ENHANCING MANUFACTURING OPERATIONS: EXTENDING SALESFORCE MANUFACTURING CLOUD CAPABILITIES FOR ISV PARTNERS

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Abstract

Salesforce Manufacturing Cloud, unveiled in 2019 is a customer relationship management (CRM) tool designed to meet the needs of manufacturing companies, across various industries. It combines sales, operations, and account management functionalities to offer insights into customer relationships and production processes. This guide explores how Independent Software Vendor (ISV) partners can enhance the capabilities of Salesforce Manufacturing Cloud by focusing on the Sales Agreement feature and Advanced Account Forecasting (AAF). These features empower manufacturers to streamline business operations and predict demand accurately. Optimize resource allocation. ISV partners can enrich their offerings by integrating their solutions with Manufacturing Cloud to provide added value to manufacturers.

Index Terms – Salesforce manufacturing cloud, Customer relationship management, Cloud management, Independent software vendors, Sales agreement feature

I.   INTRODUCTION

Salesforce introduced Manufacturing Cloud in 2019. Manufacturing Cloud is a specialized CRM solution for manufacturing companies in various sub-industries, such as Process manufacturing, Discrete manufacturing, and automotive OEMs. It provides a unified platform integrating sales operations and account management, providing a 360-degree view of customer relationships and the production process [1]. This digital transformation would greatly benefit the enterprises in the efficient and effective management [4].

These are the core principles of Manufacturing Cloud 360
- Modernize Commercial Operations

Sales and operations teams can capture a complete picture of net new opportunities, customer agreements, long-term projects and programs, and an accurate demand forecast.

- Transform Service Experience

Service teams can streamline and orchestrate end-to-end processes for customer support, complaints, and product issues across departments by integrating data across systems and silos.

- Simplify Partner Engagements

Provide 24/7 self-service digital support for manufacturing companies' dealers, distributors, reps, and resellers regarding sales agreements, forecasts, incentives, and end-customer or product issues.

- Leverage Embedded Analytics

Business leaders can make fast, informed decisions with time-series based projections and predictive insights on account health and pricing performance.

- Go Digital Fast

Digital teams can leverage pre-built objects, processes, and frameworks for manufacturing and accelerate automation with no-code tools
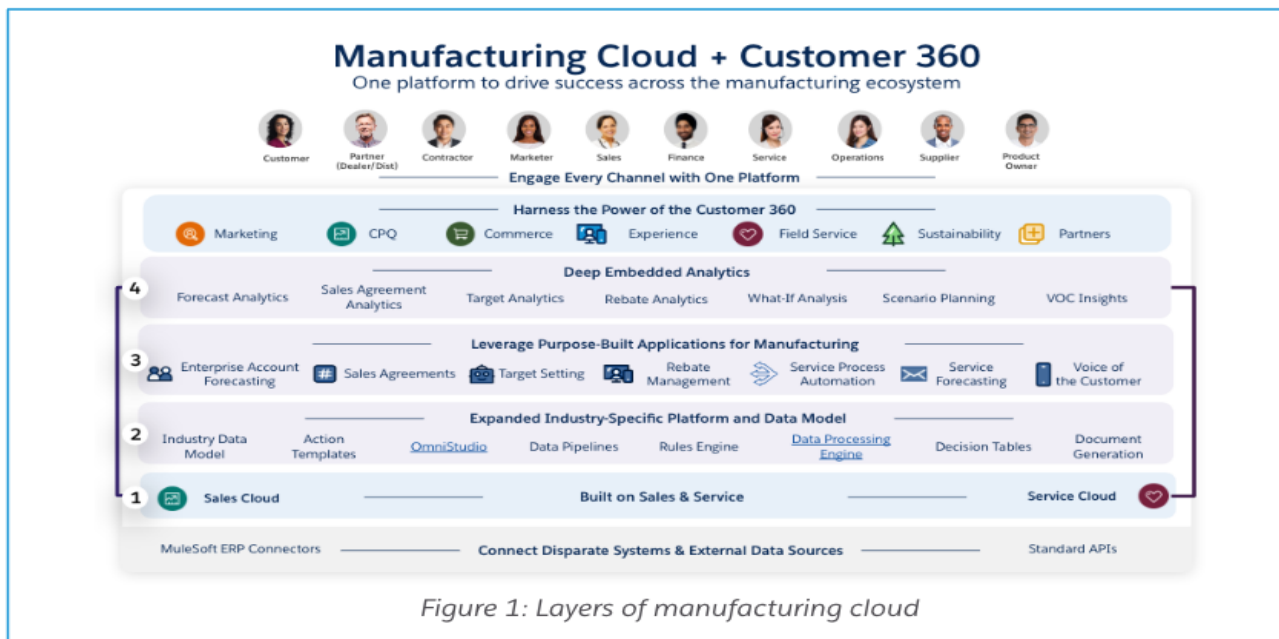

