Value Stream Mapping

Value stream mapping is a lean tool that draws every step needed to bring a product or service from the customer's order to the customer's hands. It shows the flow of materials and the flow of information on one page. The method was described in the book Learning to See by Mike Rother and John Shook, first published by the Lean Enterprise Institute in the late 1990s. Its roots are in the lean practice of Toyota.

1. Choose a Product Family

The first part is to choose one product family, because mapping everything at once is too confusing. A product family is a group of products that pass through similar steps and equipment. The team also decides where the map starts and ends, often from the customer's order to the delivery. A clear scope keeps everyone focused on one flow that matters to a customer.

Example: A bakery sells bread, cakes and sandwiches. Choosing a product family, the owner picks only birthday cakes, which all follow the same steps, and decides that the map runs from the order to the pick-up.

At work: Lina, an operations analyst, is asked to improve a kitchen furniture company. Choosing a product family, she picks standard cabinets and sets the map from the customer's order to the delivery. Her team now knows exactly which flow it is studying.

2. Draw the Current State

The second part is to draw the current state, which shows how the work really flows today. The team walks the process itself, often from the customer end backwards, and draws it by hand. Each step gets a process box with data such as cycle time, meaning how long one unit takes to process. Triangles show inventory, where work waits, and arrows show whether work is pushed forward or pulled by the next step. At the bottom, a timeline compares the lead time, from start to finish, with the time that really adds value. Often the waiting is far longer than the work.

Example: The baker follows one birthday cake order. The cake waits for the oven, then for the decorator, then for the driver. Drawing the current state shows that the cake is worked on for only a small part of its journey.

At work: Lina walks the cabinet flow with a pencil, noting every step and every pile of boards. Drawing the current state shows that most of the lead time is spent waiting in stock between cutting and painting.

This document is a property of Asaseeyat Academy - © Copy Right Protected.

3. Design the Future State

The third part is to design the future state, a better flow for the same product family. The team studies the current map with questions. What does the customer need, and how often? Where can steps connect into a continuous flow? Where should a step pull work with a signal, such as a kanban card, instead of pushing big batches? The aim is a shorter lead time, less waiting and less stock, and the future state should be a realistic target for the next period.

Example: Designing the future state, the baker asks where the cakes wait. She plans the oven and the decorating as one same-day sequence, so a cake no longer waits a full day between steps.

At work: In her future state, Lina links cutting and painting into one flow, and a kanban card tells cutting when to start the next batch. This removes the large pile of boards between the two steps.

4. Plan and Improve

The last part is to turn the future state into a plan. The team splits it into small steps, gives each step an owner and a date, and reviews progress regularly. After the changes, the map is drawn again, because a new current state shows what to improve next. Mapping is therefore a repeating cycle, not a one-time exercise.

Example: The baker plans two steps: first a fixed morning oven slot for cakes, then same-day decorating. Planning and improving in this way, she redraws the map after a few weeks to see the new waiting points.

At work: Lina's plan gives every change an owner and a date, and the team reviews it every week. After the first changes, Lina redraws the map, and the new current state shows the next place where work waits.

Conclusion

In summary, value stream mapping draws the flow of materials and information so that waste becomes visible. Mike Rother and John Shook described the method in Learning to See. A team chooses a product family, draws the current state, designs the future state and then plans and improves. Because the map is redrawn after each change, the cycle never ends. Seeing the whole flow helps teams improve the system, not just single steps.

Sources

- Rother, M. and Shook, J. (1999). Learning to See: Value Stream Mapping to Add Value and Eliminate Muda. Lean Enterprise Institute – https://www.lean.org/store/book/learning-to-see/
- Lean Enterprise Institute: Value Stream Mapping (Lean Lexicon) – https://www.lean.org/lexicon-terms/value-stream-mapping/

This document is a property of Asaseeyat Academy - © Copy Right Protected.