



A COMPLETE OVERVIEW FOR SAP ECOMMERCE



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WHAT IS SAP ECOMMERCE?

eCommerce is a general term that describes transactions that are conducted digitally or on the Internet. If you ever purchased something online, you have used eCommerce. eCommerce is also sometimes used to describe other online activities such as online ticketing, internet banking, and payment gateways, but for the most part, eCommerce revolves around purchasing goods.

In the world of SAP, the term “eCommerce” refers to both online sales activities as well as the software product(s) that expose SAP information like materials, prices, inventory levels etc. at a web-based storefront. Customers interact with the eCommerce storefront (web site) to make purchases without the need for somebody, in the seller’s back office, to key-in the order into SAP GUI (...using VA01 for example).



WHY SHOULD ENTERPRISES CARE ABOUT ECOMMERCE?

The core advantage of eCommerce is the unparalleled reach to customers and global markets. With eCommerce, you are no longer restricted to a specific geographical area or time of day. Even if your current customers are loyal and local businesses, sooner or later they will start exploring alternative options to purchase what you offer on the Internet, which certainly means you will need some sort of eCommerce presence or they will go to competitors who have such presence.

B2B VS. B2C ECOMMERCE

Two of the most common eCommerce models are Business-to-Consumer (B2C) (also known as Retail eCommerce) and Business-to-Business (B2B). The main difference between B2B and B2C is who is the purchaser – in B2B purchaser as a businesses, while in B2C it is an end consumer. An example of B2B would be a business selling some sort of material to another business to be used in their products. B2C eCommerce is probably the eCommerce that you are most familiar with and if you ever purchased something on Amazon, you were part of B2C transaction. In the end, B2B and B2C both are forms of eCommerce, but each provides a specialized set of features that cater to the business or casual user.

ECOMMERCE & CRM SUITES

eCommerce is usually the central point where customers start their interaction with a company (e.g. “Nothing happens until something is sold”). eCommerce systems can often be seen as a hub with links to other enterprise systems that deal with customers. Because of this tight relation, many software vendors bundle multiple independent software solutions and market them as “end-to-end” CRM or Customer Experience suite. Some of the most popular enterprise CRM suites are SAP C4/Hana, Oracle CRM or Salesforce Customer 360.

ECOMMERCE STOREFRONT

eCommerce storefront is at the core of any eCommerce system. It exposes a product catalog as well as ordering and checkout functionality. Product catalog is the star of the show as this is the main feature that customers see when they browse to the storefront. Organizational hierarchy of the catalog, how up to date are products and prices, catalog customizations based on customers and geography as well as ability to easily find the items customers are looking for are qualities that make or break an eCommerce store. Once customer is ready to purchase, they go through ordering and checkout process. This is where a lot of the differences between B2B and B2C storefronts lie. While both strive for fast and painless checkout, B2B checkout process is usually a bit more complicated as it often requires integration with purchase orders, more complicated shipping and payment. Popular eCommerce storefronts in the SAP ecosystem are SAP Commerce Cloud (formerly known as SAP Hybris) and WECO eCommerce. Both are specifically designed for a tight integration with SAP ERP. Many standalone eCommerce storefronts such as Salesforce Commerce Cloud, Magento, BigCommerce, Broadleaf Commerce, Sana eCommerce, Kentico are also used by many customers, but they often require specialized connectors to move catalog and order data between the SAP and the eCommerce system.

CUSTOMER SUPPORT

Regardless if you sell to consumers or businesses, when something goes wrong with the purchase (e.g. order was incorrect, was shipped to a wrong place or product is not working), customers usually tend to go back to the place they purchased it, in this case eCommerce storefront, as a starting point to seek resolution. This is why, apart from facilitating sales, eCommerce storefronts also serve as a first level of customer support. Customers expect to find in one place all their interactions, order history, invoices and various shipping documents that they may need for their internal accounting. For any issues they will look for ways to get personalized customer support via voice, chat or by creating a



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support ticket. This is where the integration with Customer Support systems like SAP C4 Service Cloud or Salesforce Service Cloud becomes important. Service personnel needs to know who is the user and what they have purchased so far so they can provide the appropriate help.

