

## Chapter 1

# Learning to See Consumption

“Let’s take a walk.” This has been our standard response for many years when an organization asks us to talk about lean thinking. The firm’s managers usually want to meet in the conference room or the CEO’s office. But we know from long experience that value is only created on the gemba—the Japanese word for the place in the office or factory where the real work is done. So that’s always the place we insist on starting, to learn what the true situation is.

Consumers have a gemba, too. It’s the path they follow to solve their problems. And most managers seem to have a very hard time seeing it, even when they follow the path themselves, once they take off their provider hats and put on their consumer hats. So, in recent years, we’ve spent a lot of time walking the consumer gemba, dragging along managers whenever we can.

Our objective is simple: We aim to teach managers to see all of the steps a consumer must perform to research, obtain, install, integrate, maintain, repair, upgrade, and recycle the goods and services needed to solve their problem. We then challenge each step, asking why it’s necessary at all and why it

often can't be performed properly. Once worthless steps are eliminated, we can talk about flow and pull, heading toward perfection.

To make this method clear, let's take a walk right now, putting ourselves in the position of a consumer. Let's experience a simple car repair, following the path of Bob Scott, a prototypical consumer whom we first encountered in *Lean Thinking* when he bent the rear bumper of his pickup.

### **Walking the Consumer Gemba**

This time the process started when the mysterious "check engine" light began glowing on the instrument panel, and Bob needed to search for a repair outlet. The choices were the new car dealer he felt victimized by the last time he needed service, other dealers within driving range who sell and service the same type of vehicle, and several local garages, which may or may not have the latest equipment and knowledge about the specific vehicle.

After several phone calls describing the problem and inquiring about the likely cost, Bob decided to go to a new car dealer he had not visited previously.

The next step was to schedule an appointment—the equivalent action to placing an order in the case of a product, for example, Dan's computer. Bob then took the car to the dealer at the appointed time.

At the dealer, the problem needed describing. Because Bob was a stranger, the dealer knew nothing about the history of the vehicle and no information had been collected prior to his arrival. This circumstance required a wait in a queue at the service desk to fill out and sign the appropriate forms.

The vehicle couldn't be fixed immediately, and Bob needed to get to work, so a "loaner" car was provided. This

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caused another wait while the replacement vehicle was transferred from its storage area. Fortunately, the actual commuting time was no longer than Bob's normal commute, although in many cases it would be.

During the day, the dealer's service department made the dreaded call to Bob to describe the problems found and to reveal the cost of the repair. Later, Bob received a second call sharing the bad news that the vehicle would not be ready until the next day because of a lack of parts. As we will see, this is a typical experience when the consumer and the provider are strangers who fail to discuss the nature of the problem up front or share any data on the product's "as is" condition. As a result, parts have to be ordered and shop time can't be scheduled accurately.

The next evening, Bob returned to the dealer to pick up the vehicle. This required a short wait in line to fill out the paperwork—reviewing the statement, providing the credit card, collecting the keys. After paying, he encountered a second wait, while the vehicle was brought around from the remote parking area used to store vehicles once repaired.

With the addition of the trip home—counting only the travel time in addition to the daily commute time necessitated by the need to get the car serviced—the consumption process was seemingly complete. However, on the drive home the problem recurred. The mysterious "check engine" light that instigated the initial service went on again.

This is actually a common outcome, as documented by the International Car Distribution Programme (ICDP).<sup>1</sup> The chances in North America and Europe of getting a vehicle fixed right the first time are only about 80 percent. And the chances of getting it fixed right the first time and on time are only about 60 percent.

Because the dealer had failed to fix the problem but the repair had already been paid for, the search process moving

forward was very simple. Bob made another appointment at the same dealer, the vehicle was returned to go through the check-in and checkout steps, and—two times lucky—the car actually worked properly.

On the next page we have listed the steps that Bob needed to take to complete what appeared to him to be a simple act of consumption. None of the 16 steps was by their nature complex, and each took only a small amount of time. However, when they are added up, the magnitude of effort and time required is striking. Bob expended three hours and 30 minutes of his own time to solve his problem.

### **Drawing a Consumption Map<sup>2</sup>**

Step lists of the type we have just created can be constructed for any consumption process. They are designed to help managers learn to see the process and its implications. However, we find that many managers and employees are more visual than verbal, so we also draw simple consumption maps to show a process at a glance.

