Big Data Analytics in B2B Ecommerce - Making Big Decisions

Industry context

In January 2014, Frost & Sullivan identified B2B online retailing as one of the leading global trends that will shape 2014, stating that there has been more of an upturn in B2B than B2C ecommerce in recent years, with a move towards online platforms that offer more choice, flexibility and price options. Forrester forecast that B2B ecommerce transactions in the US would reach $560 billion by the end of 2013, almost twice the $252 billion believed to be achieved by B2C. Even Amazon, the B2C behemoth, has entered the B2B market in 2013 with its Amazon Supply website catering to fourteen different industry verticals while Google is testing the B2B market with its Google Shopping for Suppliers beta site.

B2B commerce is also seeing a shift in its customer base from traditionally offline to online and self-service, and is trying to adopt B2C best practices due to customer demands and expectations, according to a May 2013 study of US & Europe based B2B vendors by Intershop. Customers want a more intuitive search and navigation experience, online order approval, self-service account management and better category and product pages. Both Gartner (in May 2013) and Forrester (Oct 2012) contend that B2B customers are demanding a more B2C online experience.

The B2B ecommerce marketplace consists of manufacturers, suppliers, wholesalers, distributors and retailers. B2B ecommerce companies derive a substantial percentage of their revenue through their online presence, which serves as a sales channel or a complement to their direct sales channel. Most B2B organizations operate in a multi-channel environment with an underlying commerce infrastructure that not only supports the unique complexities of their business, but must also accommodate extensive product catalogs and custom contracts and pricing. B2B commerce is further complicated by long sales cycles and multiple stakeholders/decision makers. With mobile and social media becoming more relevant, B2B players plan to invest in mobile platforms and are using social media to increase brand awareness, for brand building and to gather sales leads.

A B2B ecommerce platform consists of different kinds of data such as customer data, product information, pricing data, and order details. Such a system may or may not be interacting with the ERP, CRM, invoicing and payment systems that are organizations today use. All these systems generate large amounts of data that may exist as separate siloes but have the potential to provide significant insights if considered together.

Data in eCommerce:

Businesses today generate large amounts of data, especially with the exponential growth in digitization and prevalent social media experiences. Besides trying to manage this huge volume and variety of data of varying complexity, organizations are ardently pursuing advanced technology initiatives such as Big Data Analytics to capture and decipher concealed patterns and unidentified associations. This will aid in better business decisions to drive revenue growth.

Big Data Analytics is the science associated with spotting trends in large and complex data sets to find useful and additional information that is normally undiscovered, given the lack of appropriate tools and applications. It offers businesses the opportunity to anticipate trends, find meaningful insights from scattered data and make significant business conversions. With data growing from terabytes to zettabytes, B2B firms are now seeking suitable tools that can help them fix the optimal pricing points for millions of SKUs (stock keeping units), identify the niche customer segment to pursue, or pinpoint the exact customer touch points to make the best offers, as well as uncover other obscure business insights.

Data is basically categorized into structured data like name, address, preferences, etc. and unstructured data such as tweets, clicks and videos, etc. The challenge lies in interpreting significant, actionable insights from unstructured data. It is estimated that the mainstream data spawned will be more unstructured than structured and the real value derived is from analysing this unstructured data.

Why should B2B Ecommerce firms embrace Big Data Analytics?

B2B transactions online number more purely because of the numerous subsets, raw materials and component purchases involved in getting the final product to the end B2C customer. Organizations are looking for faster and more effective ways to collect, manage, dispense and control structured and unstructured product information across B2B ecommerce channels. Accurate online content informs customers, builds trust and helps improve their opinion of brands. But, if product data is inadequate, inconsistent, or difficult to find on the B2B ecommerce site, customers look for alternate options, adversely affecting sales and brand perception with long-lasting effects.

Therefore, B2B companies must work towards the application of Big Data Analytics in ecommerce to provide better experiences to their customers. The following are the areas in which Big Data Analytics can impact B2B ecommerce business:

Personalization

Gartner in May 2013 stated that "B2B e-commerce is beginning to resemble the B2C experience more closely, with business customers expecting a user experience with dynamic catalogs, recommendation engines and personalization similar to or better than what they are getting from their favourite consumer sites. Companies in high tech, industrial and manufacturing, business services, life sciences and financial services are creating e-commerce sites to replicate and, in some cases, replace a direct sales or indirect sales experience, and to provide their customers with a 24/7 online sales presence".

Thus B2B customers are inclined towards companies who give them choices based on their buying preferences and buying history. They want to be able to place an order online without requiring customer service assistance and check an order's status online. Data analytics can be used for personalization of inbound customers by highlighting interesting related content based on their previous purchases or by making offers and promotions to returning customers.

Companies must have set strategies in place supplemented by the appropriate technology necessities. They have to prioritize their top customers and create profiles for them that incorporate data like purchase history and frequency, related patterns in the last few purchases, the reason behind a specific product purchase, research and clicks.

