WHITE PAPER

THREE TRENDS TO LOOK OUT FOR IN CTRM/CM FOR 2021

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INTRODUCTION

2020 was a fascinating year for CTRM software especially as seen from the analysts' perspective. As we entered the year, ComTech was already noting that the business environment was changing quite rapidly and that this was having an impact not only on CTRM software adoption rates, but also the kind of solutions that companies were selecting.

In particular, more agile cloud-based solution vendors were benefiting, largely at the expense of the large, traditional monolithic CTRM products. However, when the COVID-19 pandemic started and lockdowns began, many of these changes were acclerated and several new challenges emerged. There is no doubt that at the time of writing and for at least another 6-months or so, the situation will remain difficult with respect to COVID. Yet the pandemic and its direct impacts are not the only challenges facing commodity firms.

The effect of these issues has been to accentuate certain trends in CTRM software. Sometimes, these challenges are driving related initiatives like digitalization, which in turn, has a further impact on CTRM in commodity firms. As such, the market for CTRM solutions is rapidly changing, in terms of desired software capabilities and features, but also in how that software is delivered, implemented and used. As 2021 begins, it is worthwhile to examine some of the more important trends that we are seeing and to consider what they may mean for the not-too-distant future.

TREND 1 – COMMODITY MANAGEMENT

A major trend over the last few years has been an increasing focus on the physical supply chain and assets within commodity businesses. Minimizing disruption in supply chains, reducing costs and increasing efficiencies, as well as managing operational risks throughout that supply chain, are all drivers for companies to update their technology infrastructures to improve bottom-line performance. From a CTRM perspective, this has driven a trend toward Commodity Management.

Commodity Management (CM) was defined by ComTech[1] as the superset of ERP for commodities and CTRM a few years ago, explicitly incorporating the supply chain. As such, CM can encompass logistics (in all its forms), packaging, workforce management, inventory, processing, document management, assays and all of the other activities involved in getting a commodity from its' source to point of end use.

What we are seeing is the converging of software categories that we had talked about a few years ago[2] in which CTRM vendors have added more ERP-type functionality while ERP vendors have added commodity-specific capabilities, as well as trading and risk functionality. While the emphasis was initially on achieving the integration between these functions for increased efficiency, it increasingly is now about optimizing business processes using analytics and workflow to ensure that everything needed to streamline processes is present in the solution. We see this as a continuing trend and expect to see increasing overlap between CM and CTRM.

Focus on the entire supply chain is critical in mitigating operational, geopolitical and other risks, reducing costs, increasing efficiencies and optimizing the assets of production, inventory and transformation. We think that this will increasingly mean a focus on 'event triggers' as well as the critical business processes of the firm, combined with exception management and automation. Events of various kinds occur throughout the supply chain from, for example, planned contract to contract execution, from shipping to unloading, to re-assay, and so on. It is these events that often trigger changes in P/L projections and/or the need to perform various additional business activities downstream in the process. If these activities are performed late, the company may incur penalties or be exposed to unplanned risks etc. For example, a new price will trigger a revaluation that in turn can impact hedging needs and much more or, a new chemical analysis or assay can trigger a variety of recalculations, notifications, documents and actions. CM and CTRM solutions that can offer this form of event management, especially if combined with automation and exception management, will offer significant business benefits. We see a move towards event triggering in CTRM/CM software to ensure that impacts are understood in a

[1] CTRM as an Architecture, Commodity Technology Advisory White Paper
[2] https://www.ctrmcenter.com/publications/newsletter/blurred-lines-cm-erp-ctrm/

timely basis and that necessary downstream activities are performed on a timely basis.

Managing by exception is another key aspect of this trend and is an area where AI and ML can be applied in conjunction with automation to increase efficiency and reduce costs. By identifying just those transactions requiring human intervention, more focus can be applied to those transactions, while automated processing of the most common allows those to be concluded faster and with lower possibility of error.

Another area to consider as an associated component of this trend, or at least as being related, is trade finance. Increasingly commodity trade finance is under pressure as banks either exit the business altogether or have halted any new financing due to losses, risks and even fraudulent activities. Securing and managing finance is also increasingly subject to activism of various kinds and represents a new and rapidly emerging risk to commodity industry firms. However, it also represents an opportunity for innovation in financing structures and as a catalyst for the entry of non-traditional sources of finance. It can also be yet another driver around commodity management and supply chain optimization.

