HCL Enables After Sales Monetization through Digital Thread

CIMdata Commentary

Key takeaways:

- *After-sales operations are complex, often a business within a business as a silo not tied to product development and manufacturing.*
- *Fast access to accurate product data is critical but far from the only requirement to improve after-sales operations. Warranty activities, repair development engineering, technical publications, supplier management, field services, and shop support are all critical elements that need to be incorporated.*
- *While many capital and durable equipment companies see after-sales service as an untapped profit opportunity, the reality is few are realizing the opportunity. For most it is still an immature business without a holistic view or plan.*
- *The integration of Geometric helped HCL enhance its after-sales capabilities, enabling recent successes in creating solutions linking product realization with after-sales support, closing the loop around the product lifecycle for several key clients.*

Every company wants to maximize revenue, especially predictable, recurring revenue. Services and especially spare parts can be highly profitable. In addition, maintaining a strong connection with the customer can ensure follow-up sales and provide intelligence that is useful in expanding business and improving products.

The reality is that few product companies truly maximize after-sales revenue for several reasons. When a product is new, all the energy goes into innovation and getting the product into the field. Service is usually an afterthought. In many industries the sales responsibility is shared with a dealer network or channel, making it difficult for original equipment manufacturers (OEMs) to connect with their customers. For instance, in the case of automakers, suppliers legally cannot sell directly to customers. While most OEMs have warranty programs, they are not usually the most positive way to communicate as the customer only initiates contact when something is not working. Even when companies have an after-sales function, they are often structured as separate profit centers operating in a silo.

As businesses grow and functions gain critical mass they sometimes struggle to maintain cross-functional connections and may evolve into silos. For older companies, service evolved into a silo partially due to a lack of technology available to support it. Since technology wasn't available to easily connect functions, they grew as silos and are only consolidated with the business through financial results. Their disparate systems require complex, custom integrations to exchange information, and function owners lack confidence that they will see an appropriate ROI if they fund an after-sales project.

Pressures on business including profitability and customer retention are driving function owners to take a more holistic view, breaking down the silo walls to better integrate information and processes across functions creating a digital thread. In addition, information technology including integration software, product innovation platforms, and Internet of Things (IoT) are driving businesses to combine product innovation, manufacturing, and after-sales into a holistic business solution enabled by the digital thread and digital twins. CIMdata believes that creating a digital thread connecting functions as processes, results in more after-sales revenue being captured and improved customer satisfaction.

Typical after-sales operations include installation, warranty activities, field service, supplier management, spare parts sales, technical publications, as well as product enhancements and upgrades. Service Lifecycle Management (SLM) and Maintenance, Repair, and Overhaul (MRO) are common names for this function. These types of services may be offered by the OEM. But they may also be offered by third-party companies including dealers and independent service companies. CIMdata believes that the non-OEMs can also better integrate into the product lifecycle to improve customer satisfaction, a common OEM goal.

Optimally supporting SLM and MRO requires the necessary data and processes, enabled by the right technology. Product data including as-designed and as-manufactured configurations are essential as they define what the customer purchased and received. Most important for SLM and MRO is the as-maintained configuration, how the product is currently configured. Having the right information ensures delivering the right service action as needed. Customer data, usually managed by a Customer Relationship Management (CRM) solution, is critical to help support personnel track incidents and issues. These incidents and issues can generate many activities including service calls, replacement parts requests, document or design changes, or an order for an enhancement, upgrade, or additional products.

A wide variety of processes also need to be enabled such as incident, time, material, and order tracking. As-maintained configuration updates, customer satisfaction, and invoicing are all possible within this business within a business. After-sales personnel need fast access to product data to support many of these processes. For example, when customers call with questions, a technician needs to understand the exact product configuration. Complex products can have many different configurations, from different features and options through variations in the as-maintained configuration and even terms of the support contract. The correct answer to a question can depend on any element of this information. In addition, the as-maintained configuration needs to include reference to relevant updates and recalls, when and what service was performed, and sometimes even who performed the service.

