

Workforce Management

By Tom Gorman

It happens every day. Tens of thousands of installers, service techs, contractors and maintenance techs leave the office—each with a handful of work orders to install, upgrade, disconnect, and provide service to cable customers from coast to coast.

Supervisors then retreat to their offices, check email, attend planning meetings and believe that their workforce is doing all it can to provide service to their customers. In many cases, employees are managed by the "no news is good news" method; if no customer calls to complain, we must be doing a good job. But the truth is, there is limited visibility into our field force workday.

One of the basics in management theory is called MBWA, or "management by walking around." The idea is that in a factory environment, the mere fact that a supervisor is present will cause an increase in work productivity. But the field supervisor doesn't have that luxury. Each individual is driving a truck and is, in effect, his or her own boss.

Automation

Automated workforce management systems have matured to the point where there are great proven results in productivity improvements. They are not, however, a panacea that will cure all the ills of supervising a field force. As a matter of fact, they may only serve to automate bad habits.

Here's an analogy: If I went out to the golf store and bought a \$500 driver, expecting to go on the pro tour, I would be sadly disillusioned. The truth is, my swing is really bad. I should be interested in buying that driver only after I've got everything else working right and when my desire is to shave two or three strokes off my game. So it is with automated systems. They will certainly "shave strokes" off your game and make for a much improved operation, but only if your operation is already sound. Consider a few things that can be done in a non-automated fashion to improve performance and productivity.

Points: The great equalizer

Points are used to allocate time to a task in the field. There are a number of ideas for the value of a point, which can be set up in the billing system. Consider that a point should be worth 5 minutes. Markets that set a point value of greater than that can "strand time." If a point is worth 15 minutes and a task takes 20, a scheduler will assign 2 points to the job, and then 10 minutes of time are stranded.

Because not all jobs are created equal, points become the best way to measure productivity in the workforce. In an eight-hour day, 96 points of time would be available to schedule a tech or installer. The first metric to evaluate is points of work per day, per tech. This is the first measure to consider whether you do a good job of scheduling, routing and assigning. It is also a good means to understand your capacity in workforce for planning.

Next, after points per day, a simple calculation will show how productive a tech's day actually is. By taking the total points per tech per day and dividing that number by the hours worked, a "points per hour" metric can be determined. Why is this important? Say a tech performs 96 points in a day. On the surface that looks great, but what if it took the tech 12 hours to complete those 96 points? Not too efficient after all, is it? Conversely, a tech performing 48 points in 8 hours is only 50 percent "efficient" for the day.

These two metrics will allow a supervisor or manager to understand how well work is being assigned and how well the field force is being utilized.

First job of the day

By looking at when installers arrive at their first job each day, a manager can make decisions on how to ensure that the field force is on the road and working as soon as possible each day. Seeing that in many cases, the time of arrival at the first job is up to one and a half hours after the start of the shift caused one MSO to analyze a couple of things:

1. The customer premises equipment (CPE) issuance process: Many techs spent an inordinate amount of time standing in line to turn in or receive CPE for each day's work. By creating and using a locker system, or other efficiencies, this backlog can be eliminated.
2. The morning meeting: It is generally desirable to meet with the workforce each morning for a daily briefing, but these meetings can sometimes take on a life of their own. By limiting meetings to once or twice a week, techs can be expected to be on the road sooner.

Supervisors should not be put in the position of having to look all around the office to make sure techs are on their way to the first job. Rather, by requiring techs to report to dispatch that they are en route, dispatch can report a tech who is not on the road when expected, allowing the supervisor to use data to coach the individual.

Where are those trucks?

Another method to gauge work force activity, availability and productivity is analyzing much time spent driving, in a customer home, at lunch and so on. This can be done by looking at the time stamps in the billing system. Occasionally, this requires some process improvement in the tech/dispatch relationship. Ensure that techs update instantly and a dispatcher inputs the correct time stamps. If a tech leaves a job at 9:15 a.m. and starts the next job at 9:30, it is logical to assume 15 minutes of drive time between those jobs. By looking at these numbers, an average drive time can be determined, per tech. It is fair to assume that the largest gap between jobs is lunch time.