Figure 1: Layers of manufacturing cloud

II.   MANUFACTURING CLOUD ARCHITECTURE

Salesforce Manufacturing Cloud architecture starts with the base layer explaining the Salesforce platform integration framework with the powerful Salesforce Standard API and prebuilt Mulesoft ERP Connectors to bring in data from ERP and other external systems. The core layers are numbered from 1 to 4 in Fig. 1 [2].

1. Manufacturing Cloud is built on top of Salesforce's core CRM features, like Sales and Service Cloud. So, all Manufacturing Cloud customers get all the out-of-the-box features of

Salesforce Sales and Service Cloud.

2. In layer two, Manufacturing Cloud Specific Data Models and industry tools like OmniStudio and Data Processing Engine are build
3. In layer three, Manufacturing Cloud business features are built with the help of the Manufacturing Cloud Data Model and other industry tools.
4. Layer four is the advanced analytics built only for the Manufacturing Cloud on the Salesforce CRM Analytics platform.

It is also possible for Manufacturing Cloud customers to use other Salesforce products, such as Marketing Cloud and Commerce Cloud CPQ…

We will detail two core features for the Manufacturing Cloud, which I believe Salesforce ISV partners can add much value to by building on top of these modules.

III.   SALES AGREEMENTS

Before we go into detail about Sales Agreements, it is crucial to understand "Run Rate Business" in the Manufacturing industry. Let's take an example of a plastic packaging manufacturer, and the beverage company would include this consistent quarterly order of 500,000 bottles. The agreement would specify the quantity, pricing, and delivery schedule, ensuring both parties have clear expectations. The quarterly bottle quantity can also change depending on the seasonality, historical order values, etc.

This information is documented in a Sales Agreement [2].'/////['---'''''''. The plastic packaging manufacturer can confidently plan their production runs, manage their raw material procurement, and manage inventory to ensure they can fulfill the beverage company's orders on time. This predictable run rate also allows the manufacturer to forecast revenue and cash flow more accurately, contributing to better financial planning and operational efficiency.

This ongoing, stable business relationship between the manufacturer and the beverage company exemplifies the "Run Rate Business," where the manufacturer can rely on a consistent level of demand over time.

