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Practical Tips to Address Waste

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Introduction

When looking to improve processes, organizations often look to eliminate or reduce waste. Over time, when left unchecked, processes can inadvertently become bloated with non-value adding activities that aren't strictly necessary.

Removing these 'wasteful' activities can create significant benefit - it often reduces cost whilst simultaneously improving customer experience. It reduces delays whilst also cutting down the effort required to undertake the work - a proverbial 'win/win' outcome.

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Additionally, if we really want to ensure our processes are efficient and effective, we need to ensure that new waste doesn't creep in as time progresses. How can we balance these tricky objectives?

Stepping Back: To Understand Waste We Must Understand Value

Few people would argue against the need to reduce avoidable waste.

Yet, before setting out to make improvements, it is extremely important to step back and think about what we mean by 'waste'.

This sounds counter-intuitive - surely it is obvious? Surely we all have a shared and instinctive understanding of what we mean and what we are trying to achieve by eliminating waste?

Whilst this might be the case, it is perhaps more likely that different stakeholders within an organization have subtly different understandings of the term. Crucially, in some organizations 'eliminating waste' seems to have morphed into a generic buzzword that means 'saving money' or even 'cutting services'.

The original intent was quite different. In the book "The Toyota Way", Liker describes how Toyota approach this:

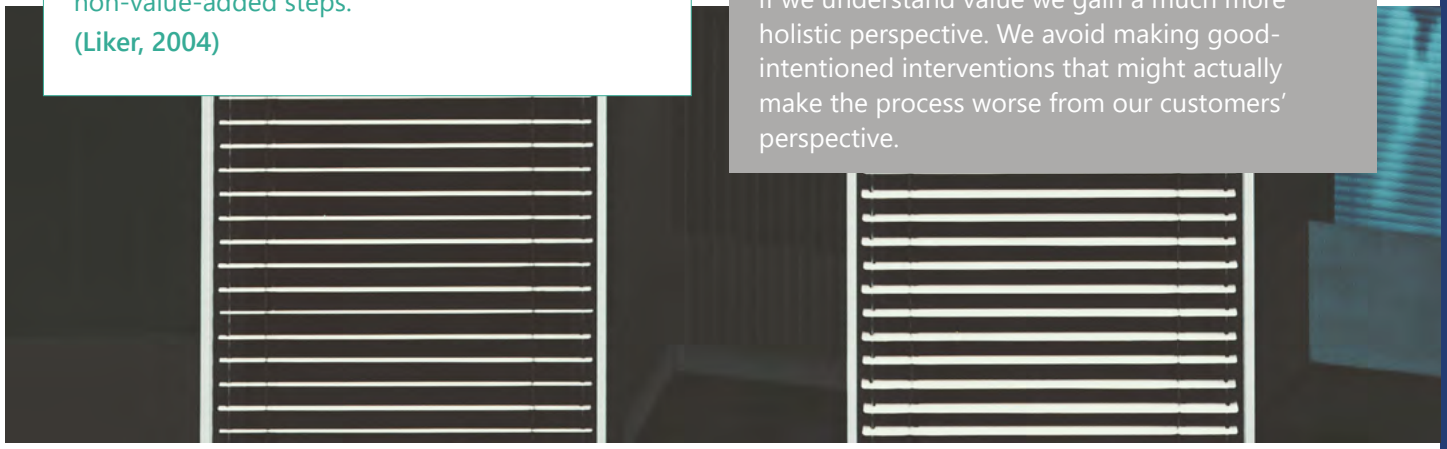
> "The first question in [the Toyota Production System] is always "What does the customer want from this process?" (Both the internal customer at the next steps in the production line and the final, external customer.) This defines value. Through the customer's eyes, you can observe a process and separate the value-added steps from the non-value-added steps."
> **(Liker, 2004)**

Liker's observation is a crucial one - we can only understand waste by understanding value. And to understand value, we have to understand the needs of our customers.

Therefore it is crucial we start by establishing who our customers are, and that we truly understand their needs and demands. We can start by identifying who receives the output of the process, and by understanding how they are using it, their needs and what they value.

We should actually talk to real customers to understand and empathize with their needs. Interviews, questionnaires, focus groups and similar techniques can be effective techniques.

By turning the conversation around - and by accepting that we can only understand waste if we understand value we gain a much more holistic perspective. We avoid making good-intentioned interventions that might actually make the process worse from our customers' perspective.