Work capacity, always changing

Taking a look at completion percentages, including cancellations and reschedules, will yield another view into a company's ability to keep the workforce productive. Many cable operators report average cancellation percentages in the 20 percent to 30 percent range. With a few weeks of tracking to verify, one could determine that overbooking by a similar percentage will let a dispatcher fill the "hole" created by a cancellation so that a tech is not left unproductive. Minimally, ensuring that all available quota is used (96 points per tech) will minimize this issue, but a dispatcher should be continually looking for jobs in the schedule pool to bring forward should a tech have an opening because of a cancellation.

Putting all these data points on a tech scorecard is a great way to give feedback to the workforce and make smart decisions to improve productivity, plan workforce schedules, and be better tied to the individuals who may require coaching. Figure 1 is a sample of a tech productivity scorecard.

	# of Jobs	Avg Service Time	Avg Drive Time	Avg Service + Drive	Lunch Duration	Start Time	Finish Time	Jobs/ Day	Points/ Day	Off Dispatch Time	Data Quality%	Work Time	Points/ Hour	%Hourly Efficiency	% Daily Efficiency
12/4/05	10	0:28	0:14	0:42	0:30	09:30	17:06		91.0	0:25	100.0%	7:06	12.82	107%	82%
12/5/05	9	0:36	0:16	0:52	1:15	08:15	17:30		89.0	0:45	100.0%	8:00	11.13	93%	76%
12/6/05	9	0:34	0:15	0:49	1:20	008:50	16:25		87.0	0:00	77.8%	6:15	13.92	116%	86%
12/7/05	7	0:50	0:16	1:06	1:14	08:15	15:40		70.0	0:40	85.7%	6:11	11.32	94%	76%
12/8/05	7	0:33	0:14	0:47	1:35	09:47	16:25		70.0	0:00	100.0%	5:03	13.86	116%	86%
Total	42	0:36	0:15	0:51	1:11	8:55	16:37	8.4	81.4	0:22	92.9%	6:31	12.49	104%	81%

TABLE 1: Sample Tech Productivity Scorecard

On a day-by-day basis, and then by weekly average, a supervisor can now manage better and know how well the field workforce is using its time. Metrics to watch include:

1. Average service time: Based on the start and stop times the technician reports and entered in military (24-hour) time by a dispatcher
2. Average drive time: Time between end of one job and beginning of the next
3. Lunch duration: Largest gap
4. Start time: Time of arrival at the first scheduled job of the day
5. Finish time: Time the last job was completed each day
6. Points per day: Points allocated to the tasks assigned to each tech
7. Off dispatch: Large gaps that cannot be explained, like long drive times; usually indicative of reporting issues between dispatch and field
8. Data quality: A check to make sure that times are input in military fashion
9. Work time: Actual hours being productive (not an HR reporting number)
10. Points per hour: Total points divided by productive hours
11. Percent hourly efficiency: Using the full hour in scheduled activity, including drive time
12. Daily efficiency: How well the whole work day was utilized; 88 percent efficiency would be a pretty good number.

By putting this discipline in place and by viewing your work staff with good data, you will be well-positioned to go the next step and automate those best practices. 💡

Automated Workforce Management

A number of companies provide tools to automate workforce management, from TOA Technologies, which allows an operator to accurately tell a customer when a tech will arrive, to fully automated tools that perform routing and scheduling, such as those from Arris and CSG.

For information, here are a few links to automated workforce management providers: Arris, www.arris.com; CSG, www.csgsystems.com; and TOA Technologies, www.etadirect.com.

Arris WorkAssure is a suite of field service management tools that combine browser-based business applications with real-time connectivity to the mobile workforce through wireless data connections and mobile computing devices.

CSG Workforce Express consists of two applications: CSG Workforce Management and CSG TechNet. CSG Workforce Management is a client-server application for routing and dispatching activities that receives and updates work orders from CSG's core customer care and billing system, CCS. CSG TechNet uses wireless devices for field technicians to perform work order completion, service upgrades, payment collection transactions, equipment adds, removes, and swaps and addressable transactions. All transactions entered are updated to the billing system in real-time.

TOA Technologies offers a Web-based hub for communications, planning and management of field service and installation activities. It includes capacity management, Dynamic Customer Communications and appointment-related real-time business intelligence.