

Processes in practice

Class handout

[As class starts, Radu passes out a handout with the following case and asks the students to read it out loud as a group, each taking turns to read. Radu gives students some time to ponder and discuss among themselves in smaller groups.]

Case: Trouble Tickets at OneWay IT Services

OneWay IT Services provided outsourced IT support to dozens of mid-sized companies. Their 24/7 helpdesk handled requests (tracked via a software platform as “tickets”) ranging from password resets to complex server issues. OneWay prided itself on quick response times and transparent communication. But recently, corporate clients have raised concerns: tickets taking too long to resolve, end-users getting frustrated, and more tickets escalating beyond the first line of support.

At headquarters, senior managers reviewed metrics: average time to resolution had increased by 20% over the past year. Customer satisfaction scores were slipping. “We’ve invested in new ticketing software, hired more skilled agents, but something’s still off,” noted the Director of Operations.

At the frontlines, helpdesk agents like Priya handled incoming requests. “Most calls start simple,” Priya explained. “A user reports an error message or a system issue. We log the problem, assign it a ticket, gather some details, and escalate it if it’s outside our scope.” Tickets were classified into two tiers: Tier 1 and Tier 2. Tier 1 tickets were handled by helpdesk agents like Priya, while Tier 2 tickets were escalated and handled by senior agents. Senior agents were paid up to 50% more than frontline agents. Frontline agents like Priya were given priority to handle calls and chats quickly, so the list of problems covered by Tier 1 tickets only included those that could be addressed in less than 5 minutes.

When escalated, the ticket entered a queue for Tier 2, where it awaited assignment. Once assigned, Tier 2 contacted the user if additional information or troubleshooting access was needed. When resolved, the ticket was closed and the user was notified.

On paper, the process was straightforward. But in practice, escalated tickets often stalled. “Half the time Tier 2 says they need more info,” Priya noted. “They email the user, but by then the user’s often hard to reach.”

Data showed that over 60% of escalated tickets required at least one additional round of user clarification after escalation. Each round added an average of 1.5 days to the processing time.

Meanwhile, users became frustrated waiting for updates, sometimes submitting duplicate tickets or escalating directly to their company’s IT liaison. Helpdesk agents like Priya bore the brunt. “I’m the one they call back yelling at,” she said. “But I can’t fix it once it’s in Tier 2’s hands. I just tell them to wait.”

At a leadership meeting, proposals circulated: add auto-responses, hire additional Tier 2 staff,

track more closely how tickets were being handled. But no consensus emerged. Meanwhile, Priya may have had enough, “I have stuck around here longer than most in this role. But I am not sure how much longer I can continue getting yelled at for problems I didn’t cause.”

Question for consideration:

If you were in charge of OneWay’s ticket handling process, what changes would you propose? Why?

Class discussion

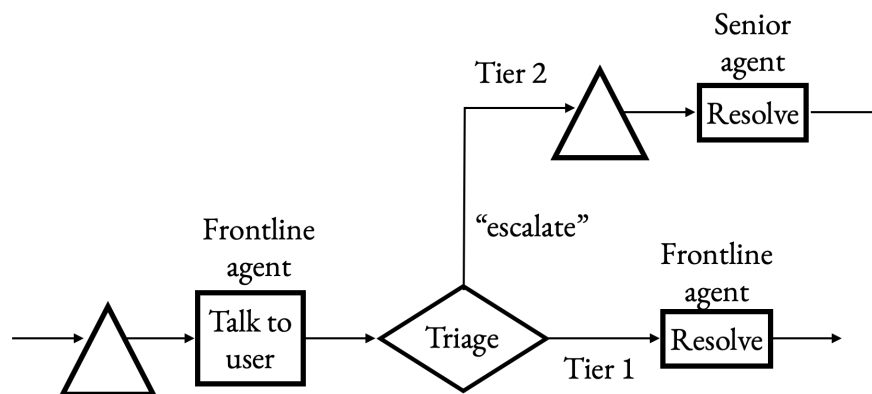
RADU: So you have all read the case. Before we dive in, can we draw the process flow diagram for this? Who wants to start?

[Binesi puts up her hand and Radu points to her]

BINESI: Okay, so I jotted this down. Can I put it on that document camera there?

RADU: Sure, let’s do that.

[The following image projects.]



RADU: Can you take us through it?

BINESI: Yes, so when you call or text into OneWay, you may need to wait. That is why I have this triangle there.

RADU: Can I interrupt you? I see you are using a triangle to represent a wait action, which is great. What is the input here?

BINESI: Oh right, a user with an IT issue.

