**Demand and Supply Optimization SAP Integrated Business Planning (IBP) at Blue Diamond Growers**

Synopsis: Blue Diamond Growers (BDG) is a California agricultural cooperative and marketing organization that specializes in almonds. Founded in 1910 as the California Almond Growers Exchange, it serves around 3,500 almond growers and helps make the almond crop (valued at over $1 billion) California's largest food export. The top objective at BDG was to simplify and accelerate the S&OP process by providing a centralized planning tool for the planners. They required an integrated tool that would allow them to run several what-if scenarios, increase forecasting accuracy, see the impact of material & capacity constraints in a few minutes. One of the notable features of IBP is its ability to run scenarios in less than few minutes without affecting anything in the Live/Base version. BDG engaged with Intrigo Systems to implement SAP Integrated Business Planning (IBP) powered by HANA in the Cloud. Some of the key benefits realized from the implementation included unified reporting and improved planning capability that reduced the dependence on multiple systems and spreadsheets, better visibility into material and capacity constraints, and improved decision making using what-if scenarios that generate results of complex scenarios in less than a few minutes. In particular, BDG improved forecast accuracy by 10% and has also seen a significant reduction in inventory. In terms of scenario capabilities, scenarios that took several hours now only take ten minutes, which has significantly helped with a quick turnaround on changes at critical times to overcome unplanned situations.

Headquartered in Sacramento, Blue Diamond Growers (BDG) is the largest California agricultural cooperative and marketing organization that specializes in almonds. It was founded in 1910 as the California Almond Growers Exchange. With 60% exports to over 91 countries, it is able to serve around 3,500 almond growers and helps make the almond crop (valued at over $1 billion) California's largest food export. Its Salida processing plant was named the largest receiving station in the world at 5.5 million pounds per day.

Before implementing SAP IBP, BDG was facing several challenges with their supply chain processes. Their supply chain planning process was a 12-month demand and supply plan that covered all the businesses in the division. BDG faced several challenges including:

* Having to put in significant amounts of effort to consolidate and validate data (especially metrics) from different spreadsheets to come up with a comprehensive plan
* Having limited to no ability to run scenarios and simulations
* Having to analyze data from different legacy tools and spreadsheets for production, purchase, deployment, and other processes
* Having no ability to create a final demand plan that considered inputs from several sources including statistical forecasts, sales inputs, demand planner inputs, contract balances, sales orders, and open deliveries
* Having limited ability to create a final demand plan that considered the various complexities in Make-To-Stock (MTS)/Make-To-Order (MTO)/Make-To-Contract (MTC) SKUs in both the ingredients and the consumer divisions
* Having no ability to generate constraint-based supply plans based on the final demand plan for both the ingredients and the consumer businesses

BDG needed to simplify and accelerate the sales and operations (S&OP) process by providing a centralized planning tool for the planners. They wanted to improve the efficiency and accuracy of these processes through the implementation of one integrated demand and supply planning software that would allow them to run several what-if scenarios, increase forecasting accuracy, and visualize the impact of material and capacity constraints within a few minutes.

**Project Goals**

* Forecast accuracy improvement
	+ Statistical modeling and leveraging contracts information
	+ Ability to see accuracy impact of forecast changes across contributors
	+ Transparency of the source of forecast changes
* Inventory reduction
	+ Reduces the inventory held due to uncertainty and the lack of speed due to an integrated monthly planning cycle
* Faster simulation/scenario capabilities
	+ Scenarios in IBP can be created very quickly and very intuitively facilitating users to analyze different scenarios before making decisions
* Demand and supply integrated into one databasewith workflow methodology to enable:
	+ Collaboration: transparent and efficient collaboration between supply and demand
	+ Reporting and analytics: track accuracy, errors, and bias

**Intrigo Systems Background**

To undergo digital transformation and resolve these issues, BDG engaged Intrigo Systems to implement SAP IBP powered by HANA in the Cloud. Intrigo is a part of Accenture and a premier SAP Partner headquartered in Silicon Valley. It is also the leading provider of advisory, implementation, and support services. Intrigo is committed to helping enterprises of all sizes transform their business into a true digital enterprise.

**Methodology**

Intrigo used the scrum methodology to implement SAP IBP at BDG. This was a proven framework utilized in prior implementations - scrum is an agile way to manage a project. A scrum sprint is a regular, repeatable work cycle in scrum methodology during which work is completed and made ready for review.

