

The Trouble with Paper in Field Service

1. Paper allows captured data to be erroneous or incomplete.

Armies of field technicians are out there with work order books or pads. The books are made up of a large number of preprinted forms, usually with multipart paper. Each form has a unique work order number printed on it. In most businesses, this becomes the reference number for the job and it is used in subsequent invoicing and filing so that if need be, it can be pulled from the archives.

The forms in these books have often undergone painstaking design by the business owners to make sure that all of the information from the field is accurately and completely captured. There is always space in the header for identifying the customer and the equipment being worked on. It usually includes elements like checkboxes and short form codes to represent jobs and parts with code legends printed right on the form. There are spaces to write in comments and potential follow up issues. There is often a space for the customer to sign.

But despite the form design and the training given to the technicians, the forms are not always filled out accurately and completely. Let's look at some examples of this:

- The customer address is incomplete.
- The equipment is not properly or completely identified.
- The wrong job or part codes are written up. Worse, required jobs and parts are not performed or recorded.
- Customer signatures are not captured.
- In COD situations, erroneous or incomplete credit card information is written on the form. Worse, the card is declined when processed later.
- Comments are written up that are illegible.
- There might be a space on the form that is an alert for follow up work or recommendations for the customer. Often it is not filled in because the technician realizes that the follow up just doesn't happen.

The bottom line with paper forms is that there is no other way, other than the self-discipline of the technician that enforces the accuracy and completeness of the information being captured. You likely have technicians that are excellent when it comes to the work but absolutely stink at recording the work. You are not very likely to let them go because they don't do the paperwork properly, especially when they are crazy busy.

Have you ever noticed that the busier you are, the lower the accuracy and the completeness of how the forms are written up? In some cases, can you blame them? No doubt they're too busy running from job to job to properly write up the job at the time and guess what, when they write up the job after the fact, they're doing it from memory and that doesn't always work.

2. Lost paper = lost revenue.

I have a client that once told me that they lose at least 20-30K in revenue per year due to lost paper. If that doesn't cause you to do a double-take, I don't know what would. The first question you might ask is how is this paper getting lost? The answer is simple. In a paper-based field service business, with technicians driving around with preprinted work order books, there is often a significant disconnect between the work being performed and the documentation of that work. Further, the folks at head office cannot tell what has been written up until the forms are submitted. In some businesses, it is conceivable that a technician completes 10 work orders a day or 50 work orders per week. When the supervisor goes around picking up the paper, very often he's told that it hasn't been written up yet, but it'll be ready next time. By the time the work is written up, it might be a full work order book representing perhaps several thousand dollars of revenue. Now, what if something was to happen to that book? Head office has NO idea of the books existence or contents. Stuff happens. The technician leaves it at a job site. It falls out of the truck. The technician is laid off, fired or decides to leave. However it happens, if that work order book does not make it back to head office, it will not get invoiced. Lost paper = lost revenue.

3. You have to chase paper. Don't you have better things to do?

In a perfect world, all the paper that is written up in the field would flow exactly to where it is needed, whether that is to support invoicing the customer, or as equipment history records. Paper is made up of atoms and as we all know, it takes energy to move those atoms around. What about the technicians bringing the paperwork into headquarters, even if it is just once a week? That sounds good in theory until there are times when utilization is in and around 100%. Then, would you rather have the technician schlepping paperwork to the office, or performing productive work? I think I know that answer to that question. So, often it is the supervisor that ends up making the rounds collecting paper. This is justified because he's back and forth between field and office anyway and he is in constant contact with the technicians anyway. But you also expect some productivity out of your supervisor as well, so chasing paper eats into that. Not only that, he gets to wear the constant aggravation of dealing with why the paperwork is not completed by the technicians. (They're great at work, not so great at recording the work.)

Consider this. If someone is spending 1 day per work week (20% of their time) chasing paper, if you could eliminate the paper chasing, that's a potential increase in productivity of 20% for that one person. If you could eliminate paper altogether, what kind of productivity increase would that represent?