RADU: Right, and you are saying users need to wait? I did not see that written in the case.

BINESI: Yes, I just assumed that users need to wait before they can talk to a frontline agent.

RADU: Only stands to reason. Please continue.

BINESI: So from there, the user talks to a frontline agent, Priya in the case. The frontline agent gathers information from the user and, based on that information, must decide whether to “escalate” or not.

RADU: I see, so the frontline agent decides. And good job using the diamond symbol for a decision point. Tell us more.

BINESI: From here, there are two paths, the “Tier 1” path is handled by the frontline agent and the “Tier 2” is handled by the senior agent.

RADU: Any questions for Binesi about this?

HAOYU: Sure, I have one. Why is there a triangle before the top “resolve” path, whereas there isn’t one in the bottom “resolve” path? When you just described them, Binesi, it made me think these two paths should look similar.

[Binesi looks at Radu for approval, then starts to talk as Radu gestures for her to speak.]

BINESI: Good question. In the case, it says that there can be a delay in processing the Tier 2 tickets. I thought there should be waiting there. For the bottom path, the customer stays on the line and is served right away, so there is no waiting.

[Radu and Binesi both look at Haoyu, and he nods in agreement.]

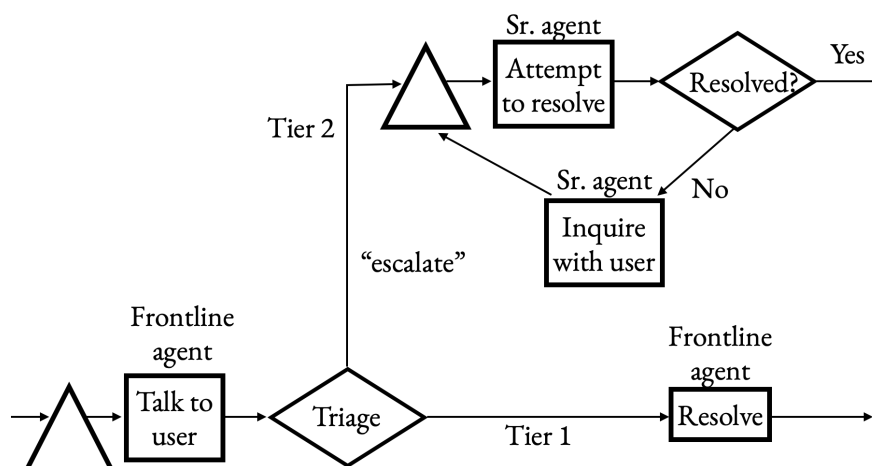
CAMILA: Yeah, I also have a question. I thought maybe there should be some loop of actions in the upper path, whereas the bottom path should be simpler.

RADU: A loop of actions?

CAMILA: Right, it says in the case there may be a round of user clarifications. So I included this in the upper path.

RADU: Can you show us?

[Camila walks to the piece of paper on the document camera. She flips Binesi’s picture over and draws the following on the reverse side:]



RADU: Oh I see. And all of these tasks are undertaken by the senior agent resource?

CAMILA: Yes, exactly.

RADU: Is everyone comfortable with this?

HAOYU: No, not really. Which one do you say is correct? The one Binesi drew or Camila's edit?

RADU: I didn't say either one was correct; I asked if you were comfortable with it.

HAOYU: But don't you need to tell us which is the right process flow diagram for this scenario?

RADU: What is "right" depends on the purpose. Do you see value in both figures, depending on the purpose?

HAOYU: Well, the second one is more detailed. So maybe that is more accurate or something, which means it is better, no?

RADU: What do you think? Is more detailed better?

HAOYU: I guess the first one focuses at a higher level, on the difference between Tier 1 and Tier 2 tickets without getting too bogged down in details. I guess I see merit in both.

RADU: [*Radu smiled to Haoyu.*] Agreed. Let's stick with the simpler picture for now, shall we? [*Turns from looking at Haoyu, flips over the displayed image back to Binesi's version, then looks at the whole class.*] I am curious, why do you think OneWay designed their operations in this way?

[*Awkward pause as students sit, looking a bit puzzled.*]

MING: You'd have to ask them, I guess. The case didn't give any clue about why it was set up like this.

RADU: I am asking you to guess. Maybe based on your experience?

MING: Guess? What is the point of guessing? This is an MBA, isn't it? Are we here just to guess and speculate? I thought when we were given a case, we should only use data and facts from the case.

