

# e-Business Adviser Handbook

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A handbook for business advisers assisting small and medium sized enterprise entering or improving e-Business.

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**Section – 2.3 – Business to Business (B2B)**

## 2.3. BUSINESS TO BUSINESS (B2B)

This section presents Business-to-Business (B2B) applications and implications focussing on knowledge and information that can help business advisory practice.

### 2.3.1. Introduction to B2B

B2B concerns transactions between businesses over the Internet and is considered the largest category of e-business applications in terms of transactions and assets.

Compared with B2C (Business-to-Consumer) applications, both differences and similarities exist, but the main characteristics of B2B development are based on different business and technology implementation concepts.

The following general definition may help to define what B2B is:

**“B2B includes Business-to-Business transactions conducted over public or private networks, including public and private transactions that use Internet as a delivery vehicle. These transactions include financial transfers, on-line exchanges, auctions, delivery of products and services, supply-chain activities, and integrated business networks”.**

Using the above definition, it is obvious that B2B includes a large spectrum of applications between organizations (not individuals) that use the Internet as the basis for their transactions. It is a huge area of applications where both public organizations and private businesses interact performing activities, many of which used to be performed off-line, but are now undertaken at a different speed and manner. Also new applications have appeared that did not exist before making the B2B world a new environment for private businesses and public organizations to work in.

What must an organization do to introduce B2B?

What are the steps should be taken to enter the B2B world?

What are the fundamentals underpinning successful B2B implementation?

To what extent should B2B be implemented and which processes should be addressed?

What will happen if B2B is not implemented?

The answers to such questions are fundamental for a B2B enterprise. The aim of the next part of this section is to help the reader to answer such questions, to understand better B2B and to understand how to implement B2B and gain benefits from this implementation.

The following diagram graphically depicts basic B2B applications and the flow of information and materials in B2B transactions.

The later paragraphs give an overview of these B2B applications along with issues that should be considered during business advisory practice for B2B introduction.



Diagram 2.3.1. Information & material flow in an integrated B2B e-business

### **2.3.2. B2B Web Marketing – CRM (Customer Relationship Management)**

Web marketing for B2B trading is rather different from Web marketing and CRM (Customer Relationship Management) for B2C. In B2B the target is not the individual consumer, but other businesses or groups of businesses or even whole sectors. Therefore Web marketing and CRM methods could be applied but they should be adjusted for businesses or groups of businesses, making B2B marketing more complex. Instead of the individual consumer, whole businesses should be assisted within supply chains and the needs of vertical markets should be considered and forecasted. Sometimes a whole marketing sector may be the marketing target. Under this framework the competition between suppliers is greater, but when successful the benefits are also greater.

Internet technologies and methods that were mentioned in the previous subsection “2.2.2. B2C Web Marketing” can be used, like search engines, directories, reciprocal links, banner ads, newsletters, etc. but they should be adjusted for businesses instead of individuals. Also CRM methods can be applied, but often the relations between customers and suppliers in B2B are steadier than B2C, since both of them are links in the same supply chain which targets the individual consumer. The kind of relationships between suppliers and buyers in B2B and the scale of transactions, in terms of quantities and money, are two of the main factors that influence the way B2B grows. Some say that B2B e-commerce is the largest gold rush international commerce has seen for decades and it may be the largest ever.

More information concerning Web marketing can be found in section 2.6 of this Handbook.

### **2.3.3. B2B Sales – Order processing**

The functionality of the B2B sales and ordering processes is different from that in B2C. The buyers here are businesses, which behave differently from individuals. Without introducing B2B, the general characteristics of businesses as buyers can be summarized:

1. They buy in large quantities.
2. They are influenced less by advertisement.
3. They expect better prices.
4. They are demanding about the quality of products.
5. They are demanding about delivery times.
6. They invest a lot in inventories.
7. Often they pay by credit.
8. Usually they consider the suppliers as non-formal partners.

Buying through electronic B2B transactions, the above characteristics can be influenced as follows:

1. They can order and buy in smaller quantities.
2. They can acquire more information about products, suppliers, prices, etc.
3. They can look for better prices through Web sites of several suppliers.
4. They are still demanding about quality of products.
5. They are more demanding about delivery times, which are getting shorter.
6. They try to invest less in inventories.
7. Contracts, including agreements for credit periods, are more standard, specific and demanding.
8. They still consider the suppliers as non-formal partners and often stable links exist between them, but through Internet B2B buyers can change suppliers more easily than in traditional B2B trading.

All the above make B2B e-business a more competitive environment than traditional trading between businesses, but this new B2B environment provides new trading opportunities between businesses all over the world.

The placement of orders in B2B usually occurs in more standard periods and depends on the forecast of demand for products or services by the rest of the supply chain. In fact these orders, either for purchasing or production, are part of the procurement processes of the business which orders them. Also via intranets supplier organizations extend their networks to buying organizations so creating extranets which handle the ordering and financial transactions and provide support information and knowledge concerning products and services.

As well as the rather standard ordering activities described above, the Web provides other possibilities and additional B2B e-business processes have appeared such as “Portals”, “Intermediaries” and “Auctions”, which will be described in the following paragraphs.