In the consumption time map (*The Long and Winding Repair Path*) depicted on page 24, we've arranged the steps involved from upper left to lower right to illustrate the flow of the process from start to finish, with a back-flow loop of Step 10 through Step 16. We have also drawn the boxes for each step in proportion to the time taken.

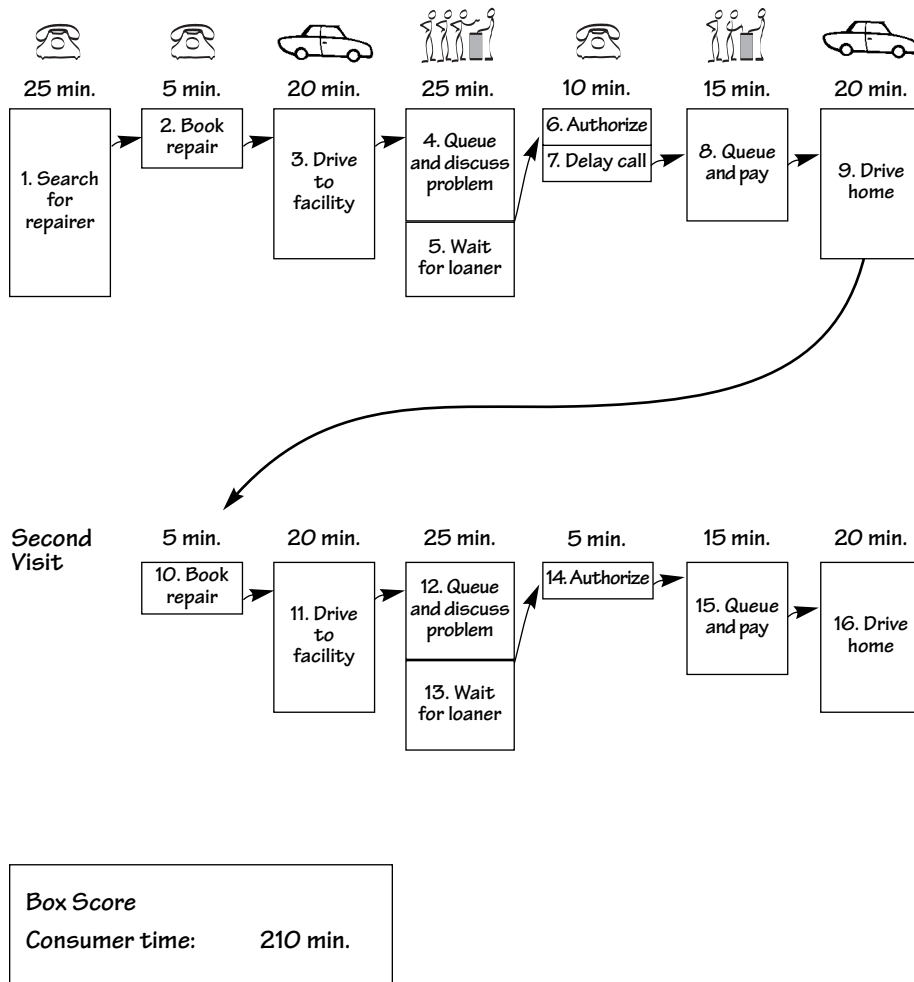
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### Consumption Step List

<b>Steps</b>	<b>Consumer time</b>
1. Search for the best repair facility	25 min.
2. Make appointment with selected facility	5 min.
3. Drive vehicle to facility	20 min.
4. Wait in queue, describe problems, and do paperwork	15 min.
5. Wait for loaner car and sign form	10 min.
6. Discuss problem with service staff and authorize repairs	5 min.
7. Second call to say the car will not be ready until the next day	5 min.
8. Fill out paperwork and wait for delivery of the car	15 min.
9. Drive vehicle home (and discover problem was not corrected)	20 min.
10. Make appointment with same facility	5 min.
11. Drive vehicle to facility	20 min.
12. Wait in queue, describe problems, and do paperwork	15 min.
13. Wait for loaner car and sign form	10 min.
14. Discuss problem with service staff and authorize repairs	5 min.
15. Fill out paperwork and wait for delivery of the car	15 min.
16. Drive vehicle home	20 min.
<b>Total consumer time (16 steps)</b>	<b>210 min. (3 hr. 30 min.)</b>

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The Long and Winding Repair Path



### **From Consumption Process to Consumer Experience**

So far there is nothing right or wrong about all this activity. It's just a fact. These are the steps, conducted in a specific sequence, that were required of Bob to get his car fixed. If we were making a list of steps and a process map only for what happens to the car during the repair cycle, we would be done. That is, we would have a very useful map if we were treating this only as a production process of the type we might find in an office or factory.