RADU: This is indeed an MBA, but I think you might be missing the point of this exercise somewhat. In class, just like in life, all we can do is "guess", but we can gain the skill of guessing better, can't we? I am not sure what you have done in other classes, so let me say something here. OneWay is a fictional company, and I wrote up this case based on what I have heard from students over the years. There is no "truth" about why it was set up the way it is in the case. The point is to use the case as an exercise for you to reflect on your own understanding and share what your experience and intuition tell you. It is a way to train your analysis ability and sharpen your understanding of how the system works and why it doesn't work. I hope it makes sense to you.

[*Ming gives a faux-thankful smile and looks mildly disgusted.*]

FARAH: I can give it a try. I think the designers prioritized quick handling of many requests, and seem to assume that most requests are easy to handle.

RADU: Okay, I am with you that they prioritize quick handling of requests. Why do you think this is?

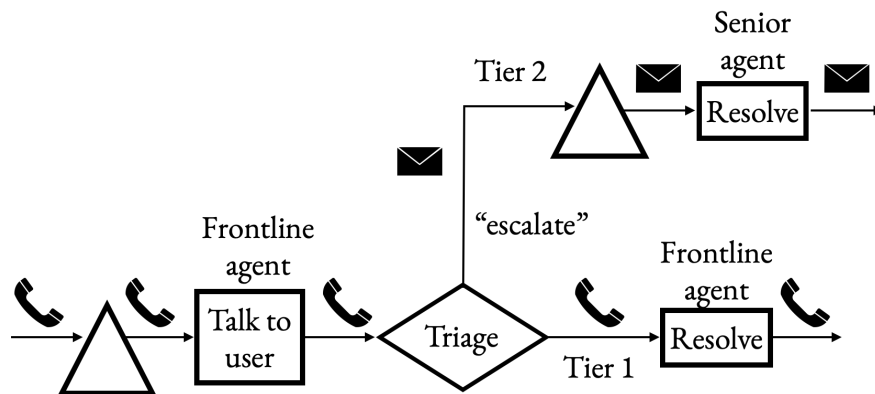
FARAH: They want their frontline agents available to take chats and calls. If they take a long time on each call, then there are long delays to get IT complaints heard. That could be a problem, especially in emergency situations.

RADU: That makes sense, but what makes you think they assume that most requests are easy to handle?

FARAH: It seems there is no priority to address Tier 2 tickets. There are long delays, and the communication shifts from calls and chats to email. I feel like the complaints OneWay is getting

about their system are arising because more tickets are being triaged as Tier 2. So maybe they had the wrong assumption about how many of these tickets were easy to handle.

RADU: This is a very astute analysis. You pointed out something really important about the difference between the two paths. The upper path moves to email, while the bottom stays on a call or chat session. This triage step changes the flow in some fundamental way. We call it a change in “flow unit.” The bottom path’s flow is riding along “calls and chats” whereas the top path is riding along “emails”. Let’s mark that on the figure:



MING: But what’s really the difference between these? They are just different forms of communication. Why would you say the flow fundamentally changed?

RADU: Farah, you made this distinction; I just gave it a name. How would you respond to Ming’s question?

FARAH: [*To Ming.*] I was thinking that with a call there is this urgency to address the issue. Often these chat sessions also have a kind of immediacy. Once you are on email, the urgency seems to fall to the wayside. We are all used to delaying emails for days, aren’t we? But less so if someone calls us.

HAOYU: That’s why I don’t answer the phone.

[*Everyone laughs.*]

MING: I see your point, Farah. So in the figure, these two “triangles” capture different kinds of waiting. People waiting in the first triangle are waiting on a phone or chat window. In the second triangle, people are waiting for an email. Both are frustrating to wait for, but I would think waiting for someone to pick up a phone is more frustrating than waiting for someone to reply to an email. After all, the issue must have been urgent enough to warrant a call.

RADU: This is a great point, Ming. Let me ask you this, Binesi. [*Turns to Binesi.*] Would you rather be a frontline agent or a senior agent? Let’s put aside the obvious pay difference.

BINESI: This is a hard question for me in a way. I worked as a social worker and I really appreciate the importance of being a frontline contact when people are in need. But I got to tell you, I agree with Priya that it is really stressful. Going back to the design of the system, I feel the system protects senior agents a bit. They have to deal with fewer tickets and not deal with the frustration of customers.

RADU: And so this means you would rather be the senior agent?

BINESI: Well ...

MING: *[Interrupting, to what seems like relief from Binesi]*

This whole part of the case confuses me. The delays are being caused at Tier 2, so as a frontline agent it seems you are off the hook. You can just blame delays on senior agents.

