

**HOW A DIGITAL
SOLUTION PROVIDED
THE TRANSPARENCY
TO OPTIMIZE THE
MOST EFFECTIVE
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Digitization and digitalization have become industry buzz words as companies look to convert manual paper-based processes to digital ones for the benefits of lowering costs and improving the efficiency of their day-to-day business activities. While the terms are often used interchangeably, Gartner defines digitalization as “the use of digital technologies to change a business model and provide new revenue and value-producing opportunities”. Digitization, on the other hand, is converting analog to digital – or more simply put, taking a paper form and creating a digital version of it. While this is an important distinction to understand when looking to adopt a digital solution, the Payload platform offers both the benefits of digitalization and digitization. Payload’s applications create a digital version of a manual paper-based process and in doing so we enable new business models and value-producing opportunities. The result is the creation of transparency into field operations in order to improve efficiency and make informed business decisions.

A common question from decision-makers in the Oil and Gas industry to technology solution providers is “how will digitalizing our processes save us money?” While this question is completely valid, it unintentionally and unnecessarily shrinks the perceived effectiveness of a given technology solution. Instead, the questions asked should be “what decision points can the solution unlock for our company?” and “what data can be generated to validate our decisions?” Rather than keeping the technology siloed from the core business, questions like the two above address the true ethos of digitalization where technology and the business join forces to affect change throughout the entire organization. Below we focus on one such change – specifically when transporting production fluids, switching from volume-based (“cube”) rates to hourly rates – instituted by a major Oil and Gas company in Canada. This change was identified by the insights provided by our technology solution but actually enacted by the business that produced significant cost savings.

THE SET UP

To understand how the need to change was identified, let's first examine the paper field ticketing process as it stands for many companies today. The Producer calls out work to a service company, the service company contacts a driver and gives them the details of the job. The driver is responsible for manually filling out the field ticket and bill of lading throughout the job, then whenever the driver gets back to their office, they deposit their stack of paper with an admin for processing. The admin then costs and creates invoices for each ticket, records the cuts, and either mails or scans and emails them to the Producer. There are any number of things can go wrong in this process - what happens when those field tickets are damaged? What if they have illegible handwriting or go missing? Not to mention there is a complete lack of real-time transparency into field operations. A digital version of just the field ticket fixes all these issues and more. Digitization also enables faster vendor payment and provides a dispute process that is significantly reduced and completely auditable. The digitization of the field ticket process will save Producer companies money by dramatically reducing the manual effort and time required to manage field tickets, freeing up the employees to perform other value-added tasks. On the other hand, the digitalization of processes enables the business to effectively analyze and evolve its operations. Using data generated by our solution along with the newfound freedom to strategically examine operations, employees can make optimization and efficiency decisions grounded in analytics, saving the company even more money. With the transparency a digital solution provides the company can now start optimizing elements of its operations such as the most effective way to pay for services rendered in the field.

THE DECISION POINT

In our introduction we mentioned how a change from cube rates to hourly rates was identified as a cost savings initiative with the insights provided by our solution, and then enacted by the business. But why do companies seemingly prefer cube rates over hourly rates in the first place? In a manual paper-based process many companies believe that billing by the cube is the most efficient way of measuring the efficacy of their trucking operations. Producer companies, lacking insight into their field operations including the hours worked by drivers, often believe using hourly rates leaves too much room for overcharging. Cube rates, however, are seen as a boon since they incentivize moving as much product as possible as quickly as possible and volumes can be tracked using tank levels and well flow rates. Unfortunately, safety tends to be a casualty of the incentives of cube rates, as safety meetings and even legal items like driving the speed limit get in the way of profits.

PROS AND CONS FOR HOURLY VERSUS CUBE

As part of our analysis, we felt it was important to document the pros and cons of paying by the cube or by the hour captured from many conversations with service vendors and Producers in the last four years. Below is a summary of those conversations:

CUBE RATES

PROS	CONS
✓ Move more product faster	✗ Hard to accurately gauge amount of wait times, standby, and other issues
✓ Regardless how long work takes clients pay the same	✗ Drivers are motivated to drive over hours
	✗ Safety checks and Standard Operating procedures are ignored
	✗ Complex rate management
	✗ Overloading a risk, using non-designated routes

HOURLY

PROS	CONS
✓ Incentivizes taking time to drive safely	✗ Potentially less product moved in same time period
✓ Reduction in costs around safety incidents	✗ Potential for hours per field ticket to increase
✓ Accurate reporting of wait and standby times	✗ Drivers incentivized to increase number of trips needed
✓ Significant increase in adherence to operator safety protocols and SOPs	

It is important to note the benefits of paying by the hour are attainable through the adoption of a digital field ticketing platform like Payload and the implementation by the business.