Pricing

B2B ecommerce companies need to have the ability to constantly change pricing on millions of SKUs on a daily basis, taking into account competition, demand for products, contractual pricing based on volume discounts, etc. They encounter a huge number of Bill of Materials due to thousands of product components and assemblies and price their products based on past historical data. Other criteria such as availability, competitive pricing, sanctioned suppliers, currency discrepancies and conversion requirements, taxes, and pricing terms and conditions for each product or each customer also exist. Pricing data extracted from ERPs, CRMs and other applications have to be synchronized to achieve optimal pricing benefits directed user-centrically towards each customer.

Using statistical analysis, operations research algorithms, distributed processing, and real-time capabilities, firms can derive practical pricing mechanisms specifically designed for each customer profile. Sales personnel can be enabled to sell better by equipping them with such real-time factual data. Organizations can further estimate price elasticity (e.g., if the prices are hiked for a particular product, does the demand diminish or are there any related effects?) or segment markets based on different set attributes seen in different sales points. Price elasticity and segmentation are bigger challenges in the B2B world because of the sets and subsets and drill downs in product sets.

Optimized Supply Chains

Data Analytics can be utilized in the B2B space for real-time demand forecasts and deliveries, optimizing supply chain levels and to predict current capacity, expansion strategies, most pertinent customers, lead times, competitive supply source and raw material capabilities. Distribution hubs, warehouses, transport, freight and suppliers generate vast amounts of significant data that is normally siloed without any primary use. Such data can actually be leveraged to improve buyer-supplier relationships and optimize storage space in warehouses and transport, and also reduce costs. For buyers, it brings visibility with real-time supplier collaboration and traceability of the exact status of their orders.

Also, data generated from GPS, RFID sensor data from pallets and bins, EDI (Electronic Data Interchange), social media sources, mobile or PDA devices used for scanning, and information generated from collaborative ERP systems etc., can be unstructured. Breaking this down into meaningful chunks for pertinent information can check supply chain bottlenecks, making it more efficient. Analysing real-time data from freight (sea, air or land), needs longer processing times because of the larger scale. Data Analytics can be used to synchronize POS, supplier and inventory data to provide insights for process improvements. In summary, it can be a major impetus for supply chain visibility, geo-location mapping and product traceability.

Sales Opportunities

B2B sales teams primarily use CRMs to make decisions. But social networking presents companies with another channel for customer engagement and can help provide marketing insights and opportunities for lead generation. The large amount of data available from online customer interactions can help offline sales people sell more effectively. For example, shopping cart abandonment provides information about products intended for purchase and can be followed up with a phone call by a sales person equipped with the right information, to increase the chances of completing the sale. Sales representatives could use real-time updates that reveal customer patterns to enable selling at the most receptive times with the most optimal pricing options. Further, it provides opportunities to up sell and cross sell. Streamlined data offers options to segment markets for peak sales, deploy sales resources crucial to each market segment, forecast sales accurately without crunching historical data sets, and set realistic sales quotas because of the accurate information in hand. Sales forecasts and pipelines have primarily been based on historical trends. Big Data Analytics helps with relevant and more precise information so sales representatives are no longer driven by hypothetical numbers.

There are also B2B buyers who do not talk to a sales professional and exclusively buy online. So, firms have to identify buying patterns rather than rely solely on analysing past sales trends. Such buyers may be looking for recommendations on what is trending and what to stock in their store, and selling has to be timed in context and in real-time, at the most opportune moment predicting a buyer's actions.

Predictive Analytics

Predictive analytics, self-explanatory by its name, is being utilized in the B2B ecommerce domain for customer behaviour modelling by creating customer touch points at crucial junctures and predicting buying patterns. It is also being used to refine search capabilities by cataloguing products as per specific personalized requirements, with opportunities to up sell and cross sell. Ultimately, it is being used to optimize stock levels by stocking products in line with the most receptive customer profiles, preventing dead stocks and creating traceability.

With data procured from online transactions, historical customer data and ecommerce trends, firms can establish possibility of conversion for a particular sale. Further, predictive analytics can also be used to reactivate dormant buyers by retargeting them and reviving their interest through a recommendation. Clustering, or creating interest for a completely dissimilar product by studying patterns, is also an advantage that can be leveraged using predictive analytics.

Conclusion

Data Analytics in the B2B space can help companies enhance the customer experience by offering personalized content with rich and interactive product displays and dynamic pricing. This can help with customer acquisition and retention as well as cultivating brand loyalty. Data Analytics not only provides B2B companies with sales opportunities but also insights for process improvements across their network of buyers and sellers. Data Analytics helps B2B companies capitalize on their data by not only saving on costs through self-service options, but also highlighting where they can do better in terms of chasing sales opportunities.