BINESI: *[To Ming.]* They probably aren't allowed to throw the senior agents under the bus to customers. That would probably get them in trouble. Knowing how these organizations work, I am sure senior agents have more political power than frontline agents. So the frontline agents know it's not their fault, but they can't pass the blame on.

RADU: Blame is an interesting concept here; I am glad we got to this. Clearly, the users have reasons to be unhappy. Who is to blame for their unhappiness? Is it really the senior agents?

CAMILA: No, I don't think so. I feel like it's the whole system that's flawed here. It seems the Tier 2 agents are not given enough information to work with to address the tickets in a timely manner, it's not really their fault.

RADU: So whose fault is it?

CAMILA: Hard to say, it seems it's the system itself?

RADU: And who is responsible for the design of the system?

[The students sit somewhat puzzled]

RADU: Well, I guess it's us in this scenario, playing the role of the manager of this operation, is it not? We are being asked to reconsider the design of the system, are we not? But before we get into that, may I ask who actually gets the blame for the flaws of the system?

BINESI: I can speak to that from personal experience. It's the frontline workers. We see it in the last quote from Priya, so many of these workers leave after short tenures. I saw that where I worked, it was hard to staff people answering phone lines and dealing with the public in a social work office. Their work is really underappreciated.

HAOYU: I saw this in the restaurant business all the time. The cooks can mess up the orders, but it's the serving staff that needs to break the news to the customer. They earn their tips with that mess, let me tell you.

RADU: Clearly the process is not making customers happy, and I think it is pretty clear that the frontline staff bear the brunt of the unhappiness, even though they are quite powerless to fix it. So what can be done about this situation?

FARAH: *[Excitedly, as if waiting for the whole class time to speak.]* We can automate the whole process! I have a whole architecture figured out.

[Holding up a piece of paper and pointing to it]

I could get AI to generate all of the code we would need in a couple of days. I don't see why we need people at all here, we can use the latest AI chatbots to handle all of these requests.

RADU: You seem pretty confident about that. Everyone agree?

HAOYU: I certainly would not want to have to interact with a chatbot if I had a tech problem.

When I have a tech problem, I want to talk to a human, not be directed to more tech.

FARAH: But I am sure a chatbot can handle it more efficiently.

HAOYU: Sometimes it's not about efficiency. I just want to be able to vent my frustrations to a human being.

FARAH: Really? [*Looks around the room puzzled, with a few of the other students acknowledging that they agree with Haoyu.*]

RADU: Can we put aside this technology intervention? That is always there and let me just say it is not an "easy" fix. Making technology do what you want reliably is a difficult task. Our courses in information systems go into great detail about this. Any low-tech suggestions?

CAMILA: I think this distinction between Tier 1 and Tier 2 is maybe wrong. The workflow is very different, with Tier 2 tickets taking a much longer time because the interaction goes to email. I would let the frontline agents do more by having more tickets classified as Tier 1. It would be better to tackle as many user problems while they are on the line, not wait until they are distracted with something else.

BINESI: Right, and have the "senior agents" answer some of the phones. I am not sure I really see why there is a distinction at all between these two roles. They should all just answer the phone and resolve tickets right away. Why not?

HAOYU: Well, one is paid more, you have to remember that. Getting promoted to a senior role gets you higher pay and away from tedious problems. It's like a head chef and a sous chef. The head chef does not get their hands dirty anymore. They need to focus on the bigger picture!

RADU: I see, so there is something about the structure of this operation that is related to power dynamics in the organization. One may ask: Do you think the design is more about power or more about what is effective for serving users? But I don't want to go down that path. I just wanted to point out something that Camila just raised. Our figures have something fundamental missing. In fact, we have a key resource missing.

MING: [*Reading over the case again.*] I don't see any other workers at OneWay mentioned. Do you mean like the phones and computer systems they are using?

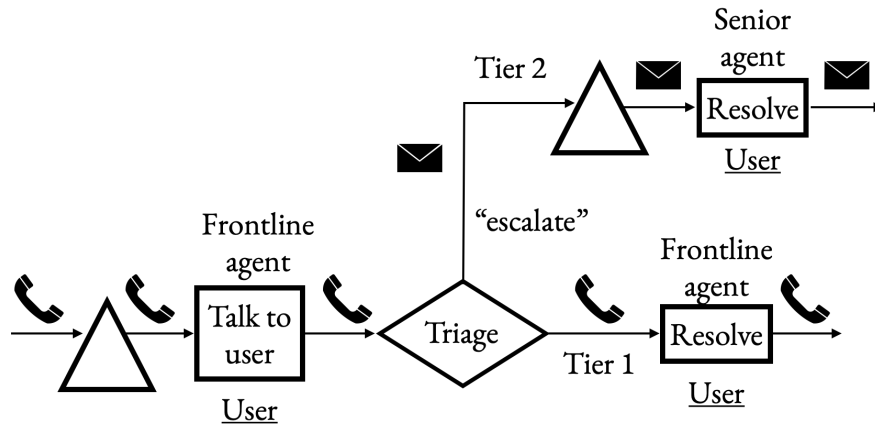
RADU: Why are you restricting attention to workers?