THE OUTCOME

On March 1, 2019 the company under study moved from cube rates to hourly rates. We gathered aggregate data from two time periods: the first being the immediate term, which was the month directly preceding March 1 and the month directly following (i.e., February 2019 and March 2019). For the second evaluation period we selected a quarter during which each rate type was determined to be “mature” (i.e., Q3 2018 vs Q3 2019). We then compared the aggregate data from these two time periods and derived some absolute and average metrics that we used to highlight the effects of the rate type change.

Furthermore, we took into consideration the volatility in the number of field tickets created and the total volume moved between the two sample periods, which is reflected in the absolute totals. For example, the totals indicated that in the immediate-term comparison the Field Ticket count increased 17% and the volume moved increased 10%; whereas in the mature-term comparison the Field Ticket count decreased 18% and the volume moved decreased 23%. Also taken into account was the variability of external influences that are inherent in hourly rates such as wait times, reduction in trucking due to increased pipeline access, worldwide and Canadian oil price, and rate price changes. As a result of this volatility, it was logical to compare the results on a per field ticket and per cube basis. While we recognize the seasonal variability of the sample periods, the numbers of real interest are the underlying averages which cut through operational variability and provide a clear picture of the cost savings.

IMMEDIATE RESULTS

The immediate impact of the rate change reflected the following insights, benefits and observations:

FIGURE 1
COST PER FIELD TICKET DECREASED 7%

RECORDED MONTH
■ Feb. 2019
■ Mar. 2019

A great place to start is a general metric looking at spend per field ticket. While this metric can be affected by external factors it nevertheless paints an overall picture of cost reductions. An immediate savings of 7% from one operational change is significant regardless of total spend, and as captured in the “mature” section the percentage of savings only increased over time.

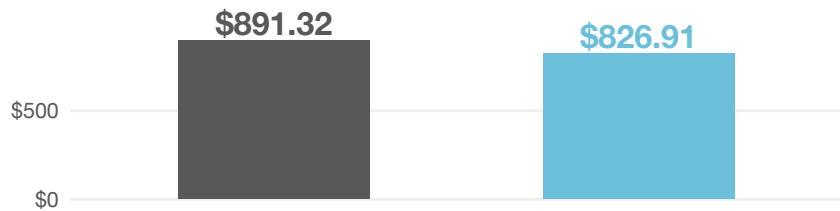


FIGURE 2
COST PER M3 CUBE DECREASED 2%

RECORDED MONTH
■ Feb. 2019
■ Mar. 2019

A common benchmark metric across the industry is cost per cube, which saw a small immediate cost decrease of 2%. This metric is far less affected by external factors which means it is more representative of the direct effectiveness of the change to hourly rates. While the immediate results were small, similar to the cost per field ticket, the percentage savings continued to grow as the change matured.

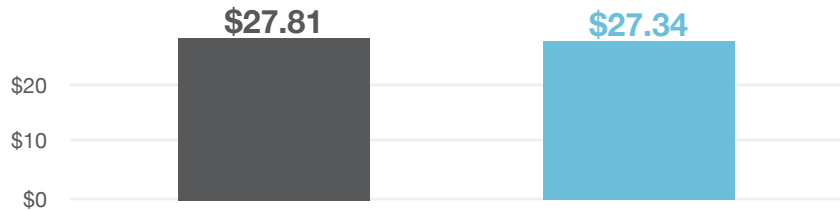
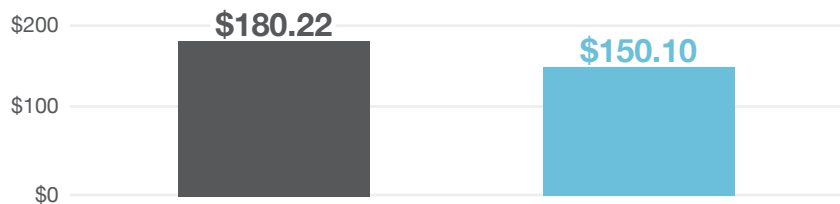


FIGURE 3
COST PER HOUR DECREASED 17%

RECORDED MONTH
■ Feb. 2019
■ Mar. 2019

In reviewing the immediate cost savings, Payload also wanted to see what other outcomes resulted from the switch to hourly rates. The data revealed that total elapsed hours increased by 30% or approximately 34 minutes/field ticket, which initially caused some alarm, but the underlying average shows the real cost per hour decreased by an impressive 17%.