MARKETING AND SALES

One for the most beneficial (from a revenue generation standpoint) eCommerce integrations is with Marketing automation systems like Hub Spot, Adobe Marketo, Salesforce Marketing Cloud or SAP C4 Marketing Cloud. In this case, eCommerce platform provides marketing with data about what products customers are looking at, which products are usually bought together or how customer interaction changes across geography or time of day. Marketing then feeds data such as discounts, promotions and up/cross sells back into the eCommerce site to provide the proper suggestion at the moment of purchasing.

When your customers are businesses and products they buy are complex, big ticket items, and the sales cycle is long, managing the selling process itself becomes a complex task. This is where Sales Automation systems like SAP Sales Cloud or Salesforce Sales Cloud come to play. They play a critical role in the sales process by providing overall sales tracking, analytics and highly customized configuration, pricing and quotes (CPQ) through the sales process. Often the CPQ processing is automated so that eCommerce systems, during checkout, can obtain a proper price and quote in real time from the Sales Automation system.

CUSTOMER EXPERIENCE

A recent trend in enterprise commerce is shifting focus to Customer Experience Management (CX). With the increased popularity of social media and its direct influence on revenues, it is important to track what makes customers happy (or unhappy). Analyzing customer sentiment and making appropriate corrections is becoming an important lever for driving revenue or differentiating from the competition. Customer experience platforms like Qualtrics and Birdeye are offering comprehensive solutions to track and analyze customer feedback through surveys at various customer interaction points (for example when customer completes an order).

OUTSIDE > IN VS. INSIDE > OUT APPROACH

As far as connectivity to SAP, most eCommerce solutions are built from “Outside SAP > In”. They start with an existing eCommerce platform (like Magento, Hybris etc.) that is designed to integrate with any ERP system and rely on independent solution to shuttle data (products, prices, orders etc.) between SAP and the eCommerce platform’s internal database. While some eCommerce applications themselves can be Open Source (like Magento), the integration with SAP is usually custom, proprietary, “bolt on” solution built by 3rd parties.

Other eCommerce solutions (like WECO eCommerce) are architected from “Inside SAP > Out”. Their core functionality is firmly rooted in SAP (e.g. are written primarily in ABAP) and add eCommerce functionality directly “into” an existing SAP system. They still take advantage of all modern web technologies like HTML5, CSS and JavaScript to offer rich and responsive experience, but by their design, all their data resides inside SAP which gives them direct and real-time access to any customizations and user exits that already exist in the SAP system.

Both approaches have their advantages – Inside-Out systems are great for SAP centric companies as they require no external hosting and can be managed day-to-day by internal SAP resources. “Outside-in” solutions are a good fit for companies whose systems are already distributed and data (e.g. CPQ, payments, shipping, etc.) already lives across multiple systems and can afford resources for hosting and managing data synchronization between them.

WHAT FUNCTIONALITY CAN YOU EXPECT FROM SAP ECOMMERCE SOLUTIONS?

SAP eCommerce solutions generally allow customers to go through the entire order-to-checkout process without ever seeing the SAP system (or even know it exists). Customers access a web store website, place an order and pay for it in a typical and simple checkout flow. What the customer doesn't see is the internal SAP order processing such as delivery and invoice that is created inside SAP.

Functionality in eCommerce platforms is generally focused on 3 main areas:

Product Catalogs

Shopping Cart and Check-Out

Customer and Order Management

PRODUCT CATALOGS

Product Catalogs is what customers see first when they navigate to the eCommerce web storefront. Similar to the paper catalogs from the past, they expose all the products that the vendor is offering in way that (hopefully) is easy navigate and search. In addition to being visible to people visiting the web store directly, eCommerce solutions put significant effort to make the product information readily available to search engines. Large amount of traffic to web stores comes from people searching for products on Google or other (often industry specific) search engines.

Product catalogs are tightly related to SAP materials – they just provide a way to expose your SAP materials and add with rich content such as images, videos, drawings, data sheets, product reviews and other marketing material!

SAP does not have place to store some of this information internally, so eCommerce systems usually replicate the material information from SAP into their own databases. Multimedia content related to products is usually This content can be easily stored and accessed from content management servers. This makes updating content easy as some content would otherwise need to be transported through SAP systems. Depending on which SAP eCommerce platform you choose, the material data, pricing and availability can be show in real time.