Figure 2: Data Model for Sales Agreement

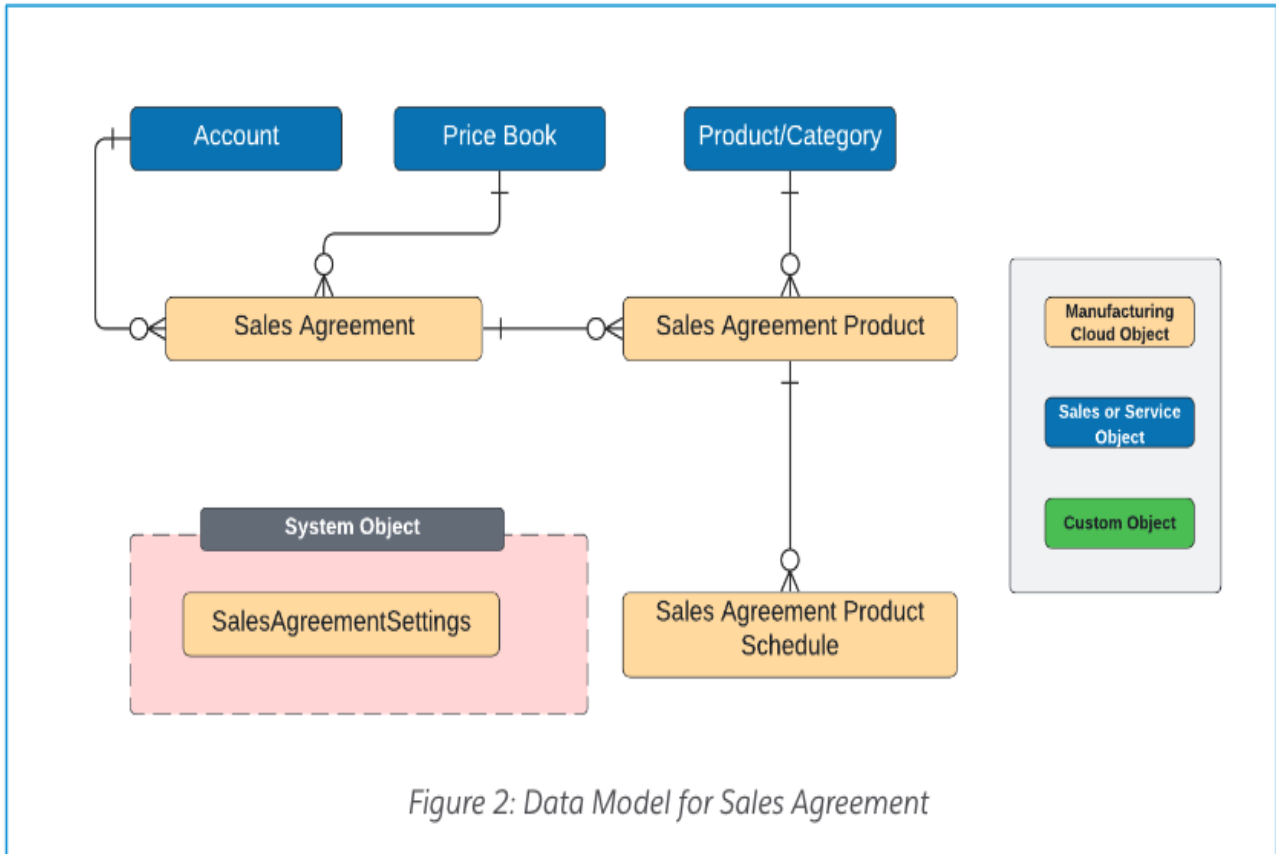Figure 2 depicts high-level Data Model for the Sales Agreement. Sales Agreement Settings object stores the basic Figure 2 depicts high-level Data Model for the Sales Agreement. Sales Agreement Settings object stores the basic configuration details of the customer Sales Agreements. Salesforce standard objects like Account can have many Sales Agreements, and each Sales Agreement has its own child products and product schedule.