LONG TERM RESULTS

In order to capture the impact of the rate change once each rate type had sufficient operational history, we looked at data captured during the time period of Q3 2018 vs Q3 2019. Key insights and benefits are:

FIGURE 4
COST PER FIELD TICKET DECREASED 16%

COMPARISON
■ Q3 2018
■ Q3 2019

Cost savings seen in the spend per field ticket metric more than doubled from the immediate results seen above. This was the result of a combination of increased care given towards safety measures, accurate reporting of wait times, standby, and other issues, along with service companies deploying equipment more suitable to the job at hand. Also enabled by Payload was the ability to flag outlier tickets – those tickets with abnormal cost or duration – enabling the Producer to manage by exception, identifying and rectifying erroneous data points. The 16% cost savings seen in the first two quarters after the change to hourly rates had a huge impact on the producer's bottom line.

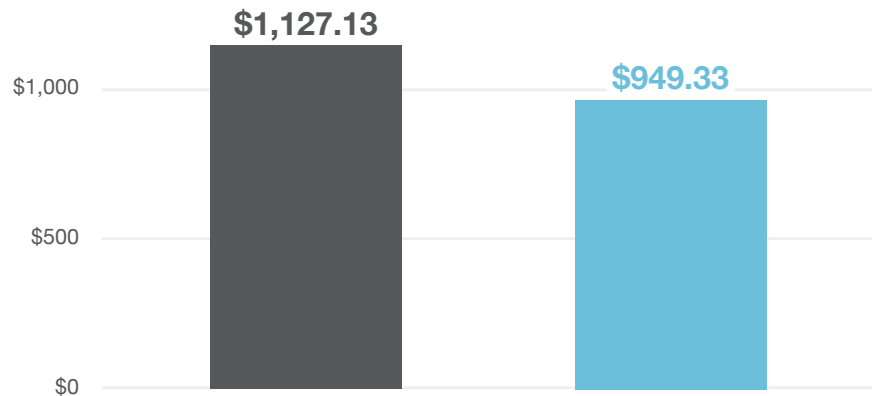


FIGURE 5
COST PER M3 CUBE DECREASED 10%

COMPARISON
■ Q3 2018
■ Q3 2019

Looking at cost per cube the increase in savings was even more dramatic, quintupling from the immediate savings to reach 10%. As volume was moved more efficiently and ancillary costs surrounding issues and accessories had a corresponding decrease the true effect of the rates type change was seen.

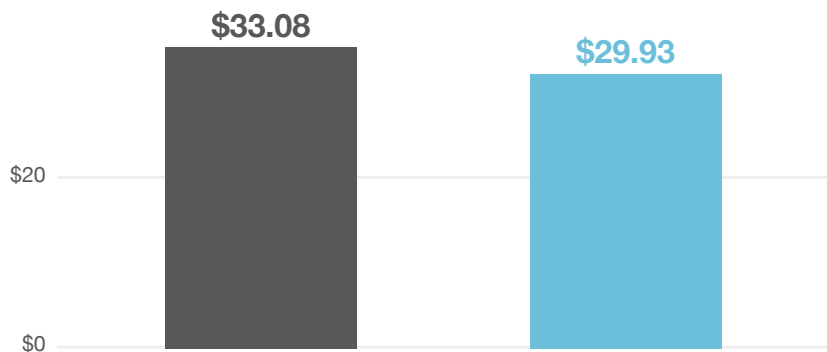
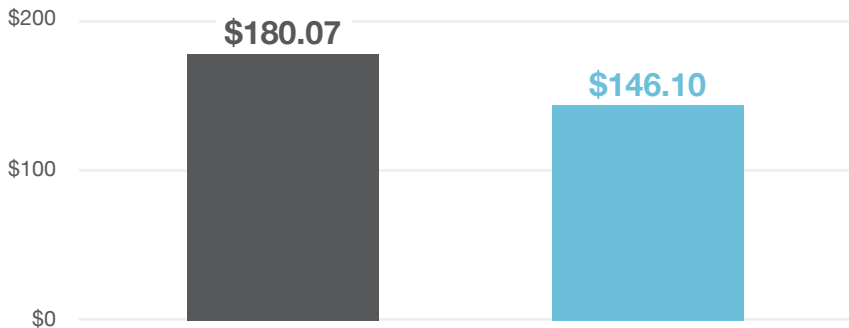