But we are not focusing on the vehicle and the repair process from the standpoint of the provider. We are focusing on the consumer as he experiences this process. So some additional dimensions are needed for our step list and map.

First we need to consider the “value” of each step, where value is defined simply as an activity that the consumer pays for willingly because it seems to be truly necessary to solve the problem.

When we look at the list and the map in this light, we note that the activities described are quite different. The drive to the dealer is unavoidable, unless Bob is willing to bear the extra cost of having the dealer pick up the vehicle. (In Chapter 10 we will discover that in the future this may not involve an extra cost.) And few consumers would dispute the necessity of telling the dealer what's wrong with the car and picking up the repaired vehicle at the end of the day.

But the last seven steps, which were required to get the car repaired correctly as it should have been the first time, are unlikely to be considered valuable by any consumer anywhere. Indeed, why isn't the dealer compensating Bob for these steps by refunding some of the cost of the repair to offset the value of his wasted time?

And even for the first nine steps that seem on their face to create value, what about all the waiting involved: The “please

hold for the next available service representative” message when calling the dealer to inquire about the cost and to make an appointment? The wait at the service desk to describe the problem? The time needed to fill out the forms with information the dealer could have obtained beforehand? The wait for the loaner car? And the wait at pickup time, both at the service desk and for the repaired car to be fetched?

When we restate the step list to break out the steps and expenditure of time as “wasted” vs. “value-creating,” we see something very interesting. More than 70 percent of the total time expended by the consumer in this case was “wasted” rather than “value-creating.”

Anyone observing the queues at the dealership could easily see the waste of time in waiting. And any dealer even casually analyzing this process could challenge the repairs that aren’t really repairs by installing a more robust, first-time-quality process. So why do these waits and wastes persist? The simplest answer—which we believe is almost universally true in consumption processes—is that providers ignore the customer’s value of time. They either don’t see it, or they choose to ignore it because they think that doing so saves them money. And as long as all providers think this way, and consumers fail to demand a better process, this logic goes unchallenged.

To help raise managers’ consciousness, we find it useful to enhance the consumption map by shading the fraction of value-creating time in each step. This consumption-time waste map (*Many Steps, Mostly Waste*) reveals activities that create value and those that do not.

The clear and simple message of the completed map—with only a small portion of the available space shaded to indicate value-creating activities—is that even simple consumption activities involve many steps and significant consumer time. And most of this time is wasted.

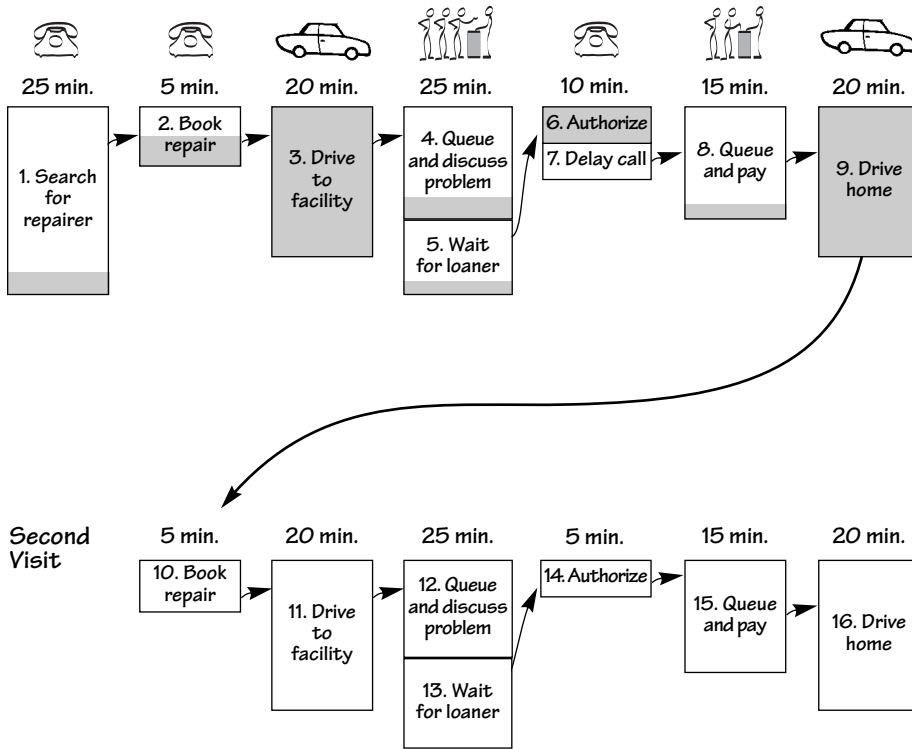
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### Consumption Steps: Value-Creating vs. Wasted Time