Categories of Waste

Toyota identified seven generic types of waste, with Liker adding an eighth. These are listed below. It is useful for us to keep these types of waste in mind when assessing processes, but I would argue (perhaps controversially) that it is also important for us to remember that this is just a guide.

We should not be dogmatic about the categories - in the real world there are shades of grey and if it makes sense to consider a ninth (or tenth) type of waste in a specific context, then that is fine. Our ultimate aim is to improve the process and eliminate non-value adding activities wherever feasibly.

However, the generic types of waste provide a firm foundation and a useful aide-memoire. These are listed below with examples proposed against each:

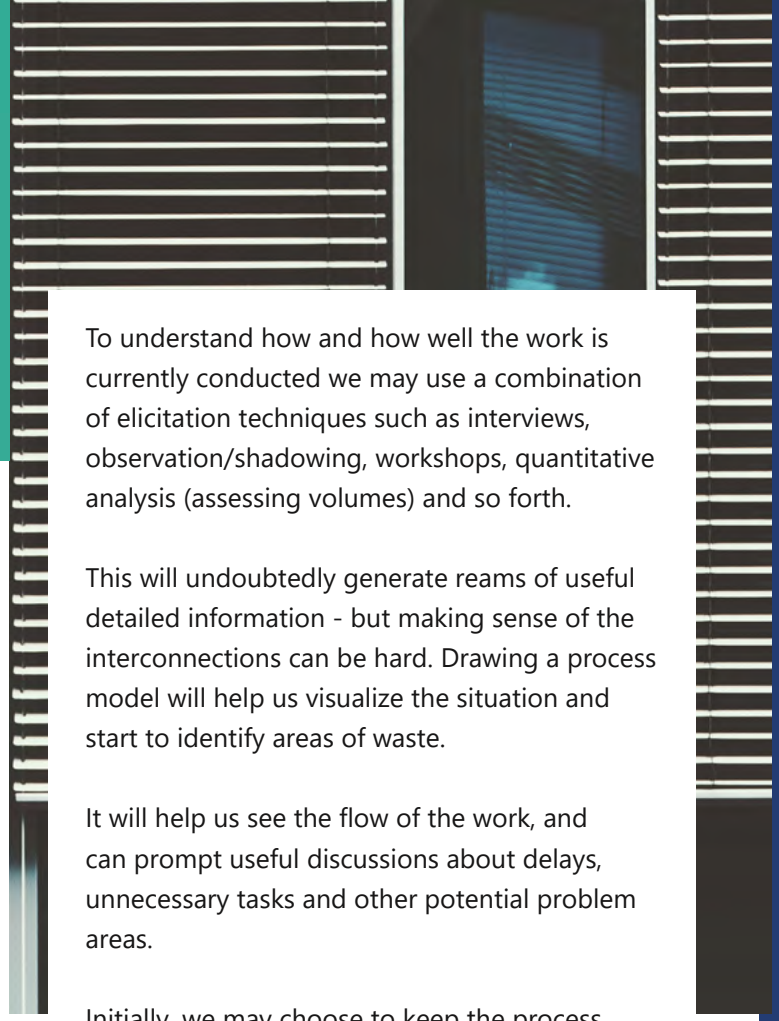
Waste	Manufacturing Example	Service Example
Overproduction	Producing excess items when customers have not yet been identified/ orders have not yet been received.	Sending excessive information when it is not needed. Carrying out processing long before it is needed.
Waiting	Having to wait due to bottlenecks, constraints, non-availability of machines etc.	Having to wait due to bottlenecks, constraints, non-availability of IT equipment etc.
Unnecessary transport or conveyance	Moving part-finished goods an excessive distance between steps.	Unnecessary 'hand-offs'. Needing to send files (physical or electronic) to other teams or departments unnecessarily.
Over-processing or incorrect processing	Taking unneeded steps, over-engineering (producing an excessive quality when it isn't required) or incorrect process leading to defects.	Collecting data that is not necessary. Collecting (or keying) the same data twice. Having to maintain data in multiple locations/systems.
Excess inventory	Stacks of raw materials or part-finished goods.	Having deliberately prospected more sales leads than the organization has the capacity to approach in a timely manner.
Unnecessary moveTment	A worker needing to move/reach for tools unnecessarily.	Finding/searching for files or information (physical or electronic).
Defects	The creation and correction of defective products.	Incorrect data entered into a system. Incorrect paperwork sent to a client.
Unused employee creativity [Liker's 8th waste]	"Losing time, ideas, skills, improvements, and learning opportunities by not engaging or listening to your employees". (Liker, 2004)	

Figure 3: Types of Waste, adapted from Liker (2004)

It should be noted that others have proposed additional types of waste that are relevant in a service environment - for example Delays, Customer Satisfaction, Duplication, Lack of Communication, Lost Opportunities (see, for example, Meibock, 2015).