MING: Don't resources need to be workers?

RADU: I never said that.

CAMILA: [*Interrupting.*] Ah, I was reflecting on what I said earlier. A key resource here is the user themselves! They are resources that are needed to resolve many of the tickets. The flaw in the system is that users leave when sent to Tier 2! This is what makes senior agents so slow. It is hard to find the users again, who are a necessary resource.

RADU: Excellent. To emphasize that point, let's add users to the process diagram. [*Draws on the document camera.*]



MING: But users are the input, no? You can be both an input and a resource?

RADU: I never said you couldn't.

MING: You didn't say much ...

[Everyone laughs, including Radu]

FARAH: So we are saying a solution here is to get rid of the distinction between Tier 1 and Tier 2 tickets and the distinction between frontline agents and senior agents? Everyone just handles everything?

RADU: I believe Binesi hinted at that, yes. I am not sure we all agreed. Binesi, do you want to argue this point more?

BINESI: Now that I think about it more, it seems to ignore that some tickets really do require expertise that only a senior agent would have. I am not exactly sure what to do because removing these distinctions would also seem to cause problems.

RADU: Binesi, you assumed something about the distinction between Tier 1 and Tier 2 tickets. You assumed that Tier 2 tickets take expertise to handle. But is this actually how the distinction was made?

BINESI: Well, I assumed ...

FARAH: No, the distinction was how long the tasks take. If it was thought to take 5 minutes or less it was Tier 1, otherwise Tier 2.

RADU: Right Farah! *[To Binesi.]* Does time have to do with expertise?

BINESI: I see your point, I assumed that things that take longer require more expertise. But this need not be the case.

FARAH: *[Excitedly.]* So maybe we should redefine the tiers instead of whether the ticket requires expertise or not, not how long it takes. That would maybe cause fewer of the tickets to be escalated.

RADU: Let's conclude there, we have run out of time again. Can we all agree that how exactly the distinction between Tier 1 and Tier 2 tickets is made could be a really important fix here? *[All nod.]* How we define that exactly, what are the tradeoffs, maybe you can all discuss among yourselves. But I hope you are all convinced this is maybe as important an intervention as a new technology.

BINESI: Maybe even more important, as it has implications for what it's like to even work at OneWay in terms of power and hierarchy.
RADU: Very good point Binesi, let's return to that theme in later classes.

Email

Dear students, another great session today!

After class, some students were complaining a bit about the lack of rigor in this course. From what I could tell, I think they meant they wanted more calculations to do. Not to worry, we will get to those soon. But I wanted to stress that rigor does not just mean formulas and calculations and things of this nature. Sometimes, there can be rigor in a poem. It is not only math and numbers that exert discipline. There is also logic, aesthetics, and a demand for clarity. There will be numbers, yes, but I hope you can feel the “rigor” even when we are not using numbers.

On to a few topics that were touched on in our discussion that I hope to solidify now.

Process flow components are not mutually exclusive. I hope everyone here is familiar enough with *set theory*. This is a math topic that not everyone gets taught formally, but many of us pick up by some kind of osmosis. A set is a collection of things, called elements. It can be anything. The set of seats in our classroom. The set of coffee shops within a 10 minute walk from your home. The set of nonnegative whole numbers, with elements 1, 2, 3, and so on.

Now, if you give me two sets, A and B , I can ask what elements do these two sets have in common. We call that the *intersection* of sets A and B and denote this $A \cap B$. For example, if A is the set of coffee shops within a 10 minute walk from your home, and B is the set of coffee shops within a 10 minute walk from our classroom, then $A \cap B$ are the coffee shops that you could get to from home, grab a coffee, and reach our classroom, within 20 minutes (assuming, of course, no wait at the coffee shop). If sets A and B share no common elements, they are called them “disjoint” or “mutually exclusive”.

Maybe you have all seen sets and intersections before, and this is all obvious to you. If not, then no worries at all, just email me back and I can explain more.

What is the relevance of all of this for a discussion of process flows? Recall from last class that inputs, outputs, and resources were all nouns (i.e., objects or people), whereas activities were verbs. If we let I denote the set of inputs, O the set of outputs, R the set of resources, and A the set of activities, then clearly, A is disjoint from all of the other sets. But what about I , O , and R ?