Indeed, activism of various kinds is also driving other supply chain issues like traceability. Increasing rules and regulations surrounding climate, sustainability, deforestation, child labor and "conflict commodities" will require companies to not just track and trace shipments, but also prove their origin and ensure no laws have been broken when crossing borders where import controls of this nature exist (e.g., the USA). Of course, traceability is important for a variety of other reasons as well including brand and consumer protection and is yet another driver for looking at the entire supply chain and the activities and events that comprise it.

In summary, we do see commodity-centric businesses accelerating their efforts to incorporate all aspects of the commodity supply chain, not just trading and risk, into their overall commodity technology infrastructures. Those solutions that reside within those architectures need to incorporate functionality that optimize supply chains and improve efficiency by alerting users to problematic areas that require attention or intervention. Additionally, increasing use of automation via ML or AI apps will result in more rapid processing of "standard" transactions, potentially resulting in accelerated cash flow and a reduction in errors.

TREND 2 - CLOUD

The cloud has been around for many years now and we have observed the myriad of objections and a reluctance to adopt cloud solutions slowly dissipate over time. The pandemic has further accelerated this trend as lockdowns exposed issues with business continuity, particularly around access to critical systems running on inhouse servers while employees worked from home or other offsite locations.

The experiences of companies, and of vendors, that have successfully transitioned to remote service delivery (including full system implementations) during the pandemic have helped to further breakdown any remaining barriers to cloud adoption. With the maturation of cloud delivered solutions, particularly those running in public clouds, many of the currently available CTRM systems can now take advantage of the tremendous scalability offered in these public clouds, while simultaneously controlling computing costs by eliminating in-house servers and related infrastructure.

The migration to the cloud has also forced a switch in pricing for almost all CTRM solutions, even those delivered in a traditional on- premises installation. The move to a rental-type agreement in which support and maintenance (S&M) costs are embedded in a single monthly or annual fee (as opposed to a perpetual license model with large upfront fees and annual S&M payments) now means that the initial acquisition costs of a new CTRM solution will be lower and more accessible for mid and small-sized commodity companies. There is of course an argument that in the longer-term, these rental-based licensing models can become more expensive; however, this is in part defrayed by the convenience and reliability of the model.

ComTech proposed[3] several years ago a shift in architecture to that of ecosystems of smaller products and away from monolithic solutions. We now see this concept being adopted more broadly by vendors and buyers alike who are leveraging cloud capabilities to deliver discreet apps along with advanced API's to knit together solutions. In the last several years, a number of vendors like Gen10, Eka, Previse Systems, CTRM Cubed and others have successfully remade their product offerings around that model and have found solid adoption in the market. The ecosystem also allows larger more complex commodity businesses to mix and match commercially available applications with custom applications, creating unique "best fit" architectures that further their capabilities in areas where they believe they have a competitive advantage. It allows deep vertical functionality to be deployed for specific commodities and supply chains by leveraging broad horizontal functionality provided by other applications that provide little of the commodity-specific capabilities they might require. For example, a European-based energy trader can combine market-specific power trading and logistics applications and

[3] CTRM as an Architecture, Commodity Technology Advisory White Paper

natural gas trading and logistics applications with a set of generalized commodity-centric back-office, reporting and risk applications.

Although much of the cloud-based activity in CTRM and CM had been single tenanted (hosted in the cloud) we are now seeing more multi-tenanted Software as a Service applications coming to market. We do expect that this trend will continue and extend such that some or all the applications in an CTRM/CM ecosystem could be multi-tenanted, even those used by larger, sometimes global scale, commodity companies. With widespread adoptions, these multi-tenanted components could not only offer both a cost and maintenance benefit, but also help facilitate increasing adoption of more agile and adaptive standardized business processes across various markets or industries.

An additional driver in this trend is ease of use. Though usability has always been one of the buying criteria in CTRM software procurement, it has also been one that was difficult to deliver as it often meant compromising complex capabilities to improve the usability of screens or processes. We think that the combination of cloud ecosystems of smaller, more focused applications (with an increased emphasis on making data in those systems more accessible) will help deliver an improved user experience via powerful BI and data visualization tools, in combination with user definable dashboards. We expect this trend to continue helping turn CTRM from an after-the-fact accounting system into a near real-time and intuitive solution that enable users to spot market trends and opportunities more rapidly, ultimately improving financial performance.