FIGURE 6
**COST PER HOUR
DECREASED 19%**

COMPARISON

- Q3 2018
- Q3 2019

The data also uncovered that while drivers were taking on average 15 minutes per field ticket more to complete the job in Q3 2019 than in Q3 2018, this was significantly less than the 34 minutes per field ticket that we saw in the immediate comparison scenario. This can easily be explained as the drivers taking the time to do safety items like pre- or post-trip inspections, or even driving the speed limit at all times. The real cost per hour metric only decreased an additional 2% from the immediate time period, settling in at 19%. The front-loading of savings for this metric shows that costs savings achieved for the other metrics is not a result of significant hourly rate reductions between the immediate and mature periods, further validating the effectiveness of the change to hourly rates.



The data shows that the cost savings seen in the immediate term continued growing as the change matured, in some cases dramatically. Even with the mature-term hours per Field Ticket metric showing an increase of 15 minutes/ticket, costs fell across the board. The cost per cube savings from implementing the change from m3 rates to hourly rates was \$3.15 per cube. Apply that per cube savings to any operation and a picture of the significant impact can be envisioned.

Looking even farther into the future there was an additional \$4.62 per cube of savings between Q3 2019 and Q3 2020, though the farther out from the change to hourly rates the data gets the less reliably we can attribute the savings directly to this one change. However, the additional savings can be attributed to the power of having a technology solution in place to digitize and digitalize field operations.

CONCLUSION

**“YOU CAN’T
MANAGE WHAT
YOU DON’T
MEASURE”**

– PETER DRUCKER

The COVID-19 pandemic has been especially influential in the move to digitization and digitalization with companies needing to find new and creative solutions to limit common business processes that involve person to person contact. The implementation of Payload’s solution enabled the elimination of a paper ticket process and in doing so created data and analytics to prove the most effective way of paying for trucking services rendered in Oil and Gas field operations. The conclusive evidence pointed to a significant cost savings by paying for trucking services by the hour. It is important to note that while this is the most beneficial payment type, it is only effective when a digital solution like Payload’s is used in the process and when the business is actively involved in the implementation and measurement of the digital solution. It is also important to note that many of the cons captured above under the hourly payment option can be alleviated by the visibility a digital solution provides.

New technology only saves a business money when the business adopts, adapts to, and effectively implements the technology. Payload provides significant data points for the business to make informed data driven decisions. The large Oil and Gas company that implemented the Payload platform had, like many companies, chosen to pay their service vendors by volume hauled for production fluids. They had done so because without a digital solution they did not have the visibility or transparency to effectively manage hourly work, and volume movement is easier to track in analog. After implementing the Payload eTicket platform and establishing new baselines for their logistics operations, the company was empowered by key insights through mass data collection to make the change. The cost per cube savings from implementing the change from m3 rates to hourly rates was \$3.15 per cube. Digitization and digitalization save money, improve efficacy, and help future-proof businesses against the rapid technological advancements of today, allowing companies to maintain their competitive edge.

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ABOUT PAYLOAD

Payload is a unique, easy to use cloud-based solution to optimize logistics and supply chain management. We work with our clients to deliver simple, accountable logistics tracking and reporting that provides transparency and insight into client operations. Companies look to Payload when seeking to save money and create efficiencies by:


- ✓ Increasing visibility into historical and real-time operations.
 - ✓ Helping streamline decisions and communications between the field and the office.
 - ✓ Creating transparency into wait times and vendor accessorial costs.
 - ✓ Optimizing workflows such as Service Vendor rate management.
 - ✓ Increasing the accuracy of field ticket data captured.
- ✓ Creating an auditable approval process for field tickets that reduces errors and time spent on managing disputes.
 - ✓ Providing quick access to key documents such as Safety Data Sheets, Road Use Agreements, and manifests in the office or on the road.
 - ✓ Decreasing the manual paper process bottlenecks saving time and money.
 - ✓ Improving Health, Safety and Environmental standards with real time alerts and issues reporting

We are transforming logistics by giving Producers and service providers the information they need to save money and time. Payload works with its customers to significantly alleviate the extensive manual effort currently required to be compliant in transporting waste and recyclables from origin through to destination.



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SOURCES/REFERENCES

Forbes article retrieved from: [Link](#)

Data captured in the Payload eTicket system for the following date ranges:

- The month of February 2019
- The month of March 2019
- 3rd quarter ending September 30, 2018
- 3rd quarter ending September 30, 2019