Well, we came across something interesting in our case discussion today. We found that users were *both* inputs and resources. In other words, “users” are an element in $I \cap R$. That is, I and R are *not* mutually exclusive.

Let's consider another example of the process of the master's program you are currently taking. The input is students and the output is a “future leader” of an important organization. And yet, students also serve as an important resource in transforming a student into a “future leader”. Students learn from each other and serve as an important network for future success.

We are all very conscious of the dual character of master's business students as both input and resource (although we may not use that terminology). Many social events and class activities get students to learn from one another. There are also subtle hints of this perspective in the design of the business classroom

itself. Have you ever wondered by your name tent has your name on both sides? It is for the convenience of lazily putting it down in any direction? No! It's so people behind you—and not just the professor—can know who is speaking.

Customers as a resource. The dual role of some actors (i.e., they can be both inputs and resources) sometimes confuses people. In our OneWay discussion, we examined a simple change in perspective. The existing system seemed to ignore that the users themselves are often a key resource in the execution of various activities in the fulfillment process. Having that resource leave before they weren't needed anymore led to inefficiencies.

While a company would never imagine allowing important employees to “wander off” in the middle of tasks where they are critically needed, managers can overlook the need for overseeing the “work” of customers. Operational questions around customer management are challenging: where can they be in the process to help or hinder flow, how to motivate them to provide effort when they are not being compensated to do so, etc. We will return to some of these themes later in the semester.

Legacy operations. All around us, we see operations that are inefficient. In this course, we will hopefully learn about ideas, approaches, and techniques that may improve the efficiency of these and other operations. Except ...it is not that easy. Operations evolve to be how they are out of a particular history. Often, the setup was successful at one time or another. Reluctance to change comes from the memory of that success. This theory of past success embedded in current practice is most associated with noted management professor Edgar Schein:

When a solution to a problem works repeatedly, it comes to be taken for granted. What was once a hypothesis becomes a reality, and the assumption is no longer questioned.

—Edgar Schein, *Organizational Culture and Leadership*, 5th ed., 2017, p. 20

It is not uncommon for people to recognize inefficiencies in the systems around them, and yet feel unable to change things. Often, they have absorbed the assumptions that underlie the existing process so thoroughly that they no longer know how to surface or interrogate those assumptions. The very reasons the system came to be are no longer visible to those inside it.

This is highlighted in the OneWay case. It seems the current system worked well when there was a greater proportion of simpler tickets to deal with. This meant fewer tasks being identified as Tier 2 and less of a slowdown at the senior agents. They may also have deeply embedded in them an assumption that the frontline agents cannot handle very much because they lack the expertise. This may come from a bygone era where it was harder to find information on how to troubleshoot technical issues. Nowadays, with AI tools and the like, a frontline worker may be able to handle more tickets than previously thought.

Why can it be important to know history? The cliché goes: “those who do not know history are doomed to repeat it.” But in operations, history is not something distant—it is embedded inside the process itself. Each time you follow an outdated workflow or policy, you are, in a sense, repeating history. You may be doing so dozens of times a day without even realizing it. If you walk into your job dismissing everything old and proposing fresh fixes without appreciating the reasoning behind the status quo, you risk misunderstanding the deeper causes of inefficiency.

Consider this: your boss may have completed her MBA over twenty years ago. Does it matter what MBA students were taught back then? It is tempting to say “no”! The latest and greatest is all that

matters! However, what your boss learned those years ago shaped her thinking and her early decisions, some of which endure in the practices you now follow. She was successful enough to become your boss, so that legacy, however imperfect, is not easily dislodged. It is probably a good idea to understand where she is coming from before you dismiss it for shiny new objects.

Two pictures, and the courage not to choose. Some of you were unsettled when I refused to say whether Binesi's diagram or Camila's was the correct one. Haoyu wanted a verdict, and I would not give one. Let me defend that refusal, because it is not laziness or evasion—it is close to the center of what this course is about.

The statistician George Box left us an aphorism that is well-known among operations academics: “all models are wrong, but some are useful”. The scientist's task is not to find the true one but to find a useful one. Binesi's simpler picture and Camila's more detailed picture are both wrong, in the trivial sense that neither is the OneWay helpdesk—they are marks on a page. The question is never which drawing is true. The question is which drawing is useful for the purpose at hand. Box warned that the modeler must not fall in love with his model the way Pygmalion fell in love with his statue, and he added a second warning I find even more useful: since every model is wrong, you must train yourself to worry *selectively*—to be alert to what is *importantly* wrong, and to let the rest go. Detail is not free, and more of it is not automatically better.

