

Using the Best of **Both OTRS and VSM** to Drive the "Yachiyo System" of Companywide Upgrades

Industry **Manufacturing**

No. of employees **6,818** *1

Sales revenue **¥165.6 billion** *2

*1: As of March 31st, 2018 *2: Year ended March 31st, 2018

Issue

before introduction

While effective in some respects, the company's "VSM plus video" approach presented problems in terms of the efficiency and accuracy of manual tracking and analytics.



Result

after introduction

Video analyses that used to take two weeks are now finished in a day. Financial and time costs associated with overseas business trips have also been reduced.

Company profile

Yachiyo Industry Co., Ltd.



● Established
August 27th, 1953

● Headquarter
393 Kashiwabara, Sayama-shi,
Saitama Prefecture 350-1335, Japan

● Business Description
(1) Development and manufacturing of functional automobile parts (fuel tanks, sunroofs)
(2) Manufacturing of plastic parts and service parts



Interviewee



Mr. Hidemasa Okubo

Factory Manager,
Production Operations Suzuka Plant

Circumstances and Challenges

Manually measuring time with a stopwatch posed efficiency and accuracy

Yachiyo Industry Co., Ltd. works in fields such as the development and manufacturing of functional parts for automobiles. With the aim of achieving consistently high work efficiency, the company had been working on creating visualizations of its operational processes with the use of Value Stream Mapping (VSM) for around three years. However, they remained unable to produce the results they were looking for. Their next step was to give themselves the ability to review their situation with a combination of maps and video, which led to a breakthrough. They could now see real images of the subtle challenges and problems they were facing.

"By narrowing down the problem areas with VSM, and looking into the work being done there in finer detail with video, we could specifically see the points upon which we could stand to improve, such as where we were being slowed down, where the parts were being held up, or where the tools were placed too far away." (Mr.Okubo)

So says Hidemasa Okubo, Plant Manager at the company's Suzuka Plant, under its Production Operations division. Still, the next step in the process of crafting a strategy for improving the company's procedures—namely, the work of breaking the production process down into small steps and measuring the time each was taking with a stopwatch—would be difficult.

"Although we no longer had any major waste of the sort that people could easily see with their own eyes, and were at the point of just rounding up those little, fractions-of-a-second inefficiencies that could be addressed by teamwork and mutual encouragement, doing those measurements by hand took an enormous amount of time, and also presented issues in terms of a lack of accuracy."

Why We Chose OTRS

The deciding factors: OTRS's functionality, analytical capabilities, and its track record at companies including Yachiyo's main customer

One of the reasons why Yachiyo chose to adopt

OTRS in order to solve the problems they were facing was its extensive track record at manufacturing companies in Japan. One automobile manufacturer that has adopted and made effective use of OTRS is also Yachiyo's main customer.

"Originally, VSM was also a process visualization tool used as part of the Toyota Production System, and there were aspects of it that were not quite an ideal fit with the culture and methods of the manufacturer that is a customer of ours. For that reason, we came up with our own 'Yachiyo System,' in which we gain a rough understanding of the total picture with VSM, and use OTRS to closely examine the areas that may have problems." (Mr.Okubo)



Another reason was OTRS's superiority to competing products in terms of functionality and analytical capabilities. With the help of its intuitive UI, OTRS allows users to analyze data with significantly improved efficiency.

"With OTRS, we can make changes even to the way we divide up our work processes with the click of a mouse, and measure our processes accurately, down to the 100th of a second. We can also get the data we want, including time charts, net rates, and line balance rates, all in one step, without having to enter it in Excel, correct it, and prepare it like we did before." (Mr.Okubo)

The Process of Adopting OTRS

Upgrading not just a single process, but the whole

Mr. Okubo tells us that his video-based output from OTRS, including analysis results and suggestions for improvements to work

processes, has elicited numerous positive responses, such as, "How did you create this? Share your data with me!" As word of the video analytics output from OTRS spread throughout the company, morale grew at the factory, and upper management took notice of the benefits of using video. Efforts to make improvements throughout the company, of both the bottom-up and top-down varieties, began.

"I was told by sales that what we were doing would make not just individual processes, but the whole company better. Given that it would work with VSM, and that our customers were using OTRS, I had the sense that we could do what we wanted to do with OTRS, but the most important thing was that we could envision which features we could use in what ways to bring about what kinds of improvements. When you use OTRS, you can do it with the idea that not just one factory, but the whole company is going to get better as a result." (Mr.Okubo)

Benefits of Adopting OTRS

OTRS brings new awareness to the factory floor, and facilitates steady

Displaying graphs of the net rates (equipment operating hours as a percentage of total work hours) calculated with OTRS at the factory helped many of the workers to have a greater awareness of what work is worthwhile, and what work is inefficient. This showed that improvements could be made successfully, and could be linked to a renewed commitment, says Mr. Okubo.



"Prior to this, when I asked at the factory about ways to make our time charts shorter and better, I would often get pie-in-the-sky responses like 'We would need to change the equipment and job sequencing' or 'The only way would be to re-train,' and I would end up stopping there. However, when we analyzed it with OTRS, we found that we could eliminate bottlenecks and significantly shorten our time charts simply by making slight adjustments to our parts supply methods and layout." (Mr.Okubo)

Additionally, when Yachiyo had operations at their overseas facilities captured on video and sent to Japan, they were able to use the results of an analysis conducted with OTRS to provide feedback and offer suggestions for improvements. As a result, the company has reduced the number of business trips made to its overseas facilities, saving time and money.

Looking Ahead

Moving ahead with companywide data sharing, aiming for consistently high performance

As Yachiyo works to improve its analytics with a combination of OTRS and VSM, the

company keeps an eye on the simple indicator of value-added time (operating time) divided by total lead time, based on figures obtained through detailed analyses conducted with the use of OTRS. Yachiyo's approach to improving performance at its factories is such that if, for instance, the aforementioned figures are improved from 1/2000 to 1/1800, that is evaluated as a positive.

"In the past, we would go through cycles in which, even when we were able to bring labor costs down, our logistics costs would go up, or our defect rate would increase, and in the end, after everything was sorted out, our costs would be higher. However, when we see an improvement in these figures (the indicator), it means that we have less waste, and that, without question, leads to improvements in the efficiency of our manufacturing operations. The people at the factory were very happy, saying that our new approach is simple, easy to understand, and easy to work with." (Mr.Okubo)

Video images and figures (analytical data) from OTRS are also straightforward, unvarnished resources. The executives at Yachiyo who have looked this information over are also very much on board, and the new approach is now being embraced as the one-of-a-kind Yachiyo System.

"What I would like to do next is to share the data from OTRS with more of the other divisions of our company, including Production Engineering and Engineering and Development. We have different people in charge for each country, factory, and product. Even when making the same product, there can be discrepancies in the way things are done and in the quality, and that is a situation I would like to address. We want to strive for a consistently high standard across all of Yachiyo's operations globally." (Mr.Okubo)

Users' Voice

To gain a more effective command of it, you have to stick with it and work at it on a regular basis

"While OTRS is intuitive to use and easy to understand, it is not a "magical tool" that anyone can immediately master. Mastering it takes a certain amount of practice. I had to keep practicing for around half a year, too, telling myself, "Just one more week..." By now, though, I do think that I may be able to do it more quickly. For now, I want to keep working with it until I have the full picture of the benefits of OTRS, and then I would like to spread it throughout the company." (Mr.Okubo)



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