The relevance and relative importance of each waste will depend on the context. The priorities in an acute healthcare environment may be very different to an insurance call-center, and relative terms like "excessive inventory" may vary significantly depending on the context, yet using the generic list of wastes as a starting point is beneficial.

Start by Eliciting and Modeling the Process



Simply knowing the categories of waste will not by itself help us improve our processes. Assuming we are aiming to make incremental changes to an existing process (rather than re-define it from scratch), an important first step is to understand how work is currently conducted.

This will involve spending time with various stakeholders including front-line workers. Incidentally, often front-line workers have a unique perspective on what customers really value.

They hear the compliments and complaints of customers daily, and hold crucial knowledge about what works and what does not work. Ensuring that they are engaged throughout any process improvement initiative is crucial.

To understand how and how well the work is currently conducted we may use a combination of elicitation techniques such as interviews, observation/shadowing, workshops, quantitative analysis (assessing volumes) and so forth.

This will undoubtedly generate reams of useful detailed information - but making sense of the interconnections can be hard. Drawing a process model will help us visualize the situation and start to identify areas of waste.

It will help us see the flow of the work, and can prompt useful discussions about delays, unnecessary tasks and other potential problem areas.

Initially, we may choose to keep the process model very informal - indeed, if we are co-creating one in a workshop, we may choose to use sticky notes on a wall or white-board. Over time, there is benefit in refining the process model and settling on a standard notation such as BPMN.

This has the advantage that we can communicate rich detail in a very concise manner, and can also create different 'views' of the process for different stakeholders. We can zoom in and zoom out of our process model depending on who we are speaking to.

In any case, a process model (when read along with the other information that has been elicited) is a useful tool for assessing waste. Bottlenecks and waiting time can be highlighted, statistics can be added, and it can be used to drive a useful conversation with the process stakeholders.

An initial informal sketch, which could be used to drive these conversations, is shown below. During these conversations it's important not to be too previous about the 'categories' of waste, but to focus on the improved outcomes that are sought.

