

ANALYSIS OF A DIGITAL REVOLUTION

Mahesh Konduru, ProSep, USA, discusses how far digitisation and digitalisation have come in creating value within oilfield services.

Global interest levels in automation of routine activities have exponentially risen not only for everyday home use but also for industrial use. Various terminology along the lines of digitisation, big data, and the Internet of Things (IoT) are prevalent today. The oil and gas industry, traditionally known to take on technology later than other industries, is showing signs of being open to efficiency in technology adoption. The oilfield services (OFS) segment of the oil and gas industry has particularly seen an interest and intent level spike in capturing various efficiencies from digitisation. Top tier OFS companies have appointed chief data scientists or digital officers.

This article focuses on how far the OFS segment has come along with digitisation and digitalisation by examining each function including sales, marketing, engineering, design, accounting/finance, operations, and service. By examining these in such manner it would be possible to realistically identify which realised efficiencies can be passed on to clients in a digitised and digitalised economy in the OFS segment.

Understanding the definition of buzzwords such as digitisation and digitalisation is important in order to determine what new tools are needed, how they can add value and how they can be best deployed within the industry. Digitisation is the automation

of existing manual and paper-based processes, enabled by the transformation of information from an analogue to a digital format.¹ Meanwhile, digitalisation means the use of digital technologies and of data (digitised and natively digital) to create revenue, improve business (not just processes) and create a digital culture whereby digital information is at the core.²

The core message for this article is to determine how to deploy these tools in order to create value to clients (VTC), value to shareholders (VTS), and value to employees (VTE) in OFS. Creating VTE will motivate employees to create higher VTC and in the process drive VTS. VTE is created by developing easy-to-use processes, providing best in class tools and training. This improves productivity by lowering time spent for deliverables – directly lowering sales, general, and administrative costs (SG&A). However, the recommendations made in this article are not one-size-fits all but address OFS companies with revenues of up to US\$300 million per year.

Sales

Digitisation of sales operations has gotten to critical mass with the increased adoption of customer relationship management (CRM) systems globally in the last 20 years.

Companies have deployed various tools including Microsoft Excel, CRM software, and ‘trip reports’, but have not achieved true ‘digitisation’ in that not all sales activities are entered directly into a ‘digital’ system (mobile phone, tablet, or laptop). Rigorous use of the same format companywide and accountability should be developed through weekly review of clearly set goals for detailed sales activities including phone calls, in person visits, and decision maker meetings.

Historically and even in current times, sales cycles for securing orders on technology products vary from 18 - 24 months for national oil companies (NOCs), to 6 - 12 months for US onshore operators (Figure 1). These sale cycle durations can be expected to shorten within the same client once the product/system is sold. Having a single sales coordinating tool alone does not lower sales cycles. In addition to easy-to-share sales coordinating tools, which can help all sales staff to focus on meeting decision makers, it is important to be consistent on a simple sales strategy by region and by product. The sales strategy for a ‘widget’ sale is not the same as that for a ‘system’ sale. The best case sales scenario would be that of a motivated sales person being (a) disciplined in the use of a simple digital sales tool, (b) getting to a decision maker fast, (c) understand the values of the decision maker, and

(d) succinctly communicating the value.

If the combination of digitalisation and clear strategy can shorten sales cycles by 15 - 25% it directly lowers the SG&A allowing an almost linear lowering of pricing to client, hence contributing to VTC. Shorter sales cycles also mean more sales in a year and thereby causing an increase to VTS.

Marketing

Technology products in the OFS segment need dedicated product and brand awareness strategies to aid the shortening of sales cycles. Tools to execute these strategies range from website enhancement, branding, brochures, data sheets, social media presence while channels would include press releases,

