business cards, marketing folders and envelopes. The company recently moved to new premises in Trafford Park and has ambitious growth plans. Underpinning the growth plan is the desire to increase profitability through improving productivity and hence avoiding the cost of additional headcount.

Manufacturing Concern

The main issues in manufacturing were caused by a lack of workplace organisation and a production and back office system, which strived to balance capacity through the system rather than balancing the “flow”

- ✓ The work areas were cluttered so abnormal conditions and job progress were difficult to establish
- ✓ Housekeeping standards in both offices and shop floor were not evident
- ✓ Focus on keeping people and machines busy
- ✓ Paper not being delivered for the jobs
- ✓ Constantly changing priorities
- ✓ Incorrect information of the job packets
- ✓ Lots of progress chasing

DTI Manufacturing Advisory Service Activity

Step one: Diagnostic

It was suggested that there was scope to improve the operation by implementing lean manufacturing techniques and the best starting point would to deploy

- ✓ The 5S technique of workplace organisation
- ✓ Followed by Value Stream Mapping

Step two: On-site facilitation and support – 5S and workplace organisation.

The whole workforce of 14, including studio, were introduced to 5S during a 4-day workshop. The team removed unnecessary items from the workplace and set about organising their work area so that tools and materials had agreed and labelled locations. Walkways and floor locations were agreed and the floor was painted accordingly. The same principles were applied in the office area.

Step three: On-site facilitation and support – Value Stream Mapping

Facilitated by the Master Practitioner the Team used the Value Stream Mapping technique to understand more deeply the current process. The current state map showed the actual levels of stock at each point in the process and the cause. The information flow map demonstrated that the planning system was causing production to “push” and build work in

progress in front of fabrication regardless of their ability to process it. Additionally the team realised that the “push” system was keeping the machines and employees busy, by forcing jobs onto the shop before they were actually needed. Moreover, it was realised that the process bottleneck was upstream at the Studio (design) phase before the jobs were released to the shop floor. The downstream operations were being disrupted by poor paper supply shortages and by incomplete job packet information and constant changing priorities.

Workshop activity record

5S Activity



Before the 5S workshop.... very difficult to spot abnormal conditions.... surfaces and cupboards being used to store clutter.



After 5S workshop...“a place for everything and everything in its place!!!” Walkways, bins, and material locations all clearly identified.

Tool boards; ensure operator has all necessary tools available when required. It is easy to see abnormal conditions!



Before



After

5S was applied in the office/Studio; specific locations for files, information and job cards were created.

This resulted in the office area being inviting for customers, less cluttered, more spacious and easier to find information.

Value Stream Mapping Activity



Group technology, product process matrix was constructed to identify 4 value streams

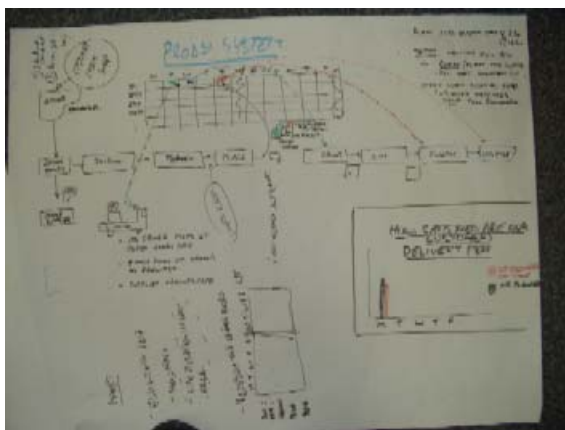
- ✓ Stationary and Flyers 60%
- ✓ Booklets and leaflets 30%
- ✓ Envelopes 5%
- ✓ NCR 5%



The two high volume value streams were mapped. The material flow map identified the ratio of Value added to Non Value added as 7 and 12 %.

Loading analysis showed that the various printing presses only needed to be utilised between 27% and 58% to meet customer demand, including set ups and wash downs.

Process lead-time was found to be 10 and 15 days respectively.



New production control system, features

- ✓ Visual control
- ✓ Employee involvement
- ✓ Kanban squares
- ✓ Demand lead activation
- ✓ Pull paper supply
- ✓ Measures of performance

Developing an Implementation Plan



Following the analysis and discussion the team drew up an implementation plan to transform the current state into a future state. The action plan was constructed in 90mins and had a five-week horizon.

Actions included:

- ✓ Relieve Studio bottleneck by transferring resource from production to Studio
- ✓ Daily paper deliveries, with “fax ban” reorder system
- ✓ Pre cut paper to relieve queuing at guillotine
- ✓ Relay out shop floor to facilitate improved flow
- ✓ Kanban squares marked on the floor control WIP and activate
- ✓ Introduce pull rather than push production system
- ✓ Production planning to be inclusive and shop floor led with 2 production meetings daily
- ✓ SOP Checklists to ensure quality of information on job packets and customer orders
- ✓ Measures of performance

Results

The savings generated at Jarvis are **substantial**.

Saving

- Productivity Improvement 30%, generating additional throughput...
- Reduction in lead-times 50%
- Continuity of paper and job packet supply
- Improved floor layout with value progress through the plant clearly defined

Benefit
£356,000

Total Benefit £356,000