IV. ADVANCED ACCOUNT FORECASTING (AAF)

AAF is another critical functionality in the Salesforce Manufacturing Cloud. The main difference between Salesforce Sales Cloud collaborative forecast and Manufacturing Cloud AAF is that AAF forecast is created for account-specific; the key account managers can create key account-specific forecasts, which will help them to manage their book of business with accurate forecast information specific to one customer. AAF will allow the customer's system admin to define the forecast accrual rules and formulas. We can also have forecasts created based on various levels, like forecasts based on a ship from location, order source, Business Unit, etc…
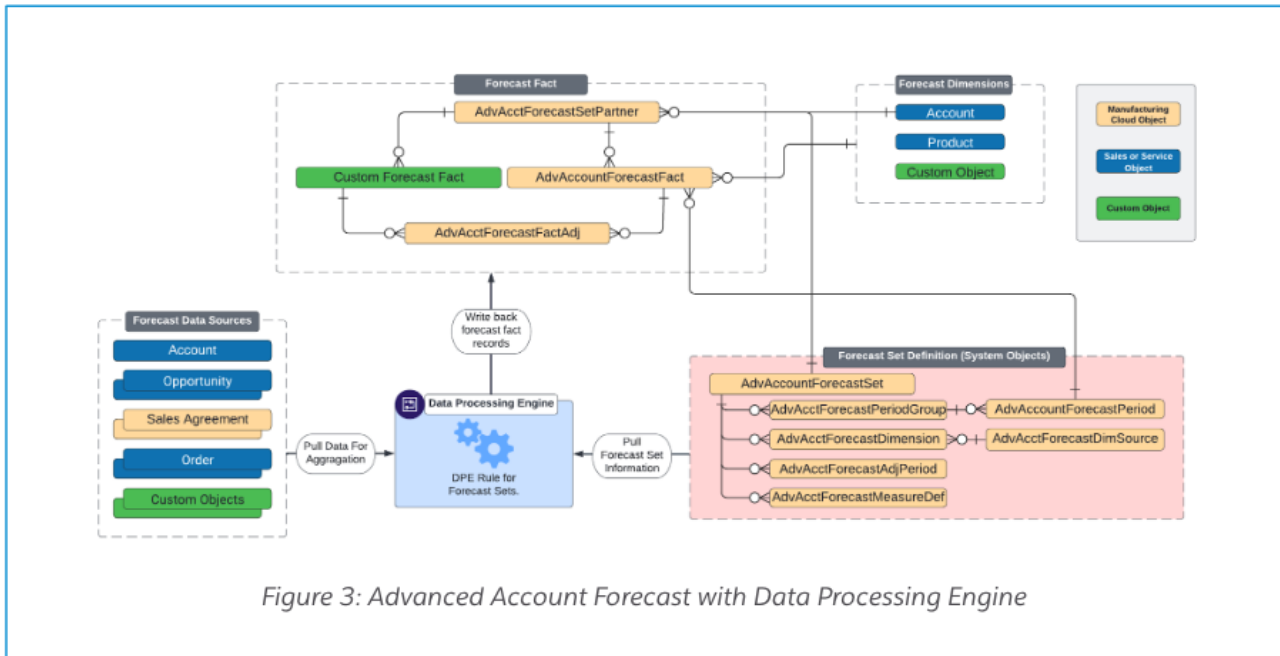
Figure 3: Advanced Account Forecast with Data Processing Engine

We can create multiple forecast sets. The forecast set defines the behavior of the forecast settings. We can determine the forecast dimensions, measures, formulas, etc. The other key attribute of AAF is the forecast source data. Various data sources can be used. Some examples are Salesforce standard objects like Account and Opportunities and some ERP source data for Orders, historical pricing, etc.