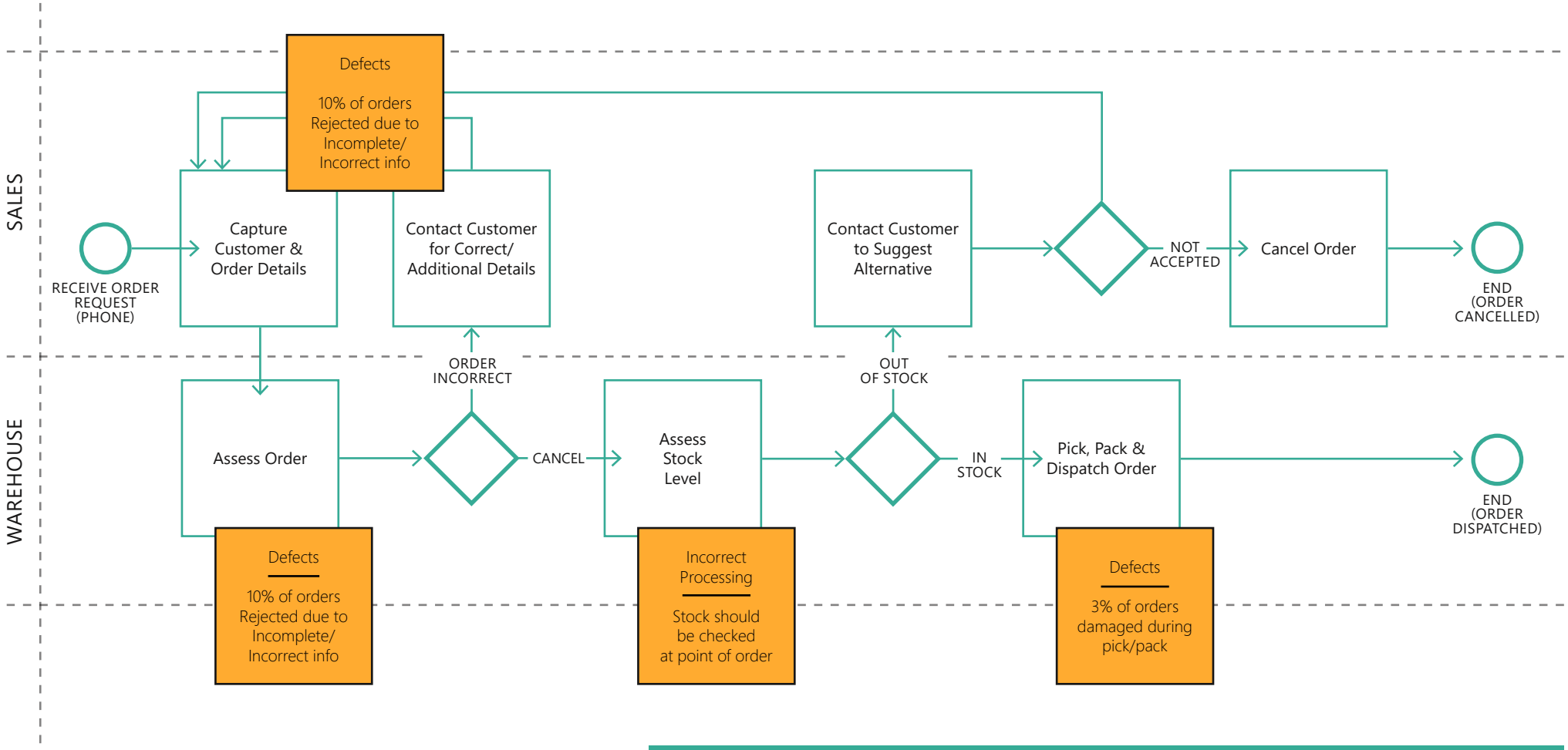


Figure 2: An initial informal sketch of a process, with some potential areas of waste highlighted

Hunting Waste: It's a Group Effort

It is tempting to think that process analysis can be conducted in a quiet office by a suitably experienced individual. We might think that we can go out, elicit information about the 'as is' process and then work alone to formulate recommendations for improvement.

This is of course possible to an extent, and we may well generate some preliminary ideas or discussion points, but it is often far more enlightening to foster a discussion. By involving relevant process stakeholders we gain a cross-functional view of the problems and waste in the existing process, along with an understanding of the implications of any proposed improvement intervention.

We should also involve the customer - or more likely - at least one person who is charged with advocating the customer's perspective. Jeff Bezos, CEO of Amazon, allegedly leaves an empty chair at key meetings as a symbol for the end-customers who cannot be physically present (but must be considered). Ensuring that there is some mechanism for the customers view - and in particular their perspective on what constitutes value - is crucial.

As well as the shape of the process, it is important that we study 'demand'. What types of request/ demand is the process (or are the processes) needing to deal with, and how much of this is failure demand - perhaps caused by a mistake, defect or the fact that the process is 'broken' in the first place.

It is important that we analyze failure demand to understand the root causes. Having the relevant data available will help us make evidence-based decisions.

Well facilitated workshops can be a useful forum to discuss potential problem areas and areas of waste, particularly when different areas or teams are involved together. This helps build a common understanding of any problems, and also helps ensure that there is buy-in to any proposed solution.

It can be useful to consider each step in turn and challenge ourselves to critically assess it. We can ask the question of each activity "is this truly value adding/value enabling?"

Value Added or Value Enabling?

When considering each step or task in a process, it is useful to consider whether it is adding value to a customer [or other process stakeholder].

This is perhaps a controversial view; some would say that we should only (or primarily) consider whether each step is adding value to the end customer. However, in practice there are many indirect customers or broader stakeholders who have an interest in our processes.

