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Using Value Stream Mapping to Integrate Multiple Perspectives in Manufacturing Process Innovation

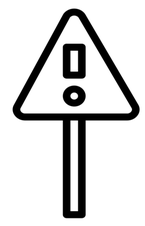
Project Aim

Improve the integration of multiple perspectives during process innovation decision-making by mapping different forms of value.

Innovation Management Challenge

Innovating in silos can lead to:

- Overlooked opportunities for innovation
- Tensions between business function objectives
- Missed opportunities for shared learnings
- Misalignment with overall business strategy



Open Questions

How are the **different value streams compared** and **prioritised**?

Does this approach facilitate consideration of multiple perspectives in **longer-term innovation strategies**?

Proposed Approach

Value Stream Mapping (VSM) is a **lean manufacturing** technique for **visualising** and **analysing** the flow of materials, information and activities in a process.

Visualising different value streams, such as environmental and social value[1], can integrate more perspectives to **inform decision-making** about **why, where,** and **how** to innovate.

Example: mapping different value streams in a manufacturing process

Technical

Tailored for specific industries:

- Hygiene
- Compliance
- Product performance, etc

Environmental

Integrating responsible business metrics:

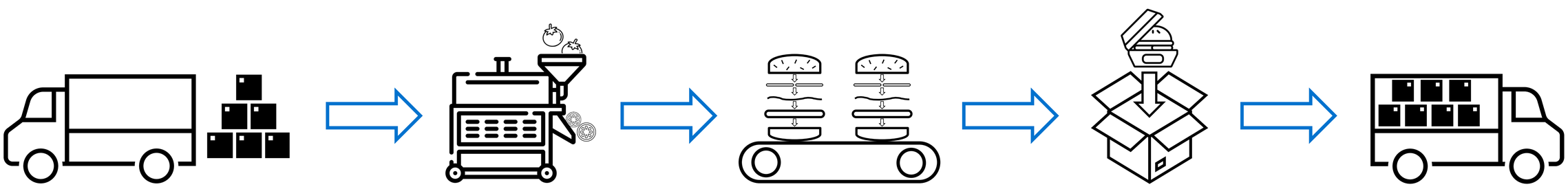
- Material waste
- Carbon dioxide equivalent
- Energy usage, etc

Commercial

From the economic perspective:

- Value added
- Profit margin
- Cost breakdown, etc

Each form of value can be mapped through every stage of a process to inform innovation decisions



Goods in | Material preparation | Product assembly | Packaging | Goods out

Planning

Data and information flows that inform:

- Material ordering
- Maintenance planning
- Machine scheduling, etc

Operations

Traditional VSM metrics:

- OEE
- Throughput
- Downtime, etc

Social

For stakeholders, such as employees:

- Physical work impacts
- Work environment impacts
- Learning and skills development, etc

Novel consideration, increasingly important for innovation involving automation and digitalisation

[1] Faulkner, W. and Badurdeen, F., 2014. Sustainable Value Stream Mapping (Sus-VSM): methodology to visualize and assess manufacturing sustainability performance. *Journal of cleaner production*, 85, pp.8-18.

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