



**Value Stream Mapping (VSM) and improvement of a vehicle hire process**

**Situation**

Our client is a construction business specialising in roads and other civil engineering activities. We were asked to work with a department who provide the vehicles and equipment for their Operations group.

The vehicles are specialist earth moving equipment, road laying and road repair machines. The department plan the provision of vehicles from their own fleet or coordinate vehicle hire from external suppliers and hence act as a one-stop-shop for their Operations group.

Over time, the external hire process had become quite cumbersome, had slowed down, and the client felt that there were steps being duplicated. We were commissioned to facilitate Value Stream Mapping (VSM) and subsequent process improvement of the external hire process. VSM made sense as this was an end-to-end process requiring planning, scheduling, suppliers, deliveries, operations, returns, and invoicing.

**Problem Definition**

The hiring process had to be simplified and speeded up. Duplications had to be removed. The completion of hire requests was being delayed, and too many requests were placed in a backlog. There were complicated scheduling, pricing and administrative queries between Operations, the hiring department, and the suppliers. These had to be investigated and resolved before POs at the start of the process or invoices at the end of the process could be raised.

**Project Scope**

The project focussed on all aspects of the equipment hiring process (from Operations enquiry to supplier invoice) but not the quality or reliability of the equipment itself.

**Measurement Data Gathered**

We drilled into the available data to uncover that 50% of hire requests from Operations took 5 hours (ave) to clarify the requirement, 37% took 22hrs (ave), and 11% took 65hrs. Too many requests took longer than the management target of 3 days just to raise a PO.

40% of hire requests were backlogged due to unresolved administrative queries.

**Value Stream Mapping (VSM) Performed**

Our view is that to maximise the success of VSM it's important to have the right participants in the room when building the map. As well as client participants from Equipment Hire, Operations, IT, and Finance we were also fortunate to have two major supplier representatives as well.

Before delving into a detailed VSM, we began with a SIPOC analysis which was well received and helped give an overview of the process, the customer-supplier relationships, and confirmed the scope of the project.

The VSM was then created on large sheets of paper pinned up on the walls of the conference room. The resulting diagram took many hours to complete and occupied two walls of the room.

Once captured, an analysis was performed on the process which showed a Value Add/Non-Value Add ratio of 5%, 7 duplicated steps, 3 process breakdowns, and in addition a total of 24 process issues were identified. The only “pull steps” were receiving the hire request in the first place, and issuing a request for payment at the end.

### Improvements & Controls Established

The process was revamped. 8 steps were completely removed. The hiring approval process was simplified with all duplications removed. New request e-forms were introduced. A roads costing algorithm was developed which cut time, queries, and improved the accuracy of cost allocations to projects. Electronic invoicing was introduced. New SLAs were agreed between external hires, operations and two major suppliers. New vehicle utilisation reporting was introduced. Process awareness was upgraded via communications packages.

### Metrics

Trend charts show that the lead time to confirm all the details of a required hire was reduced from an average of 18 hours with large variability (2hrs to 73hrs) to an average of 1 hour with virtually zero variability. There was then a 27% (ave) reduction in the time taken to process a confirmed hire request. The number PO's signed off and placed within 3 days was increased by 44% to 87%.

**Benefits Summary:** Here is some of the testimony from the people involved:

- “It feels good to have a resolution to a 15 month issue.”
- “I like how the duplications in my work has been eliminated.”
- “It was good to see the whole process from end-to-end”
- “We had a structured approach to problem solving.”
- “I am now more in control of the process.”
- “The team process helped build relationships.”

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