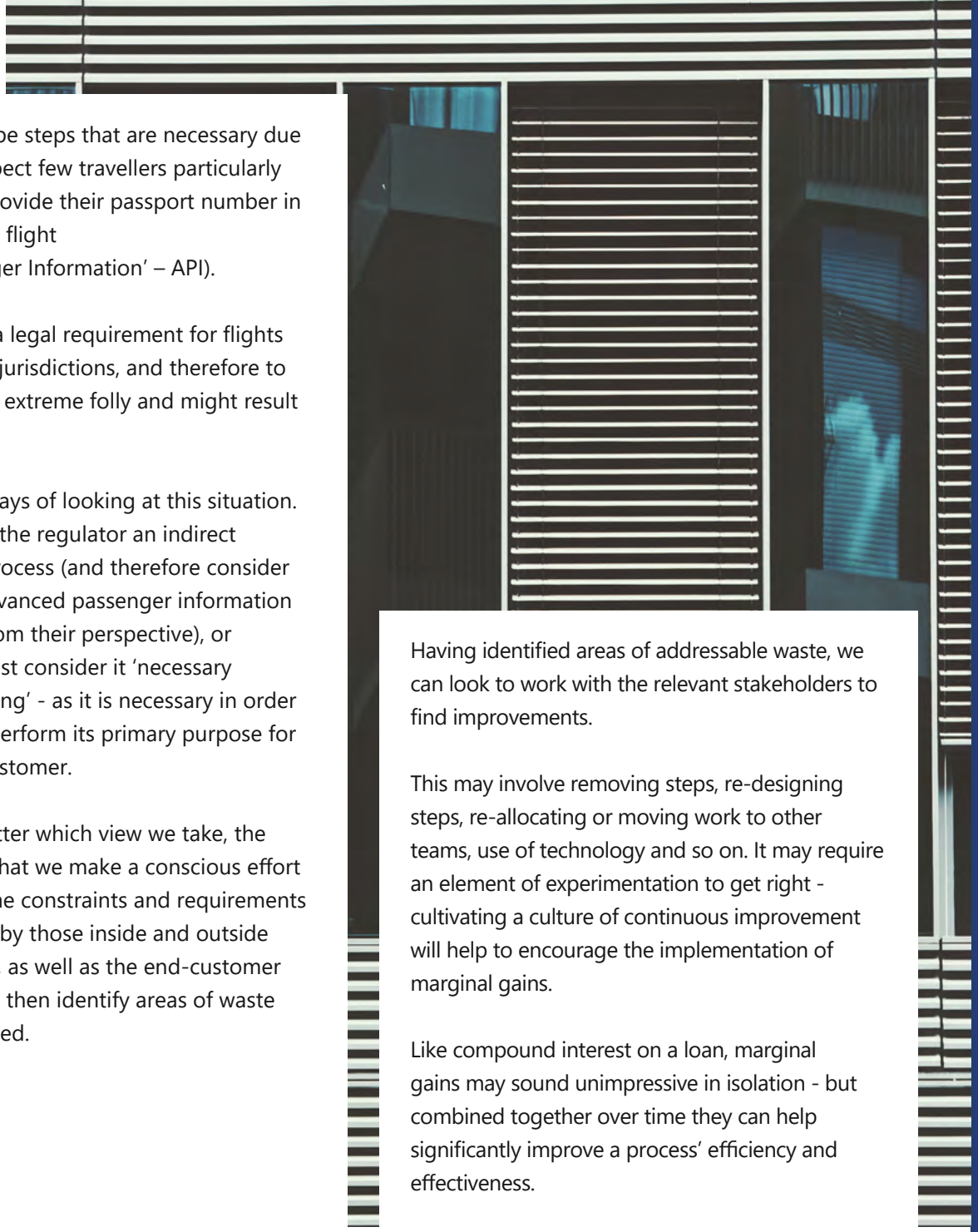
We might class some tasks as technically 'wasteful', but they are still necessary. Some practitioners refer to these steps as 'necessary waste' or 'value enabling' tasks. It may be that they can be improved, or that the work can be re-designed, but by their nature they cannot be eliminated entirely.

An example might be steps that are necessary due to regulation. I suspect few travellers particularly value needing to provide their passport number in advance of taking a flight ('Advanced Passenger Information' – API).

Yet, I gather this is a legal requirement for flights that land in certain jurisdictions, and therefore to remove it would be extreme folly and might result in severe fines.

There are various ways of looking at this situation. We might consider the regulator an indirect 'customer' of the process (and therefore consider the capturing of advanced passenger information as 'value adding' from their perspective), or we might instead just consider it 'necessary waste'/'value enabling' - as it is necessary in order for the process to perform its primary purpose for the ultimate end customer.

It doesn't really matter which view we take, the important thing is that we make a conscious effort of understanding the constraints and requirements put on our process by those inside and outside of our organization, as well as the end-customer themselves. We can then identify areas of waste that can be addressed.



Having identified areas of addressable waste, we can look to work with the relevant stakeholders to find improvements.