<b>Steps</b>	<b>Value-creating time</b>	<b>Wasted time</b>
1. Search for the best repair facility	5 min.	20 min.
2. Make appointment with selected facility	1 min.	4 min.
3. Drive vehicle to facility	20 min.	
4. Wait in queue, describe problems, and do paperwork	5 min.	10 min.
5. Wait for loaner car and sign form	1 min.	9 min.
6. Discuss problem with service staff and authorize repairs	5 min.	
7. Second call to say the car will not be ready until the next day		5 min.
8. Fill out paperwork and wait for delivery of the car	1 min.	14 min.
9. Drive vehicle home (and discover problem was not corrected)	20 min.	
10. Make appointment with same facility		5 min.
11. Drive vehicle to facility		20 min.
12. Wait in queue, describe problems, and do paperwork		15 min.
13. Wait for loaner car and sign form		10 min.
14. Discuss problem with service staff and authorize repairs		5 min.
15. Fill out paperwork and wait for delivery of the car		15 min.
16. Drive vehicle home		20 min.
<b>Total consumer time</b>	<b>58 min. (28%)</b>	<b>152 min. (72%)</b>

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Many Steps, Mostly Waste



Box Score	
Consumer time:	210 min.
Value-creating time:	58 min.
Value/total time:	28 %

Value =  Waste =

### **Perceptual Time vs. Clock Time**

So far we have been listing steps and drawing maps as if time is time, and we all measure it the same way. But is this true?

Early in our careers, one of us worked on transport planning projects in which it was important to measure the value of the time saved for travelers by building a new highway or opening a new commuter rail line. This was the key benefit for the cost/benefit analysis used by governments to decide which projects were worth the investment.

Analysts of these projects learned a long time ago that in many instances, time is not time and that value cannot be accurately estimated by simply using the clock. For example, time spent waiting for a commuter train late at night on a dark platform in a dangerous area is usually reported by travelers to be much longer than it actually is. By contrast, time spent in the train, reading or dozing while en route, is often reported to be shorter than it actually is. Therefore, shortening the frequency between trains or increasing the security of the waiting area was actually a better way to “save” time as perceived by the traveler than increasing the cruising speed of the train. Yet the latter step was typically advocated by public officials who were not themselves involved in the process of traveling.

Extending this concept to other consumption activities, like repairing your car, we can easily see that steps that seem unnecessary, such as waiting in lines, or with an uncertain outcome (“Will the appliance service man actually show up during the two hour window I’ve agreed to wait at home for him?”), seem to take longer and be more onerous than steps requiring the same amount of “clock” time that do seem to actually create value and where a successful result is assured. We call the former “hassle time,” or time that seems longer

than it is. The successful consumption process always seeks to minimize this form of waste.

This insight gives us one final way to enhance our map, this time with the steps adjusted to take account of perceptual time as shown on the consumer's face. The consumption experience map (*Was My Experience Really that Bad?*) on the next page illustrates the hassle level for the consumer.

What the consumer really wants and what providers should be offering is a much shorter map with all areas shaded and every face smiling. That's the signature of lean consumption.