SHOPPING CART/CHECKOUT:

The shopping cart contains all items a customer is creating a sales document for. These items can be selected from navigating the catalog, entered manually or uploaded from a spreadsheet. Checkout allows the customer to choose a shipping speed and pay for their order using an invoice, credit/debit care, bank account, Paypal, etc.

Any SAP order Types Allowed: Use standard orders or the custom order types used by your business – Orders, Inquiries, RFQs, Returns, Fulfillment, etc.

SAP Partner Data: Sold-to, Ship-to and Payer information is all available if you want it displayed to a customer. This allows customers to choose existing SAP partner data or create new ship-to's and payers. Payment and Shipping: During check-out, shipping and payment methods configurable and can vary from simple selection options to complex integration with third party shipping and payment processors.

CUSTOMER ORDER MANAGEMENT:

Customers can view their order status, delivery status and invoices all within the SAP eCommerce webstore.

SAP Document Flow: the SAP eCommerce site can utilize SAP's document flow, so customers can easily find their related documents.

SAP Outputs: All associated outputs from SAP can also be accessed from the eCommerce site. Easily view and print order confirmations, packing slips, BOL's, invoices, etc. Any document you already view in print inside SAP.

Built-In Analytics:

WECO eCommerce has built a functionality for customer browsing behavior tracking and comprehensive analytics using Clickstream Analysis.

Using Clickstream, it is possible to track how long a user stays on the website, what products are areas they visit etc. The Clickstream data is stored directly in SAP and can be analyzed with the delivered reports or transferred for further reporting using standard tools such as SAP Business Warehouse.



WHAT IS THE BEST ECOMMERCE PLATFORM TO INTEGRATE WITH SAP?

At present, the world of SAP eCommerce solutions can be grouped into 3 categories:

1

ECOMMERCE SOLUTIONS OFFERED BY SAP

such as SAP Commerce Cloud (formerly known as SAP Hybris) now part of C/4HANA. This option offers rich functionality and scalability, while also maintaining integration with SAP for product catalogs, pricing, and shipping information. If budget is no issue, Hybris is a safe choice and well supported by SAP. In addition, it's supported by a multitude of 3rd party SAP partners that can customize every aspect of the eCommerce site. In some cases, adoption. The main factor to consider when going with Hybris is the time it takes to implement. While the cost of the license may be acceptable (and a few resellers can offer deeply discounted license fees), it is usually the cost of services related to deployment, implementation, and customization that end up being the majority of the cost. Consequently, the limited budget causes many mid-size companies to look for alternatives.

2

'OFF-THE-SHELF' ECOMMERCE SOLUTIONS

like Magento, Shopify and BigCommerce. Because of their acceptance and wide use across many industries, these options have a vast community of developers which offers a range of integrations to a variety of ERP systems and 3rd party platforms. These integrations include marketing automation, ad retargeting, and sophisticated eCommerce analytics. Off-the-shelf options are a top choice for marketing-driven companies because they give complete control of the look and feel of the customer engagement experience. They also integrate well into marketing, advertising, and social media channels.

3

ECOMMERCE PLUG-INS

for popular CRM/CMS platforms such as Sitecore, Broadleaf, Kentiko or Salesforce. Companies that already rely heavily on existing CRM/CMS solutions often find it attractive to extend those solutions with a limited eCommerce capability – usually to offer their customers an easy way to purchase spare parts or consumables. While those 'extension' projects usually start relatively quickly and with a low budget, they tend to snowball into a big hassle due to the same synchronization challenges that exist with using an off-the-shelf eCommerce platform

SAP eCommerce stores often provide a built a functionality for tracking customer browsing behavior. One approach that is often used is capturing a "clickstream" (a raw record of timestamps of user mouse clicks during the user session), to track how long a user stays on the website, what products and areas they visit etc. Clickstream data can be analyzed or transferred for further reporting using standard tools such as SAP Business Warehouse.