We use Salesforce Data Processing Engine (DPE) to calculate the forecast values based on the forecast set definition the admin created and the data we use from various sources. Once the DPE calculates the forecast number, it saves it in a standard or custom forecast fact object.
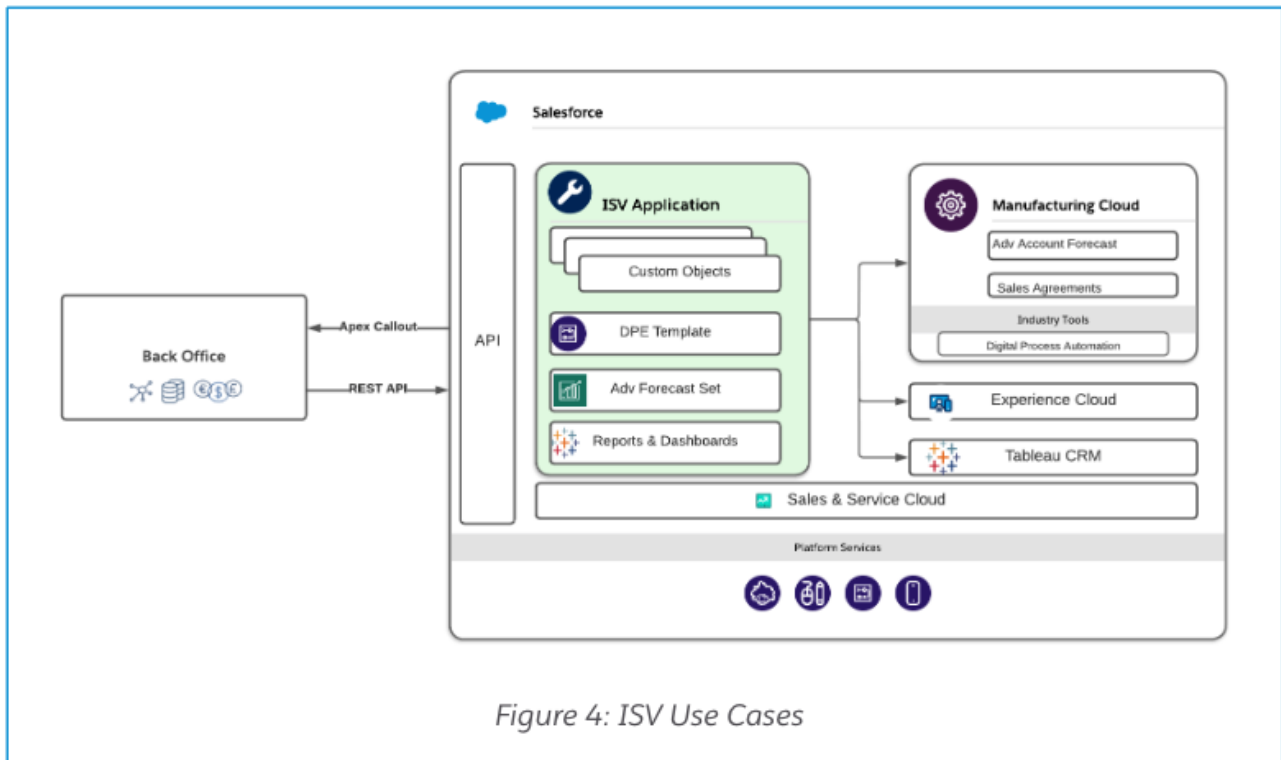
V.   HOW ISV EXTENDS MANUFACTURING CLOUD

Since we have seen the key high-level features of the Manufacturing Cloud, lets discuss how can an Independent Software Vendor (ISV) partner build on top of the Manufacturing Cloud. We will look into two specific use cases [3].

A. Integrate Your Solution on Salesforce MFG Cloud

Let us look into one of the ISV use cases. ABC Company is an ERP company that wants to integrate with Manufacturing Cloud. So they can provide the actual order, inventory, and demand forecast to the shared customers (OEM). The top requirements are sales agreement actuals, which will be populated from ERP. Sales Users should be able to check real-time product inventory. The partner should be able to provide a consolidated demand forecast.

In the use case given in fig. 4, we recommend that the partner build a new application that pulls data from the back-office system and syncs it with Manufacturing Cloud modules. The partner can

package custom objects, DPE Templates, Reports, and Dashboards. They can use Salesforce standard or custom REST API to sync data with the Manufacturing Cloud objects.

Figure 4: ISV Use Cases

B. Extend your Existing App on Manufacturing Cloud

Let us look at one another use case. XYZ Company is an existing ISV Partner with a Price Optimization app built on Sales Cloud. They want to provide price optimization features on Manufacturing Cloud modules like Sales Agreements. The key requirement are Sales users get price insights for the products added to Sales Agreements. There should be any Salesforce feature dependency for their existing ISV package.

We recommend the ISV partner create an extension package that adds integration with Manufacturing Cloud.