### **A World of Unpaid Work**

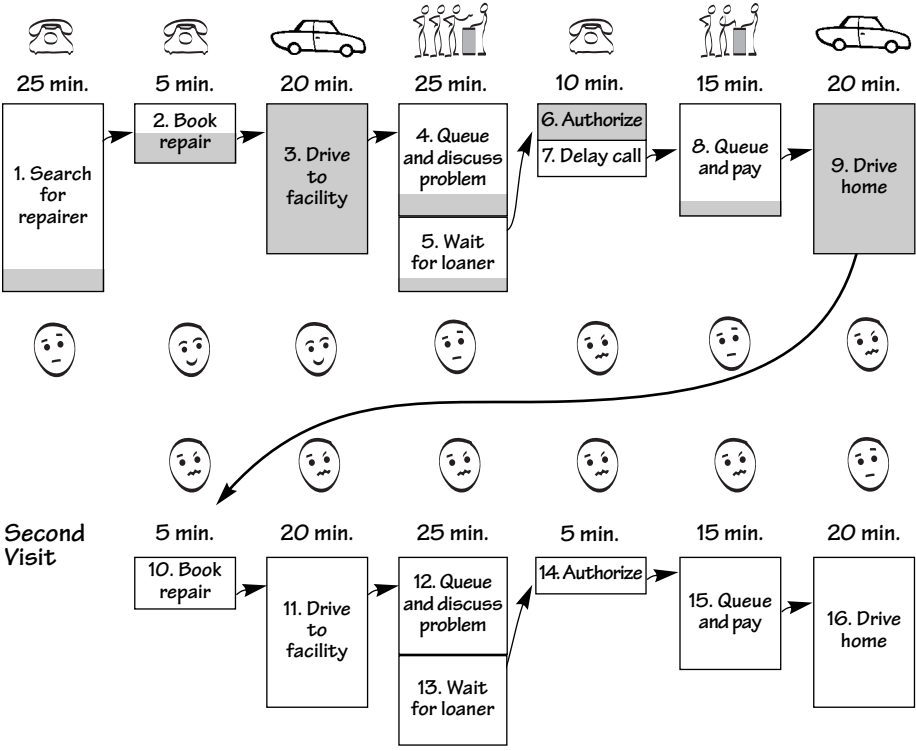
You may think that fixing your car or successfully buying and installing a computer are irritating tasks, but that problems of this sort don't happen very frequently. After all, products like cars actually are getting better, as we noted in the Preface, and surely computers will work better some day as soon as the industry matures.

Then, once you've had these latest problems solved, along with a few others on your list at the moment, everything should be fine and you can get on with what you really want to do. But this is rarely the case. New problems just keep popping up as quickly as you slay the old ones, like the plastic monsters in the arcade game that our kids smacked down with a mallet.

As it happens, this reality has been documented by a little-noticed cottage industry within the academic world that studies the use human beings make of their time.<sup>3</sup> To categorize time use, studies conducted across the world have divided the 24 hours in our days into four categories: personal time (sleeping, dressing, personal hygiene, and eating), paid

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Was My Experience Really that Bad?



<b>Box Score</b>	
Consumer time:	210 min.
Value-creating time:	58 min.
Value/total time:	28 %

Value =  Waste =

work, leisure, and—a wonderfully suggestive category—unpaid work.

Personal time is known to have been constant at about 540 minutes a day (or nine hours) for more than 200 years. And time expended on paid work has fallen steadily over many decades in the advanced economies, except for some senior executives and technical specialists.

The real contest for our time, as it turns out, is between leisure and unpaid work. Leisure is easy to define. It's activities we enjoy and that we perform paid work in order to afford: sports and exercise, entertainment (including pastimes like hobbies and reading), travel for pleasure, and just sitting around relaxing, alone or with friends and family. But what is "unpaid work"? It is the bothersome tasks we don't want to perform and aren't paid to perform, but that are necessary to solve our daily problems and conduct our lives. This includes cleaning up, doing routine chores, and obtaining, installing, maintaining, and disposing of the goods and services we need.

Despite the introduction of labor-saving devices, and in many cases because of these labor-saving personal capital goods, unpaid work has been rising in advanced economies in recent years at the expense of leisure. The growth in unpaid work mostly involves the management of consumption—shopping trips, medical visits, bill paying and financial management, home repairs, motor vehicle maintenance. This is not only by the consumer for his or her personal needs, but in many cases on behalf of the consumer's parents and children.

If the amount of unpaid work needed to operate our households and conduct our lives is rising and if this work is often stressful, what can managers in a wide range of organizations do to make it less time consuming and more satisfying? Even better, what can they do to make this a

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business opportunity that reduces their costs while increasing their customers' satisfaction? To begin the escape from the world of unpaid work, we now need to go to the other side of the equation and look at the value-provision process.