“HEADED” VS. “HEADLESS” ECOMMERCE



HEADED



HEADLESS

eCommerce platforms have a difficult task to balance 2 somewhat conflicting forces. On one side, they serve as a marketing tool to draw and keep customers engaged by providing a fresh, easy to navigate, polished and constantly evolving user experience. On the other side, eCommerce platforms have to execute complex business processes like checking availability, pricing, discounts, shipping, recommendations etc.. Mistakes and “bugs” in any of these processes can be embarrassing (and costly). Think of a bug in the tax calculation logic that misses collecting a tax from the customer, or coupon that supposed to give 5% off but instead is applied as 500% off. With tens of rules that are in play in a typical eCommerce scenario, you can see the nightmare and extensive testing that each of those rules needs to go through.

User facing pages of the eCommerce websites are the usually the battlefield where those 2 forces collide. Marketing department wants to experiment by making constant changes to the web site, adding content, moving things around in an attempt to make the web page a little bit more “sticky” or sells one more product. To engineers who are responsible for making sure all business rules are always working, any page change is a nightmare – every rule that is triggered in the page has to be retested. All planning and testing takes time and effort, so engineers try to discourage any changes to minimize the risk of something breaking.

The evolution of technologies for building web pages, often caused the code for the business rules that a page executes to be intermingled with page’s code for the User Interface components (buttons, tables, sliders etc.) so changes to the look and feel, also often caused related changes to the logic that triggered various business rules (e.g. adding a new way to add/remove products to a shopping cart, needed also to trigger the appropriate business logic to recalculate pricing, discounts, shipping etc.). This dependency required the developers of the web page to be aware of what business rules are attached to what UI component and investigate how they will be affected if the element is moved, removed or redesigned.

“Headless” eCommerce approach tries to eliminate the dependency between page’s “look & feel” and business logic by enforcing a clear separation between the two. The term “headless” denotes that the core of the eCommerce platform does not have ANY user interface (or “head”). The platform is delivered as a collection of business rules exposed through a set of clear APIs or microservices. This separation allows the User interface to be written in any web technology (React.js Angular.JS etc.) and evolve independently from the business logic and vice versa. This also provides an extreme flexibility to change and test the presentation or business logic independently of each other, as well as reuse the business logic in a variety of interaction scenarios ranging from Web Pages, Voice Control, Chat Bots and IoT devices (e.g. an IoT sensor can trigger a reorder of material using the same logic as if ordering by a human via a web site.). To encourage the adoption of this model, some vendors even provide purpose built open source web UI components that can be used to build complete web sites with their headless eCommerce solution.

Headless eCommerce is still in its early stages with two of the more popular platforms SAP Spartacus (based on Hybris) and Elastic Path being the more mature offerings at this time. Over time other eCommerce platforms will eventually start moving in this direction as it offers more flexibility and greatly simplifies the development and support.



THE RISE OF CLOUD SOLUTIONS

As you may have already noticed, vendors tend to liberally use the the word “Cloud” in their software. Names like SAP Commerce Cloud, SAP Sales Cloud, Salesforce Sales Cloud, SAP Marketing Cloud, Salesforce Marketing Cloud, SAP Service Cloud, Adobe Experience Cloud are signs of another trend in enterprise software – transition from on-premise to cloud offering. The term “cloud” means something different to different people, so here is a quick primer on how the term “cloud” is mostly used in the world of SAP. All solutions can be looked in terms of:

1. Who owns and manages the hardware the solution runs on and
2. Who owns and manages the software itself.

ON PREMISE MODEL

BGI purchases Hybris from SAP and builds eCommerce solution that it runs it in its own data center. BGI is responsible to install, manage and configure Hybris, including adding enough capacity to handle their Christmas traffic. BGI staff needs to be able to upgrade Hybris itself, the machines Hybris runs on (e.g. Install Windows/Linux patches) and fix any hardware and network issues. The main benefit of this model is that BGI engineers can fine tune any aspect from – networking to machine hardware to squeeze as much as possible from their hardware and software investment. They can also customize Hybris in any way they want to fit their business. Downside is that BGI needs to have engineers with a wide range of skills to support all the moving parts in a complex eCommerce system 24/7. This model is mostly used by large, companies that already have (..or can pay for) all that skills, expertise and infrastructure.