This may involve removing steps, re-designing steps, re-allocating or moving work to other teams, use of technology and so on. It may require an element of experimentation to get right - cultivating a culture of continuous improvement will help to encourage the implementation of marginal gains.

Like compound interest on a loan, marginal gains may sound unimpressive in isolation - but combined together over time they can help significantly improve a process' efficiency and effectiveness.

Reflection: How Can We Prevent Future Waste?

Building a customer-centric and value-centric focus into an organization, when combined with a focus on continuous improvement, can help encourage the continual pursuit of waste. Yet, two important questions that often go unanswered are:

"How did the waste creep in to our processes in the first place?"

"How can we be sure waste won't creep in again?"

Waste creeps into processes in a number of ways. Often, it is through the best of intentions - perhaps a serious complaint is raised about the spelling and grammar on a letter that has been sent out to a customer.

To remedy this, all letters are checked - but since the team is under-resourced this adds a 5 day delay (and increasing the backlog as people chase responses).

It may be argued by some involved that the checking step was added for a very necessary reason. Yet crucially, we might ask "can't we create a situation where it isn't possible to make an error on the letter" (e.g. spell-checking, standard letter templates etc) or even "Do we need to send letters at all? (Could we call the client, or only send written confirmation on request) or as a minimum "Do we need to check all letters?" (Could we spot-check?).

Stopping waste reoccurring requires a commitment to creative thinking. We need to encourage those in our organization that ask awkward but thoughtful questions.

We need mavericks, yet these are often the very people that get marginalized. The front-line worker who asks "Why do we get customers to fill in a form with 43 questions, when we only actually need 3 data items in the vast majority of cases?" is likely to be seen as a trouble-maker.

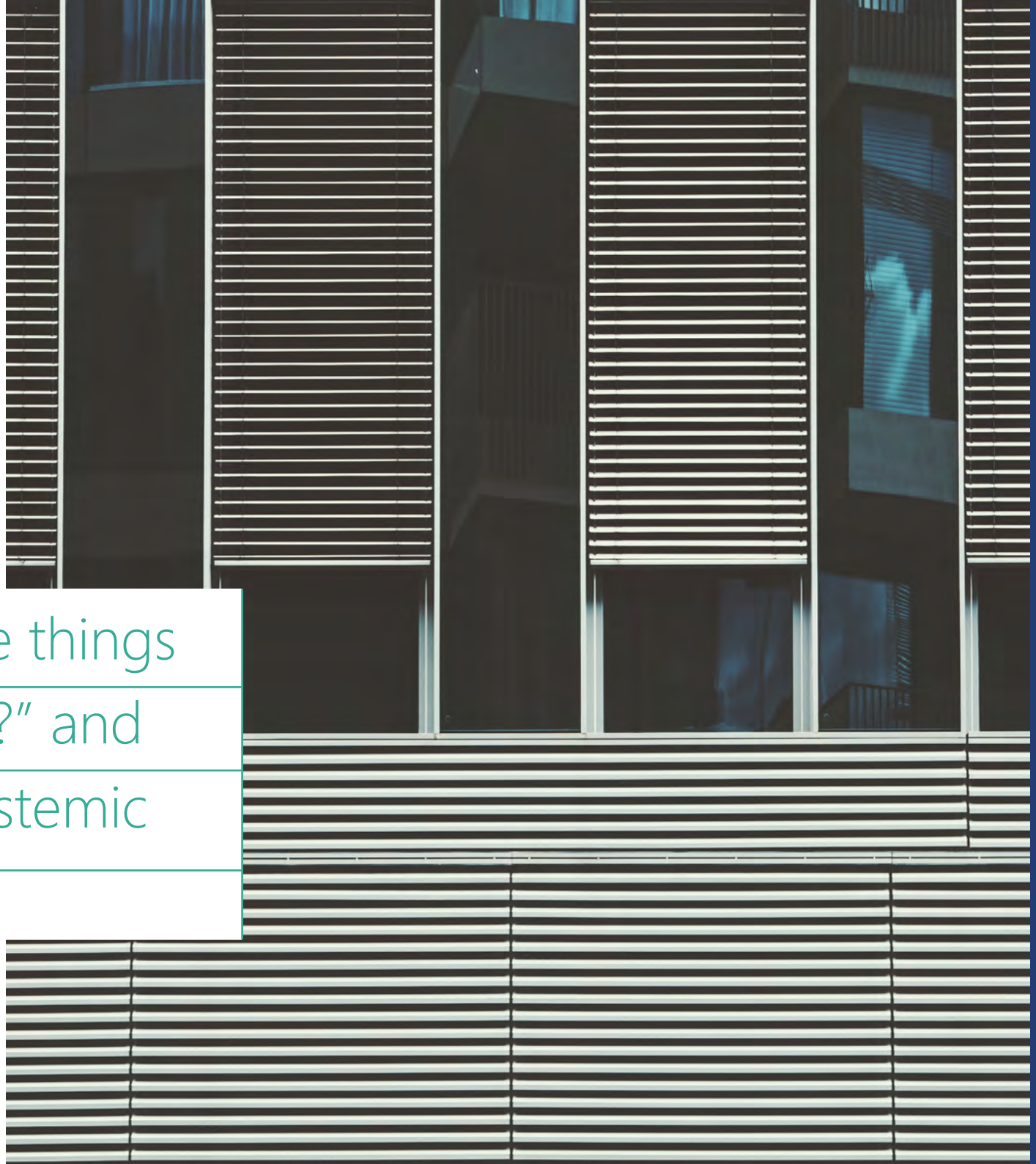
Yet, the question raised is one that warrants discussion and consideration. Providing a forum, community of interest or 'network' of those who are interested in process improvement can help.