4. Your technicians always have a backlog of work they haven't written up yet.

It sounds easy. You ask your technicians to write up the work as they complete it. Accuracy is greatly improved if it is written up as it is being done or just after the work is completed. They agree. They do it for a while. Things get busy. The dispatcher is assigning one urgent job after another. The next one is half way across the city in rush hour. The technician has to be on the move. Paperwork takes a back seat. After a few days of this, now there is a backlog of work that has yet to be written up. Now, you hope that the technician has some kind of record of what he has done. We hope that he's taken some notes on the jobs, parts used, equipment details, etc. even if it is some kind of cryptic shorthand. If he has not, even if the work does eventually get written up, it may not be accurate and complete.

What is the problem with backlogs?

- Latency between performing the work and writing up the work can lead to the recording of inaccurate and incomplete information
- The longer it takes to write up the work, the longer it takes to collect it, the longer it takes to invoice the work. The ripple effect.
- Timely follow up becomes difficult or impossible

So how can you prevent this backlog from occurring?

- a) Build in time each day (or at the end of each day) to allow work to be written up and submitted.
- b) Go to a paperless, mobile solution where work is captured electronically in the field.

5. Paper isn't very rugged.

Paper has always been an acceptable medium when it is used indoors in a controlled environment. However, once you get outdoors and into the field environment, it's a whole different story. Paper has four main enemies out in the field:

Moisture	Paper is porous and it tends to soak up water. Exposing a work order pad to rain, snow or humidity can cause the pages to curl at least, at worst it can weaken the paper causing tears and smudge the ink from the pen that was used to mark it up.
Wind	Paper is very light so unless it is securely fastened, it will blow away in a strong wind. How many times have you seen someone chasing after papers in the wind?
Dirt	Depending on the type of field work being performed, it is very likely that the technician's hands are not squeaky clean throughout the work day. That dirt often ends up on the paper when he is writing up the work. This can make it difficult to read the paper after the fact. It can also affect photocopying and scanning the document after the fact.
Crumple and Tear	In the field environment where lots is going on, physical tearing of the paper can be a regular occurrence. Not only that, there are lots of ways that the paper ends up getting crumpled, folded and curled. While it may still be possible to read the paper when it is torn, crumpled, folded and curled, it doesn't archive back at the office well, nor does it behave well if it needs to be photocopied or scanned.

6. Paper is a static one-way medium and an island of information.

Paper does not interact with the writer. It is merely a medium that allows the recording of visible marks. These marks, hopefully, will translate into numbers, letters or pictures that are an accurate and complete recording of the work performed. If the writer makes mistakes, the paper does nothing to correct these mistakes. What's more, if the writer is using ink and realizes he has made a mistake, correcting that mistake on paper is usually kind of messy.

As a communications tool, in an environment where things are constantly changing, it is a difficult medium to work with. Let's use the example of tire service. Your customer's unit number 1234 just had a flat repair performed on the left-steer tire last Friday and it was written up on paper by your technician Samuel. Samuel was so busy on Friday that he forgot to attach a re-torque sticker to the vehicle's windshield. He wrote the work order and submitted the paper on the same day. Now it is Tuesday in the next week and John (another technician) is performing a yard check and unit 1234 is in the yard. Since unit 1234 was driven over the weekend, the left-steer will be due for a re-torque. How will John know this? The paper that contains the fact that 1234 needs a re-torque, is an island of valuable information that John does not have access to.

7. Paper nearly always requires transcription.

When information is collected on paper in the field, most field service businesses have some kind of data entry function that happens after the paper is submitted to the office. There are a few reasons that this happens.

- a) **Invoicing.** The work that has been performed has to be reviewed, priced and invoiced back to the customer.
- b) **Reporting.** Perhaps part of your service is offering service history reports. In order to generate the reports, the work is transcribed into a central database.
- c) **Search ability.** In order to be able to see what work has been performed to what units, transcription into a central database is necessary.

Transcription is time-consuming. It is usually a manual process where a data entry person looks at the paper and interprets it so it can be entered into a database.

Transcription is error prone. Sometimes this is because the technician's chicken scratch is tough to read. Sometimes it is because the paper is dirty or damaged. Sometimes it is because it is inaccurate. For example, the technician refers to a customer unit that is not in the system yet he fails to record enough information to properly identify that unit. This is where the data entry person has to get on the phone and call the technician to find out what he meant. Nine times out of ten, he can't remember. We then end up with incomplete information in the database.

There is only one way to avoid transcription of paper into an electronic form, and that is to have your technicians capture data electronically in the field without using paper.

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