Figure 5: ISV Extension Package Use Cases
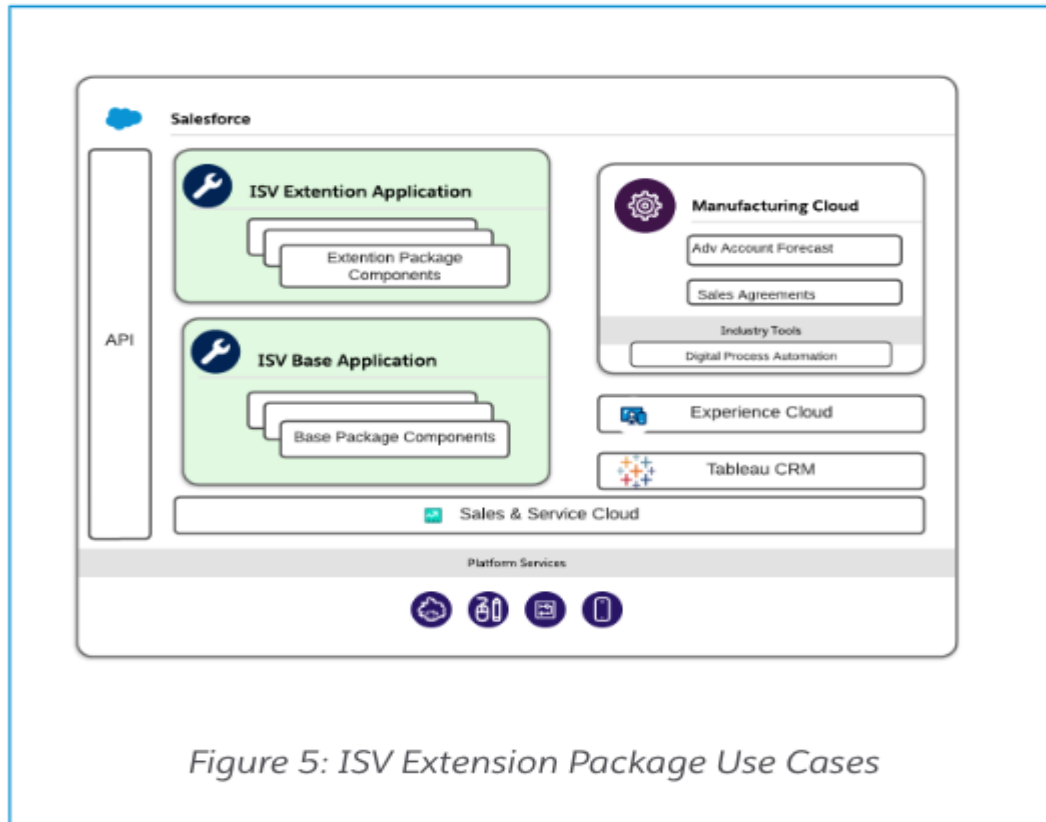
In the fig. 5, the partner is building an ISV Extension Application to support additional features only for the Manufacturing Cloud [3]. This way, they can support customers who are using the manufacturing cloud, and the base package will continue supporting customers who are not using the manufacturing cloud.

VI.   CONCLUSION

Salesforce Manufacturing Cloud offers a platform designed to meet the requirements of the manufacturing sector and it offers the listed benefits.
Its features such, as Sales Agreements and Advanced Account Forecasting enhance efficiency and accuracy.

- For Independent Software Vendor (ISV) partners there are opportunities to customize and improve this platform.
- By integrating their solutions with Manufacturing Cloud ISVs can deliver added value to manufacturing clients through tailored integrations, automation and advanced analytics. Whether it involves syncing real time data by connecting ERP systems or creating price optimization tools to Sales Agreements ISVs can utilize Manufacturing Cloud to address the needs of manufacturers.
- This strategic partnership not allows ISVs to broaden their market reach but also empowers manufacturers to optimize their processes and elevate customer satisfaction resulting in a beneficial outcome, for all parties involved.

VII.   LIMITATIONS AND CHALLENGES

This study poses a key limitation of complex integration with the existing ERP systems that may require significant customization. Moreover, there could be data migration challenges when legacy systems are being dealt.

VIII.   FUTURE WORK

This study could be extended by embedding AI-based solutions and the sector specific solutions. Moreover, the user experience could be enhanced with no code tools, global reporting, and better support along with better security integration. The integration of the above ideas would greatly enhance the efficiency and performance of the business.

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