Connecting after-sales data with product data also benefits upstream operations within the enterprise. Product planners get visibility into customer issues that can lead to product insights and new product innovations. By analyzing incident reports, service calls, and spare parts disbursement, product developers can identify opportunities for product improvement, maintenance schedule adjustments, and documentation updates to improve products. Complete and accurate after-sales information helps close the loop back to the front end of the product lifecycle. This closed loop helps companies learn from product use how to optimize their product designs and manufacturing processes to support business strategies leveraging SLM and MRO.

The acronyms IoT and IIoT (Industrial Internet of Things) have received a lot of hype over the last decade. While there is a lot of hype, these are real initiatives, and have been enabled for many years in some industries albeit with proprietary technology. For example, aircraft engines and elevators have been phoning home for decades.

Modern IoT and IIoT are making it much easier for OEMs to add monitoring capabilities to their products. The increased accessibility along with inexpensive computing and telecom infrastructures, especially the Internet, have made an IoT or IIoT strategy a must have. Low cost sensors and data capture can enable companies to change the way they do business by connecting to equipment remotely rather than via a site visit that may be costly and require time to download data and diagnose problems. When equipment phones home, technicians have a much clearer picture of what is wrong and they can fix it more quickly. In some cases, with software-driven equipment it is possible to fix issues remotely.

HCL's Aftermarket PLM Capabilities

Closing the loop and maximizing after-sales revenue takes much more than technology integration. People, process, and technology need to be addressed to be successful. Using a systems integrator is a common strategy to make this type of change.

In 2017 HCL acquired Geometric Ltd., a well-known PLM-focused developer and systems integrator to improve their PLM and product realization capabilities. HCL has been supporting after-sales for more than twenty years and has deep expertise in supporting service operations as well as integrating after-sales into the back office.

Geometric's experience in product realization was focused on heavy manufacturing: the automotive, aerospace, and industry machinery industries. They had deep experience in creating and managing product data including EBOMs, MBOMs, product configurations, and change management processes: data and processes that are needed to connect after-sales with product development.

HCL described recent successes in leveraging their capabilities to improve after-sales processes to CIMdata. For a leading elevator manufacturer, HCL developed a solution using the HoloLens platform from Microsoft that employs the augmented reality technology to simplify the search and consumption of product data. This helps service technicians visualize and identify problems with elevators ahead of a repair job. Technicians have remote access to expert information when on site resulting in significant savings in service maintenance time, improved safety for maintenance engineers, and increased customer satisfaction. This provides field maintenance staff with training, troubleshooting and resolution of customer reported problems quickly—assuring customers of increased elevator uptimes and avoiding multiple field visits. While this is a small piece of the overall after-sales solution it certainly demonstrates how technology can be used to improve field operations.

CIMdata believes that HCL described a solid plan on how they are supporting SLM and MRO with capabilities acquired from Geometric and they appear to be executing well.

Conclusion

While silos still exist in business, most companies are aware of the consequences and are actively trying to eliminate them. Technology is available today to support the end-to-end integration of business processes across the product lifecycle from idea through life. This is especially useful for companies with products that have an after-sales or service component such as maintenance or upgrades. Ensuring that there is a continuous digital thread from product development through manufacturing and into after-sales with feedback to the front of the business reduces waste, improves efficiency, and enables innovation.

HCL, a leading consulting systems integrator, has over 20 years of after-sales experience, acquired Geometric which expanded its skills and technology to connect the digital thread from end-to-end. CIMdata believes HCL has the skillset to help industrial companies put processes and solutions in place to maximize their revenue by capturing after-sales revenue. For end users of products that have a strong service component, HCL can help by correlating operating data to improve their operations. OEMs, especially those with a significant service component, as well as end users of capital equipment with significant maintenance operations should consider HCL to assess how their end-to-end skill set can connect their digital thread to support an after-sales business strategy.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at http://www.CIMdata.com or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.