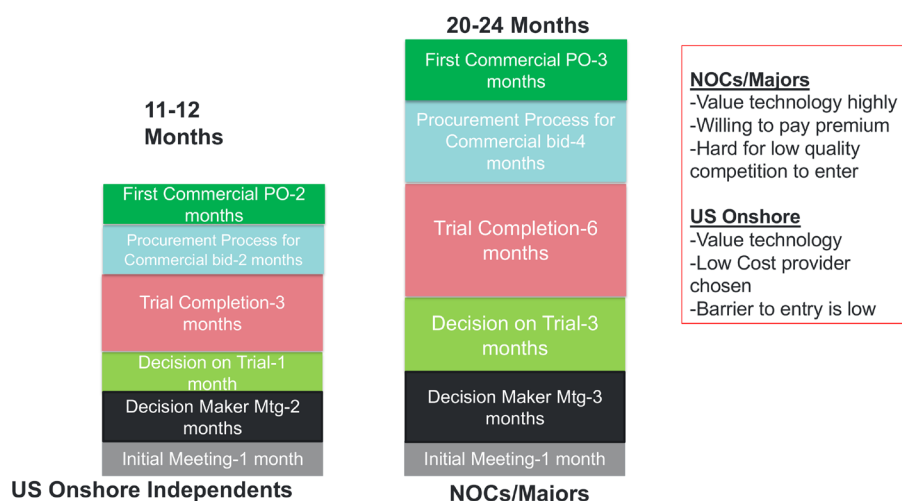


Figure 1. Typical tasks and sales cycle time-lines of technology products at national oil companies/majors and US onshore independents.

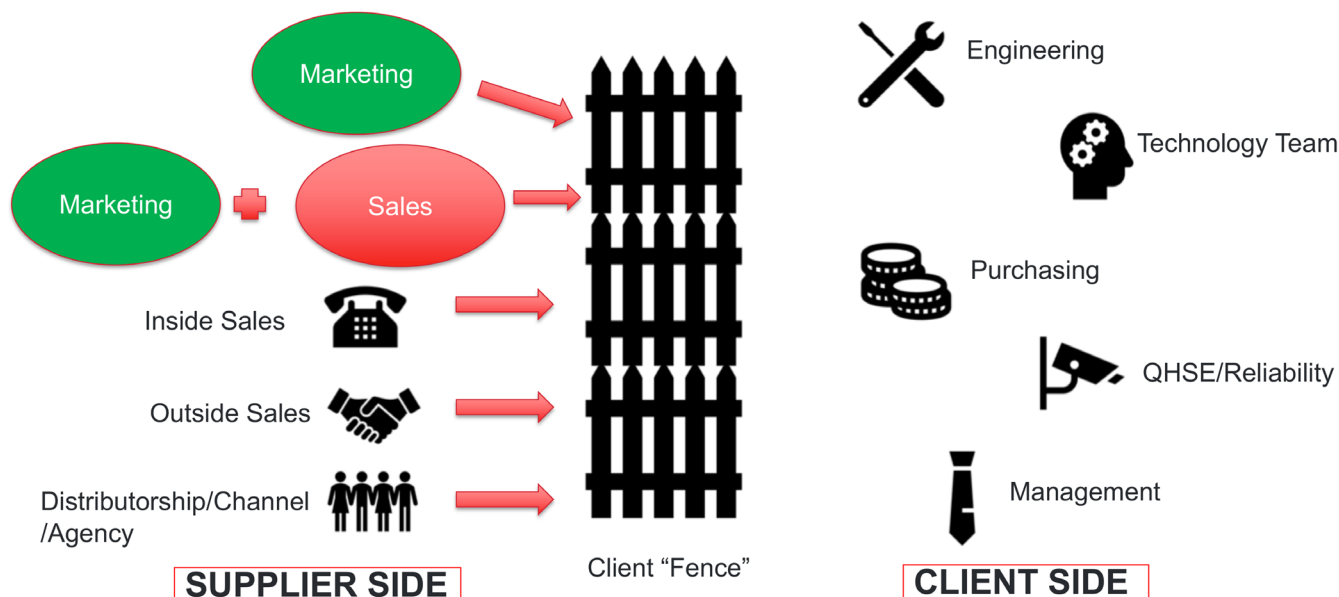


Figure 2. Pathways to a sale from supplier to client side: get to the decision maker as a soon as possible – hardest task.

print advertising, digital advertising, newsletters, exhibitions, thought article authorship, and search engine optimisation (SEO). Often the key is to get to the decision maker as fast as possible and this is not always easy considering all the stakeholders to navigate at clients (Figure 2).

Utilisation of digital marketing tools are a boon to those OFS companies that believe in metrics for all functions. Analytical tools, including Google Analytics, allow companies to track the effectiveness of a specific marketing tool deployed easily. These tools also let companies adjust their strategy on a real time basis – for example in Q2 of one fiscal year it was found that the key sales orders for that year had come via clients using the search engine. Even in the OFS segment, the use of ‘Googling’ is quite common – therefore, the strategy was adjusted to focus on SEO. It is anticipated that the dollar sales generated per dollar marketing spend will improve in 2018 compared to 2017 – this is a result of a combination of events including sharpening of the digital marketing strategy and increased brand awareness. The result is a lowering of SG&A, allowing the company to pass on savings to clients, improving VTC.