Empowering people to exchange ideas, and show each other the benefits of continuing to manage and improve processes keeps the idea of value and waste on the radar. Encouraging the mavericks and analytical thinkers amongst us to keep thoughtfully considering how things could be better is crucial.

We should also remember the importance of the customer in eliminating waste. Building in regular opportunities to assess real customer feedback is valuable. Surveys are seen as a traditional way, but another (often under-utilized) resource is complaints.

So often complaints are dealt with arbitrarily ("send them a hamper and a £10 gift voucher and they'll go away"). Yet, often the incident that has caused them to complain is a systemic problem. Perhaps it is a delay caused by a wasteful process.

Or perhaps it is caused by a defect, or even information not flowing correctly through the organization. For every person who feels enthusiastic enough to complain, there are probably ten (or a hundred) that just walk away. Complaints provide us a useful opportunity to ask



"how could we make things better for the future?" and "is this a sign of a systemic problem or waste?".

This can require a shift in perception on how complaints need to be handled.

Finally, it is worth considering underlying rules and constraints that are imposed on the process. Decisions should have a 'decided until' date, and rules should have a 're-visit on' date.

We might have decided that there is an organizational policy that all employee expenses must be submitted in one batch, once per month, and this may shape how the process is designed (and may constrain any technology that supports the process).

If we found out that this decision had been made in 1955, and is predicated on antiquated reporting and payment technologies, we would rightfully challenge it. Having a 'decided until' date encourages us to re-visit and either validate or re-decide - and if we re-decide we may be able to make the relevant process even more efficient and effective.

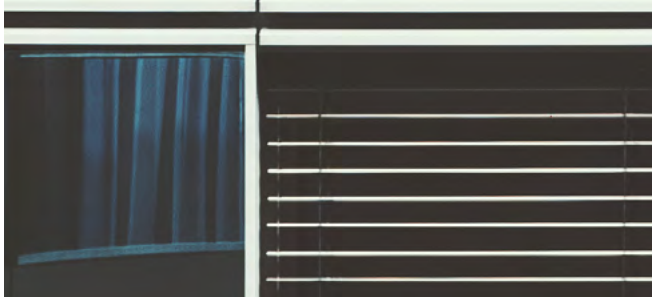
This can apply to high-level design decisions that affect many processes, as well as detailed and granular business rules. Ideally this information would be stored in a common repository like iServer, linked directly to the relevantprocess models - but if this is not possible a typical 'decision log' can be expanded to track this information. A light-weight example is shown below:

Decision Ref	Business Decision Made/Rule Applied	Rationale	Links to	Decision Status	Decision Owner	Date Decided	Decided Until
D.134	Any process that involves a direct customer interaction must be subject to a random quality check on 5% of cases	Our reputation is a core competitive advantage. It is crucial that we can achieve our strategic growth targets.	Processes SLS.12, SLS.15 Business Rules xyz123,124	Current	Jayne Jones	29th March 2017	29th March 2018
Etc							

Figure 3: An example of a simple decision log

Conclusion

Hunting out waste can be a way of making processes more efficient and effective. Understanding waste starts by understanding value, and that in turn starts by knowing and understanding our customers.

