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No	Company			Experience	
	Field	Size[1]	Description	Relevant	Further
5	Municipal Utilities	6.5k	Process Manager	6 years	Lean Six Sigma Greenbelt, ISO14000

[1]k = 1,000

Similarities and Differences - Overlaps and Deviations in Terms of Objectives, Methods and Underlying Philosophy

The avoidance of waste is the essential overlap. Optimal resource utilization fits in very well with a zero-defect strategy.

LM has been economically interesting for companies for some time, but in the future CO2 balancing or neutrality will become relevant; also from the point of view of customers, investors and legislators.

Reporting is being expanded to include corresponding sustainability aspects and is durchaus important for customers. VSM can be used for CO2 balancing, as it creates a standardized framework for processes. The CE context of one's own processes must be known when collecting data in order to unlock potential.

In principle, monetary values are decisive and LM helps with appropriate optimization. In this context, however, savings can also be realized by reducing resource consumption.

CE aspects are less well anchored in LM and in the past energy was too cheap and corresponding efforts were not interesting. However, a political and social change is now bringing new motivation and ensuring that companies take environmental aspects seriously. CO2 taxation can be an effective means of reducing the impact of actions in the present on the future. Companies need to consider and offset the total cost of ownership for the entire life cycle. However, CE must be worthwhile for companies. R-strategies such as refurbishing large plants and machines are done because money can still be made with them.

Conflicts arise from the more global-societal approach of CE and the more local-business management location of LM. Historically, LM was more embedded in the social context and can also be lived in this way; in practice, companies tend to limit themselves to their direct environment and, to a certain extent, the supply chain. However, if the return of material is part of the competition or a legal requirement, a return is also possible. For example, washing machines can be easily returned to retailers and the collection of the old machine is part of the service offering. Although additional transport is a waste in LM, this is only the case if no customer benefit arises from it. If, on the other hand, the transport is part of the customer's request or the service, it can be accepted.

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Synergy Effects and Target Conflicts - Interactions and Results in the Joint Implementation of CE and LM

In principle, process changes require an order from the customer, the company management or legal framework conditions. Derived from this, KPIs must make the corresponding measures transparent and document the current status. A vision or mission statement leads to tasks and strategies. Electricity from PV for the e-car is a sensible combination, but the investment must be in proportion to the expected added value. In practice, the lean manager must be made aware of goals and waste outside of classic LM in order to receive impulses.

Synergies must be sought. For example, waste from food processing can be burned to generate electricity. Corresponding production volumes may make a corresponding on-site plant economically viable and reduce transport and handling costs. However, R-strategies also make process management more complex. More data must be collected and more information processed. Data protection and fraud security can become relevant in this context in addition to the purely environmental aspects. The ideal LM in the company ultimately no longer has a lean manager because all employees are trained and act accordingly. Companies with lean organizational structures are generally flexible and adaptable, and CE is a new topic that can be tackled well. The corporate culture is also a relevant factor for this. In principle, rethinking and implementing requires more conviction, especially in individualistic economies, but taking responsibility promotes innovation in the long term.

Well-implemented LM leads to favorable products and the customer is satisfied if he receives a qualitatively suitable product at the right time and place. If the product is also environmentally friendly, this is often a welcome bonus.

Conflicts between CE and LM can occur, for example, in process optimizations. The use of automation is usually associated with energy, cooling water or compressed air consumption. The balance area must therefore be large enough to be able to adequately evaluate CE and LM measures.

To balance CE and LM, CO2 balancing in the context of VSM is certainly a viable means and supports Corporate Sustainability Reporting (CSRD).

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Further Thoughts on Strategies, Methods and Tools

5S is certainly also good for making waste visible in the CE sense. Garbage and dirt can go hand in hand with CE goals as well as LM goals.

A practical example in the context of Recover would be the re-burning of slag from waste incineration in special incineration plants.