TREND 3 – NOMADIC WORKFORCE

One of the most interesting, and perhaps surprising, developments arising from the pandemic has been how quickly remote service delivery and implementations capabilities have developed and been adopted, beginning with the initial lockdowns at the end of the first quarter of 2020.

The massive structural changes that occurred when much of the workforce was effectively locked out of offices and forced onto dining room tables has led to a new way of working and work delivery that we be believe will out-live the pandemic. Though perhaps not a long-term solution for all rank and file employees, we do believe that with newly proven remote delivery capabilities, consultants and system integrators will continue (either by choice or customer request) in the remote working mode even after it is deemed safe to recongregate in offices. When combined with the other trends discussed above, this could also have a major impact on the CTRM.CM software marketplace.

However, working remotely does come with security risks. A recent survey by Kaspersky[4] notes these

[4] https://media.kasperskydaily.com/wp-content/uploads/sites/92/2020/05/03191550/6471_COVID-19_WFH_Report_WEB.pdf

increasing risks and highlights the fact that most firms are far from secured with workers at home. As such, IT organizations will increasingly be tasked with developing standards and processes that allow for easy remote access to internal systems, while ensuring all available security measures are in place to eliminate the threat of bad actors also accessing those systems. This need for new remote access capabilities may result in increased security requirements for CM and CTRM software, such as embedded two-factor authentication.

Additionally, as the migration to cloud-based ecosystems continues, we may also see issues emerge around the availability of deep CTRM/CM product expertise. Third-party consulting firms have traditionally relied on hiring experts that have deep experience in one or two of the large, complex (and expensive) CTRM/CM solutions. However, they now face two significant issues. First, there is likely to be a progressive migration away from those large-scale and essentially monolithic products to smaller vendors successfully selling true cloud solutions; and secondly, remote implementation and support may mean there will be less demand overall for consultants.

As these smaller vendors acquire new customers, those customers will need additional resources to assist in the implementation and support of those products. Given the limited pool of such resources, they many find the most readily available talent will be the nomadic consultants who can work remotely and potentially service multiple clients simultaneously. How this will impact the larger consulting and SI firms is not yet known, but the emergence of the nomadic consultant as a lifestyle choice has been often noted as a growing trend across many industries in the media and by ComTech[5]. In fact, some countries now even offer nomad visas allowing people to reside in their countries for varying lengths of time while working remotely. In talking with headhunters this last 6-months, the shifts are already beginning to occur as customers of CTRM/CM vendors are looking to contract with independent consultants with proven expertise to work remotely.

This trend has further implications on the development of less experienced consulting resources as the traditional training environment in which newly hired or junior consultants are provided on-site experience at reduced cost to the customer is being eroded by remote service delivery. This could result in a growing skills gap over the next several years as younger, less experienced consultants are not able to gain traction in the industry.

Plainly, should this trend continue, there will be challenges for the broader CTRM/CM industry. Large consulting and SI firms may struggle to address industry needs and a skills gap may emerge, resulting in fewer qualified resources being available for new buyers. Though this impact has not yet been felt, should it occur, it could be especially problematic at a time when a technology transition is playing out, with future resources choosing to pursue degrees in fields like data science, AI, ML, blockchain, automation, optimization, UX design and newer programming languages like Python. For some, this presents an opportunity and for others, it could be a large problem.

[5] https://www.ctrmcenter.com/blog/is-the-digital-nomad-the-future-ctrm-expert/

SUMMARY

2020 may well be looked back on as the year of "big" transition – one in which events conspired to finally drive CTRM and CM software to become more agile, lower cost, easier to use and more focused on optimizing business performance (instead of simply accounting for that business after the fact). Though this period of transition has and will continue to pose challenges to all sides of the industry, it will also create significant new opportunities for all involved.

Looking to the future is always a risky business but it does seem to us that significant change is afoot.

ABOUT

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Commodity Technology Advisory is the leading analyst organization covering the ETRM and CTRM markets. We provide the invaluable insights into the issues and trends affecting the users and providers of the technologies that are crucial for success in the constantly evolving global commodities markets.

Patrick Reames and Gary Vasey head our team, whose combined 60-plus years in the energy and commodities markets, provides depth of understanding of the market and its issues that is unmatched and unrivaled by any analyst group.

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