The project was implemented in two phases. The first phase focused on the IBP Demand and IBP Supply modules. It took 32-weeks to implement, with four weeks of post go-live support starting from Sep 2017 to May 2018. The second phase mainly focused on implementing Product Availability (Supply Module). It took 14-weeks to implement, with three weeks of post go-live support, followed by four weeks of hyper care support from May 2018 to September 2018. The project was divided into five sprints, including a “plan and design” stage, “configure and build” stage, “data transformation” stage, “end-to-end testing” stage, and “go-live prep” stage.

The Demand Planning module allowed for better management of forecasts that not only leveraged advanced statistical models offered by IBP and consensus demand planning processes but also how existing contracts received from customers can influence the final demand plan thereby increasing forecast accuracy. One of the notable features of IBP is its ability to run scenarios in less than a few minutes without affecting anything in the live/base version. The Supply Planning module allowed for the generation of an optimized supply plan (procurement, production, and transportation) that can be published to SAP ERP for execution considering various influencing factors like forecast, sales orders, contracts, and inventory targets. Improved ability to provide crucial inputs to planners that are used to come up with product mix for finished goods leveraging version and scenario capabilities in SAP IBP enabled the business to ensure product availability.

Throughout the implementation, progress was measured and tracked utilizing a configuration backlog. In addition, best practice project management guidelines were followed to ensure the success of the project including project plan, risk management, and mitigation plans, meeting minute(s), and issue logs. Intrigo proprietary tools and templates were leveraged to accelerate the timeline.

**Key Benefits**

As a result of the implementation, BDG has already achieved several business benefits including:

* One unified plan: BDG now has one unified plan that it can operate (for Demand, Supply, and all manufacturing plants), which has tremendously reduced the dependence on multiple systems and spreadsheets.
* Visibility and velocity of data: BDG has significant productivity improvements for demand analysis driven by the transparency of data source for forecast changes and self-service analytics/reporting. It has also improved the ability to see and act on short-term demand changes.
* Forecast error reduction: IBP delivers forecast accuracy statistics across data contributors and BDG will begin to leverage the new statistics to measure improvements this year.
* Scenario planning: BDG has significantly improved its ability to quickly run ‘what if’ scenarios across demand and supply process defined for upside and downside scenarios. This improved its ability to generate results of complex scenarios in less than a few minutes.
* Time efficiency: There has been a reduction in integration touch-points between different planning groups.
* Hard savings: There is a clear line of sight to hard savings through inventory reduction and premium freight reduction as the supply side matures in its use of IBP.
* Traceability: All planning information in one system enabling planners to have complete traceability across the supply chain.

**Strategic Value**

BDG leveraged SAP IBP to maximize the functional capabilities of the planning process:

* Statistical analysis: ability to leverage different statistical methods in IBP demand to come up with a statistical forecast that can be overwritten by sales and demand planners for consumer business
* The inclusion of contracts in demand planning: consider contracts information like contract balance, validity dates etc., in proposing an initial forecast plan for the ingredients business, which is a huge benefit for demand planners
* Forecast consumption: different forecast consumption logic for ingredients and consumer businesses
* Forecast value-add reporting: ability to analyze each forecast component accuracy to make process improvements in the forecast
* Supply plan publish: IBP generated purchase requisitions/stock transport requisitions/planned orders are to be published to the execution system (SAP ECC)
* Scenario/version capabilities: ability to use version capability in IBP to come up with product availability at SFG (& FG) based on raw material projection, resource scheduling, demand at FG. Ability to create scenarios and take quick decisions.

Intrigo brought in a wealth of knowledge and expertise to navigate through complex requirements across businesses. In addition, Intrigo also brought in extensive domain experience around consumer business, ease in understanding the requirements around crop year, and modeling push/pull constraints leveraging SAP IBP Optimizer. Intrigo’s ability to develop complex programs on time, enabling users to update BoM in IBP directly, so that quick decisions can be taken using scenario capabilities in IBP was very much appreciated by BDG.

BDG has, for the most part, moved from multiple systems and spreadsheet solution to a single primary source of truth for demand and supply planning. BDG was able to accomplish all of the project goals that they had set. For example, BDG improved **forecast accuracy by 10%** and has also seen a significant reduction in inventory. In terms of scenario capabilities, scenarios that took **several hours now only take ten minutes**, which has significantly helped with a quick turnaround on changes at critical times to overcome unplanned situations.

The IBP solution has provided BDG with a solid foundation to build on to further enhance their planning capability – for increased trade promotions, for improved customer delivery metrics, and inventory reduction. Blue Diamond Growers will further measure their planning KPIs, now that they have this centralized solution to further focus on continuous improvement. The project provided a strong catalyst for improvement in one of the most critical processes in the company.