The seam between the front office and the back. Farah noticed something I want to dignify with its proper name. She saw that at the moment of escalation, the whole character of the work changes: the bottom path stays on a live call or chat, while the top path moves to email, and the urgency drains away with the change. I called this a change in flow unit. It is also something more specific. It is the seam where a *front office* hands off to a *back office*.

This distinction has a real intellectual history. In 1978, the operations scholar Richard Chase argued that the potential efficiency of a service rises as the customer's direct contact with it falls [1]. A back office, sealed away from the customer, can be scheduled, batched, and optimized like a factory; a front office, live with the customer, cannot. His practical advice followed directly: separate the two, and let different people, with different skills, staff each. OneWay has done exactly this. Tier 1 is the front office, live and harried; Tier 2 is the back office, working escalated tickets by email at its own pace. The design is not stupid. It follows one of the most influential ideas in the field. But notice that the very move that buys the back office its efficiency—sealing it away from the customer—is the move that let the user wander off.

The demand OneWay makes for itself. Let's return to two facts from the case that we passed over quickly. Over sixty percent of escalated tickets require at least one more round of user clarification, each round adding a day and a half. And frustrated users sometimes submit duplicate tickets. In other words, a significant share of the work arriving at OneWay is work that OneWay's own failures created.

The systems thinker John Seddon gave this a name. He distinguished *value demand*—a customer asking you for the thing you exist to provide—from what he called *failure demand*: demand caused by your having failed to do something, or to do it right, the first time [5]. The duplicate ticket is pure failure demand. So is much of that sixty percent: the second and third rounds of clarification exist only because the first contact did not capture what Tier 2 would need. The fashionable separation of front office from back office can itself be a great manufacturer of failure demand, because handing the customer across the seam is precisely where things get dropped, and dropped things come back as more demand. Seen this

way, some fraction of OneWay’s fearsome “volume” is self-inflicted.

Who gets the blame. We spent time in class on the question of blame, and I want to give the class’s instinct some scholarly reinforcement, because you arrived, collectively, at one of the hardest-won ideas in management. Camila said the fault lay not with the senior agents but with “the whole system.” She was in excellent company. W. Edwards Deming spent the last decades of his life insisting that the overwhelming majority of what goes wrong in an organization is the property of the system, not the person: his estimate, stated flatly, was that “94% belongs to the system” and its management, and only the small remainder to special, local causes that are the responsibility of individual workers [2]. He made the point unforgettable with a classroom demonstration called the Red Bead Experiment, in which volunteers scoop beads from a box engineered to contain a fixed fraction of defective red ones, and are then praised or scolded for results that were fixed before they touched the paddle. The lesson is that you can reward and punish the worker all day without moving a number that the system determined in advance.

Why, then, do we so reliably blame the person anyway? Here the psychologists have an answer. Ross [4] named our chronic tendency the *fundamental attribution error*: when others fail, we reach for their character; when we ourselves fail, we reach for our circumstances. Priya is yelled at not because a reasonable person thinks she designed the escalation queue, but because a frustrated human on the phone, reaching for a cause, finds a person faster than a system. There is a small, bitter detail in the literature on Deming’s demonstration that I cannot resist passing along: the frontline workers who run the Red Bead experiment tend to grasp its lesson at once, while those higher in the hierarchy are the ones most inclined to reject it. Make of that what you will.

The labor that never appears on the diagram. There is one last piece of Priya’s job that our process flow, for all its triangles and diamonds, does not contain anywhere. She is, as she puts it, the one they call back yelling at. Managing that call—absorbing a stranger’s anger, holding her own composure, staying “nicer than natural” while telling someone for the third time that she cannot fix what Tier 2 now holds—is work. Hard work. And it appears in no box on the board.

The sociologist Arlie Hochschild called this *emotional labor*, and studied it first in the people who do it most visibly: flight attendants and bill collectors [3]. Her unsettling observation was that when a company requires a worker to produce feeling on demand—to manufacture warmth, swallow insult, perform a smile that is no longer quite her own—the worker can become estranged from her own emotions, and that this estrangement is a genuine occupational injury, as real as a strain or a burn, though it leaves no mark a manager will measure. This is what Binesi hinted at when she spoke of frontline work as underappreciated and exhausting, and why she recalled how quickly people leave such roles. It is what Haoyu meant about the serving staff who earn their tips breaking bad news the kitchen created. A process map is a powerful tool to shed light on an operation. But we should never mistake the things it illuminates for all the things that are there.