Engineering

The two aspects of engineering that will be covered here are design and process. Digitisation over the years has materially improved the ability of designers to deliver drawings faster. Various specialised tools available have allowed for the creation of ‘plug and play’ drawings of components, which has provided flexibility and ultimately led to material shortening of time for supplying drawings. It is important to focus resources on hiring the right design person and providing the right tools and training from the very beginning, as engineering designs change rapidly during the bid preparation stage and having the best resources in terms of personnel and tools is a game changer – this could often determine winning or losing a bid. In addition, having all key engineering managers communicate in easy to understand metrics, for example US\$/kg, US\$/bbl, for budgetary quotes to expedite ‘opt-in’ and ‘opt-out’ bid decision making is key.

During proposal bids, submission time is short, while pricing accuracy is in high demand. Historically, process engineers are under a lot of pressure to not only to deliver preliminary process flow diagrams (PFDs) for multiple budgetary bids but also to constantly update them. Examples of digital tools that can help process engineers to generate preliminary PFDs faster and estimating/sales teams to arrive at budgetary prices faster are ‘non expert’ design tools readily available and plug and play module pricing in Excel spreadsheets. Efficiency in both of these areas can: improve VTC as clients can choose which bids to consider faster; and improve VTS as proposal and sales managers can effectively determine if a bid is worth bidding for.

Service

Utilisation of data analytics and digital tools can potentially have their highest impact in the service function of the OFS segment, especially if the business model is heavily slanted towards rental/leases. There is an asymmetry between resource (personnel, product, and asset) utilisation and amount of money spent in the service industry. Several factors cause this including lack of inter- and intra-company communication within the operator network, personnel changes, expensive real time monitoring tools, and few centralised sources of prior service data.

Advances in hardware components and software tools will soon allow this asymmetry to wither away allowing for efficient service to occur at lower prices. A key challenge for companies is to overcome the traditional attitude as well as spending upfront on tools and not focusing on short-term effects. As an example, ProSep are in the process of deploying a simple mechanical device that aims to distribute contaminant removing chemicals more efficiently. Currently there is no incentive for chemicals providers to add a measuring device with a real time feedback loop to adjust the delivery of chemicals – less chemicals means less revenue for them. The company have begun working with a couple of their partners that are chemicals suppliers, who understand the need to generate value to clients (VTC). The problem the company now faces is installing economical measuring devices that can communicate ‘two-way.’ The answer could lie in combining current simple data collection devices already in use with easy-to-use software tools.

Finance

Finance and accounting have probably been the largest beneficiaries of digitisation, from books to computers, over the last 25 - 30 years. The use of Enterprise Resource Planning (ERP) systems has further automated financial operations worldwide. The challenge then is choosing the right ERP tool based on the size and complexity of operations at an OFS company. Choosing a simple tool is recommended to get the best training for key personnel – VTE. OFS companies are better off investing in a strong CFO and/or controller who has solid experience with installing and configuring ERP systems from scratch.

Information technology

Information technology (IT), in terms of hardware and software, continues to be the backbone of most of companies in the modern day. The OFS segment is no different. In fact, digitisation and digitalisation in the OFS segment is heavily reliant on access to IT infrastructure and resources. Agility in responding to requests for quotation (RFQs) and speedy collaboration between engineers during project execution depends upon having the right IT tools and resources. The rapid scaling up of storage resources and wireless network speed and reliability has made cloud storage infrastructure accessible at an affordable price to OFS companies of all sizes. Cloud storage also comes with strong security tools as well. A swift move to cloud storage with the right software tools and training is critical in creating a facile work atmosphere for employees, which leads to VTC.

Conclusion

The OFS segment of the oil and gas industry is showing great signs of increased adoption of existing digital tools. In addition management teams are investing resources in learning the value of new digital tools, which is encouraging. The key then for faster client adoption of technologies in OFS is mission-driven communication from the top, adequate training, and longer-term thinking for rate of investment returns. ■

References:

1. ‘Digitization, digitalization and digital transformation: the differences’ – <https://www.i-scoop.eu/digitization-digitalization-digital-transformation-disruption/>
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