PRESENTING SERVICE-BASED CONSUMPTION MODEL FOR AGRIBUSINESS

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Unpredictable weather and Covid-19 disrupted the supply chain, leading to high inflation for agricultural produce. As the supply chain disruption continues, the prices of agri-commodities and animal food products have increased. It is an opportune time to redefine agribusiness models, leverage digital solutions to provide distributors, retailer channels, and next-gen farmers with the ability to strengthen the food and agriculture industry. Let us explore new business models powered by digital technology for different stakeholders in the agricultural ecosystem.

Distributors and retailers

Distributors and retailers support the agriculture industry throughout the year, maintaining an inventory of essential requirements such as crop protection products. However, in an inflationary market, they incur higher expenses stocking up on such products. The solution: adopt a pricing model with the Beginning Inventory + Purchases - Ending Inventory formula.

In the United States, agricultural input manufacturers supply distributors and retailers with hundreds of gallons of crop protection products to store in their bulk tanks. In order to make more efficient use of their stocks, they can integrate IoT devices in their bulk tanks and storage units. It gives them real-time information on inventory, enabling them to fulfil demand appropriately, rather than overstocking or understocking. IoT-driven inventory with insights on inventory movement enables agricultural input providers to price their material based on demand and supply chain dynamics. The insights into consumer demand enable

them to change the pricing structure from a consignment inventory model to a consumer-driven supply chain model. In a consignment inventory model, the supplier does not receive payment until the product is sold. With a demand-driven or consumption-driven model, the pricing can be adjusted to meet the demand, and also enables cross-selling and upselling of different materials based on demand.

The data from the IoT devices in the storage units help track inventory for more accurate stocking, and also calculate net purchases to estimate the sales order for the agricultural input provider. The benefits of the consumption-driven model are:

- Selling products that the distributor or retailer needs for the year.

- Cross-selling and upselling of newer product lines leading to increase in top line.

- Reduced product wastage and optimized usage results in optimizing the overhead cost, thereby growing the bottom line.

Growers

Growers are adopting IoT-based agricultural practices to protect their crops and improve yield. They use digital advisory tools, seed selector tools, and other digital agriculture and IoT tools to optimize overall cost at every stage of the crop cycle. Growers also work with input providers on a crop protocol to maximize crop growth during the crop lifecycle. They sign contracts with retailers and purchase crop protection solutions to ensure optimal crop yield. Distributors and retailers collaborate with the growers to establish the contract and provide a protocol for the crop yield plan. These purchases are based on acreage consumption of the crop protection products and treatment. During every stage of the crop cycle, machines which are IoT-enabled can determine the consumption of the different crop protection formulation types applied at different stages. The IoT-enabled sensors help to adjust the treatment plan, in turn optimizing consumption. This will ensure that growers do not stockpile crop protection products in advance, and purchase only what they use. This helps input providers to accurately determine demand to calibrate pricing during market inflation, and also optimize the logistics cycle to increase the profit margin.

Seed treatment business

The customer has to bear the cost of seed treatment products, and may incur losses on underutilized or unutilized products, especially in the testing phase. Seed treatment companies and growers can work around this by adopting a pricing model in which the price is determined according to the type of treatment or chemical combination in the slurry to achieve the outcome, and the volume of seeds treated. Based on the volume of seeds treated, consumption of different products can be accurately determined, which optimizes the pricing model. This opens up opportunities for input providers to cross-sell and upsell new product lines for the desired treatment plans.

Golf course, turf and landscape business

Treatment of golf courses, and turfing and landscaping care is a lucrative, all-weather business. Various digital tools can provide agronomic information, and forecasts help lawn care and sports turf managers and applicators to sustain the health of their green spaces and keep them open for business. IoT devices employ remote sensors to collect soil information, imagery technology to understand turf health, and GPS-guided systems to apply turf care products. Digital, IoT-enabled tools help in determining and forecasting the quantity of care products that will be required. Customers can adopt the consumption model for pricing, based on the acreage treated rather than the traditional consignment model. This opens a new business model across the supply chain from input providers to the end users.

Conclusion

The agricultural industry has embraced IoT, which has transformed the sector. From soil monitoring tools to harvesting and packaging, technology is helping the industry to innovate. In the supply chain, advanced technology is used in packaging, inventory management, and delivery tracking. With the data output from technology, and leveraging cloud and 5G infrastructure, agricultural enterprises can distill insights from product consumption and movement. This can be used to make intelligent and accurate purchases, resulting in a better revenue model and optimized overhead costs on product returns and wastage.

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