References

- [1] Richard B. Chase. Where does the customer fit in a service operation? *Harvard Business Review*, 56 (6):137–142, 1978.

- [2] W. Edwards Deming. *Out of the Crisis*. MIT Center for Advanced Engineering Study, Cambridge, MA, 1986.
- [3] Arlie Russell Hochschild. *The Managed Heart: Commercialization of Human Feeling*. University of California Press, Berkeley, 1983.
- [4] Lee Ross. The intuitive psychologist and his shortcomings: Distortions in the attribution process. In Leonard Berkowitz, editor, *Advances in Experimental Social Psychology*, volume 10, pages 173–220. Academic Press, New York, 1977.
- [5] John Seddon. *Freedom from Command and Control: A Better Way to Make the Work Work*. Vanguard Press, Buckingham, 2003.

Extensions

[Posted as homework on the course’s website for this class session.]

1. Farah proposed that the split should turn on *expertise* rather than on the five-minute rule. Take the proposal seriously and design a rule yourself.
 - (a) State precisely what a frontline agent would check, at the moment a ticket arrives, to decide whether to resolve it or escalate. Your rule has to be usable in the first thirty seconds of a call, before much is known—so what observable feature of a ticket are you really keying on?
 - (b) Senior agents are paid up to fifty percent more, and Binesi and Haoyu argued that the distinction protects their standing. What could agents do, individually, to quietly defeat your rule and keep escalating? What would you need to learn about the *actual* tickets—data you do not currently have—before you could defend your design?
2. The class concluded that the user is a resource who tends to wander off before Tier 2 needs them, and that this is what makes escalation so slow. Design a change to the process that keeps the necessary user input available when it is needed—without simply telling users to “be more responsive.” Then find the cost of your fix.
3. Farah noticed that escalation quietly changes the flow unit from a live call to an email, and that the urgency leaks away with it. Describe another process you know—at work or in daily life—where a handoff silently changes the flow unit. What is lost in the switch, and who bears the loss?
4. Radu declined to say whether Binesi’s simpler diagram or Camila’s more detailed one was “right,” insisting it depends on the purpose. Give a purpose for which Binesi’s diagram is the better tool, a different purpose for which Camila’s is, and finally a purpose for which *both* are the wrong picture entirely.

5. Farah wanted to automate the whole helpdesk; Haoyu wanted a human to vent to. Construct the strongest version of each position, then say which *kinds* of tickets each argument fits best. Is there a design that gives each side what it actually wants?
6. Provide examples of three pairs of sets that are mutually exclusive. Now provide examples of three pairs of sets that are *not* mutually exclusive.
7. How coffee came to be in the cups that we bring to class (see the discussion in Chapter 1) each day follows a long path. Can you describe some of the “flow unit” changes along this path?
8. Compare and contrast the “triage” system at OneWay with what you might have experienced at an urgent care health clinic (or emergency room). You might find it useful to draw process flow diagrams for both situations and comment on their important similarities and differences. What operational implications do these differences entail?
9. Describe one or two processes at your current or former job that you felt were inefficient. Why do you think they were designed this way? Was it based on past success?
10. Look into the history of business schools (in general, or your school in particular) with the goal of gaining understanding of why the programs and courses at your school are organized the way they are.

Reflections

[Posted as a reflection exercise on the course’s website for students to write about in a journal due at the end of semester.]

1. To what extent am I being a resource to my fellow students/colleagues? Am I allowing others to be a resource to me?
2. Think about your daily routine—getting ready for work, your commute, your office or school rituals, your unwind routine, etc. Examine part of your routine and try to answer why you do things this way? (For example, do you brush your teeth before or after you shower?) Do you have thought-out reasons or is it because “that’s the way I’ve always done it”?
3. Do you like to be told how to do your job, or do you prefer to have the freedom to do your job as you like as long as you deliver satisfactorily on the final outcome? How about a worker that reports to you? Would you rather they do their jobs according to a process you lay out, or do it in any way they like as long as they deliver? If you answered this question differently for yourself than for your report, comment on this asymmetry.
4. Describe an experience where you attempted to improve a process at work (or another situation). How was your attempt received? Did you experience any resistance? Why or why not?
5. Have you ever been the person a customer or colleague vented anger at for something you had no power to fix? Did you tell them it wasn’t your fault, or absorb it—and what made you choose?

6. Recall a time you were both the customer of a process and, without being asked, a necessary worker inside it—filling a form, chasing an update, digging up a document it needed. Did that feel like being served, or like unpaid labor?
7. Think of a rule at your own work whose origin no one can explain. Did you try to understand why it existed before you worked around it, or only after?