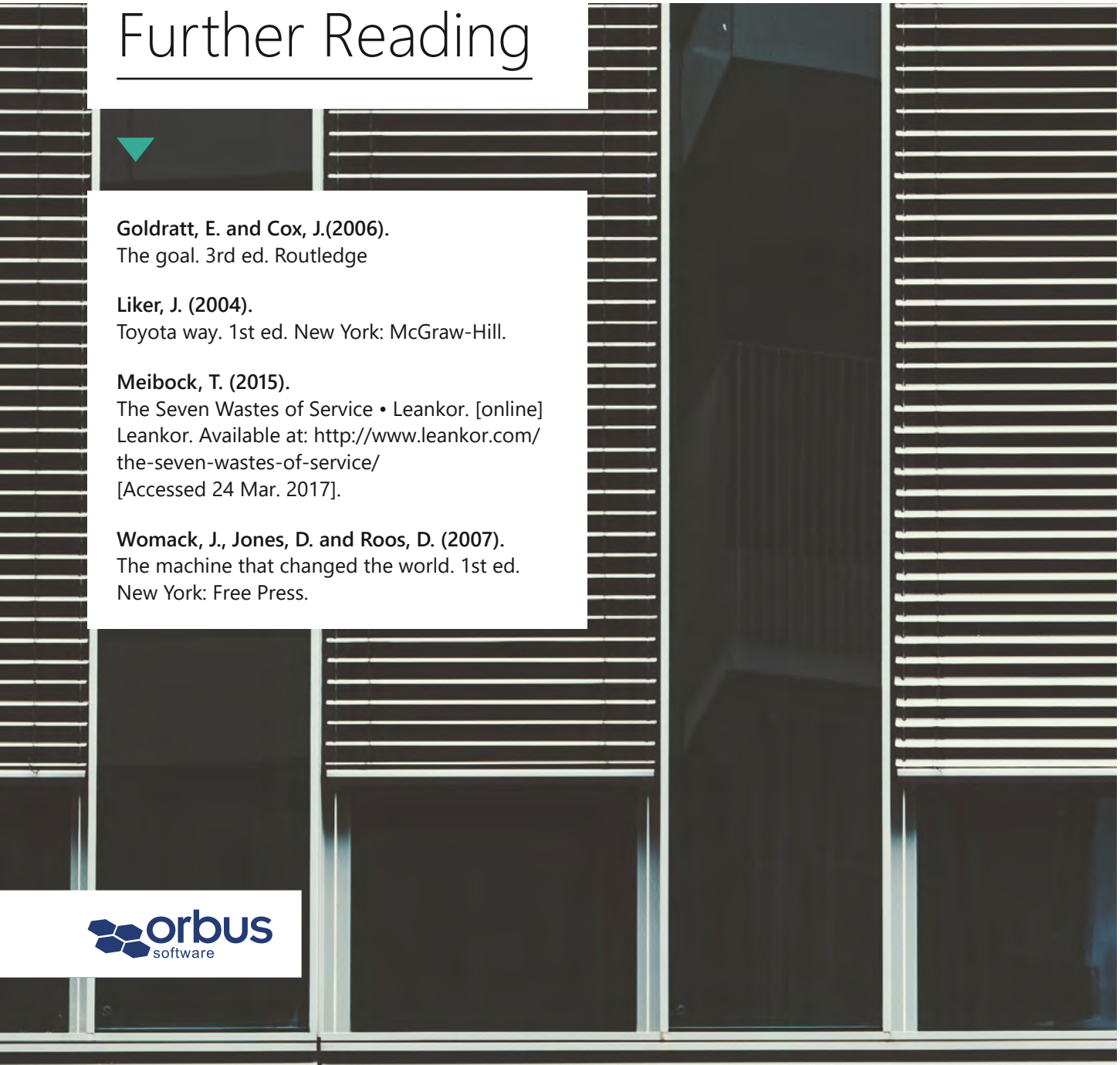


The standard categories of waste can be very useful for framing these discussions, and starting by understanding the 'as is process' helps us to look for opportunities for improvement.

Yet, it is also important that we address how the processes became wasteful in the first place. Asking these types of questions will help us ensure that we cultivate a culture where waste does not reoccur, where we retain a customer focus, and where we continuously strive for efficiency and effectiveness.

In doing so, we can enhance our competitive edge as we evolve towards delivering better products or services more efficiently than our competitors

References & Further Reading



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