PUBLIC/PRIVATE CLOUD

BGI purchases Hybris from SAP and builds eCommerce solution, but rather than running it on its own hardware, they rent hardware from a cloud data center owned by Amazon, Google or Microsoft (or multitude of other cloud providers) . BGI is still responsible to install, manage and configure Hybris itself, as patch the machines Hybris runs on (e.g. Install Windows/Linux patches), but it does not need to worry about fixing or upgrading the hardware or network connectivity. Also, the hardware cloud provider will willingly (and temporarily) rent more machines when they need extra capacity during the holiday season. BGI can fine tune their Hybris install but is at the mercy of the Cloud provider for every networking or hardware outage they encounter.

VENDOR CLOUD MODEL

BGI rents Hybris (in this case called SAP Commerce Cloud) from SAP. SAP will “rent” both the software as well as the hardware. The solution will run in SAP cloud Platform in a data center managed by SAP. SAP will be responsible to manage and scale the entire solution. This model outsources most of the day-to-day management of the eCommerce system to the vendor using “pay-per-use” model. The disadvantage of this model is that there are certain constrains that SAP imposes on what customizations you can do to eCommerce itself (because they need to support the overall system). A quick overview of SAP Cloud can be found in our SAP Cloud Platform: A High-Level Overview blog post.

WHAT TO LOOK FOR WHEN IMPLEMENTING A SAP ECOMMERCE SOLUTION?

As a conclusion to this (long) guide, we would like to share some of our experience delivering SAP eCommerce solutions over the last 10 years.

Each company has a set of specific requirements and processes for selling their products. When researching SAP eCommerce solutions, usually the attention is focused on how various products stack against these specific requirements. All vendors have a good set of “battle cards” to highlight how the catalog or shopping experience or whatever other feature of their product is better than the competition. As far as functionality any fit (...or misfit) is easy to spot and assess. What is not very obvious during the evaluation phase is the overall picture of how everything will work together and how long would it take for the eCommerce store to start bringing revenue. Over the years, we used the following 4 questions to uncover some ‘hidden’ concerns that could have a substantial impact on the success of any eCommerce project:



How does an eCommerce site fit in the company’s overall web presence? Larger businesses usually rely on a separate CMS system as their main customer-facing web site, and the eCommerce platform is a “new” web property that is customized to fit into the overall corporate brand. For smaller enterprises, the eCommerce solution must serve a dual role: both as an eCommerce platform; and a customer facing web site. In this case, the chosen solution needs to support at least some Content Management functionality and customization to enable the marketing department to adjust the public messaging without requiring the involvement of IT.

Who is responsible to control and support the eCommerce solution – Marketing? Sales? IT? Based on the availability of internal resources there is usually a tradeoff between increased visual richness and flexibility that Marketing department wants (at the expense of using more resources to support it), or the eCommerce solution can be supported with limited resources (usually those already supporting your SAP system) at the expense of somewhat limited visual presentation. The right choice depends on your situation, but if not considered properly, it can become inconvenient and costly in the long term.

What is the budget for deployment and customization of the eCommerce solution? License costs are usually known upfront and don’t change once the project is signed, but the implementation can account for 2X to 3X the cost of the license, and frequently is the area where most cost overruns occur.

How long can you afford to have your resources involved in deploying the eCommerce platform? Even if most of the work is done by a 3rd party, there is usually a core team of your own resources who’ll need to be directly involved. They’ll make key decisions (as well as compromises) that always pop-up in the process of implementation and going live. In our experience, supporting the implementation takes approximately 10% – 50% of their working day, which can’t be spent on their core responsibilities. If your implementation takes 3 months, this may cause a manageable impact. If it takes 8, 12, 18 months, the hidden cost of your resources’ involvement can be felt as your other internal projects are getting delayed or put on hold. The cost of internal resources is rarely budgeted for, yet adds up quickly to the overall cost of the project.

ABOUT US

Founded in 2009, CNBS Software is focused on Enterprises running SAP ERP. We specialize in SAP eCommerce, SAP Payment Portals, SAP Fiori and Robotic Process Automation of SAP business processes.

Customers use our eCommerce, ePay, Fiori and Mobile Sales and Services solutions to increase Sales, improve Collaboration, as well as a platform for digital process automation.

Headquartered in Cincinnati, Ohio, our team of SAP functional consultants and developers blends traditional SAP expertise with cutting edge design and delivery approaches like Design Thinking and Agile Engineering to build reliable solutions that customers love to use.



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