#### **2.3.4. Portals – Intermediaries - E-marketplaces**

‘Porta’l in the Internet world means a gate through which a user can access links to other web sites, which are organized according to their content and the interests of the user. Many portals also include search engines, indexes, directories, news, advertisements and other information that may interest the groups of users that the portal has as targets. The portal concept in B2B has found several uses, which help businesses in their relations and transactions.

Some basic models of portals for B2B are reported next:

1. Portal model of a single enterprise.
2. Portal model with multiple businesses that belong in the same sector.
3. Portal model of multiple businesses that belong in the same region.
4. Portal model of intermediaries.
5. Portal model of e-marketplaces.

##### 1. Portal model of a single enterprise

This model arises when a single organization creates a portal to offer access to its intranet. Through this portal other businesses can obtain information that exists across several servers of the enterprise, it also enables them to communicate, cooperate, place orders, make offerings, ask for support, etc. Usually this model is applied by larger organizations with distributed information links.

In the future such portals will be considered as workplaces, where people will share information and even work together.

##### 2. Portal model with multiple businesses that belong in the same sector.

This portal is created by a group of enterprises that belong in the same sector and provide similar products or services. Such portals can be created by associations or federations of groups of enterprises, their main goal is to promote the products / services of their members through the Internet. In addition, information can be provided concerning the status and the special characteristics of the sector, together with links to the specific businesses. Such portals are useful for both the suppliers and the buyers, since they promote a whole business sector and they also improve competitiveness.

##### 3. Portal model of multiple businesses that belong in the same region.

Such portals aim to promote the businesses in a geographic area. Local Authorities and Regional Development Agencies can develop such portals to promote trading through the

Internet in their regions. Also, through these portals, additional information can be provided by RDAs concerning advisory subjects and support for e-businesses.

#### 4. Portal model of intermediaries.

The intermediary portal model provides different services than the previous models in that it helps buyers with additional information concerning products/services, catalogs, offers, prices and deals. Such portals stand between sellers and buyers, trying to promote the products-services of the sellers while satisfying the needs of the buyers. Some portals only sell information about products/services - such as best deals and prices – then they are called ‘infomediaries’.

Here are some examples of intermediaries:

- <http://www.zdnet.com/>
- <http://www.tucows.com>
- <http://www.aboard.co.uk>
- <http://www.webtoads.com>
- <http://www.cometotrade.com>

#### 5. Portal model of e-marketplaces.

This type of portal model is usually developed by private Web companies to enable businesses to make trading transactions. These marketplaces operate under rules defined by the host or by the participants (if this option is given by the host). The host of the marketplace determines the services that offer value to its members and for which they are willing to pay. Several paying methods can be applied such as:

- a. Fixed annual fee.
- b. Percentage based on share of transaction or agreed-fee basis.
- c. Fee based with auction rules for buyers and sellers. (B2B auctions will be discussed further in the next subsection 2.3.5).
- d. Fee based with transaction rules determined before entering and participating in the exchange.

It seems that e-marketplaces will be a significant portal model of B2B transactions in the future for whole sectors of industries and for both horizontal and vertical markets. Some interesting examples of e-marketplace portals follow:

- <http://www.covisint.com>
- <http://www.exostar.com>
- <http://www.e2open.com>
- <http://www.transora.com>
- <http://www.dovebid.com>
- <http://www.freemarkets.com>
- <http://www.cosmo-one.gr>
- <http://www.yassas.com>
- <http://www.be24.com>
- <http://www.onianet.gr>

### **2.3.5. Auctions**

Auctions are presented in this separate subsection of B2B briefings because they have additional characteristics from those of an intermediary or marketplace portal. In particular they have auction rules that all parties have to accept before they participate in the auction. The auction and business rules are presented to buyers and sellers as they enter the website before registration. If they agree they can proceed to the auction and can use the automatic bidding tools of the site. During the auction, decisions have to be made by the participants concerning price, volume and time until a trading agreement is reached. This approach does

not tie one buyer with one supplier, but instead builds a market mechanism in which bidding processes take place. The auction rules are very important during the auction processes. They are the framework within which decisions and trading will take place.

One interesting variation of the auction processes is the reverse auction. In this type of auction the buyers set the base and the terms for acquiring products or services. Reverse auctions are expected to become more popular because they allow buyers to compare offers and make no commitment until they are aware of all the options available.

Some auctions are concerned with a specific sector or similar sectors of products / services, but there are also more general auction web sites.

Some interesting examples of auction web sites are:

- <http://www.metalsite.net>
- <http://www.fastparts.com>
- <http://auctions.bcentral.com>
- <http://www.1pointcommerce.com>
- <http://www.comauktion.com>
- <http://www.b2bmarketsite.gr>
- <http://www.bliquid.com>
- <http://www.net-auctions.com>
- <http://www.artikos.com>
- <http://www.ebay.com>

Finally a couple of points to note:

1. Several e-marketplaces include an auction section even if they are not pure auction web sites.
2. In B2C too there are e-marketplaces and auction systems, but with less transactions and simpler auction rules, where individual customers can take advantage of these new electronic trading methods.

### **2.3.6. B2B Payment Processes – Financial transactions**

As in B2C, security is the key to successful operation of B2B payment processes and financial transactions. Encryption must be also used in B2B transactions to protect data and information of both the buyer and the seller organization. This is particularly important for B2B where larger amounts of money are exchanged than in B2C. SSL (Secure Sockets Layer) and SET (Secure Electronic Transactions), which were discussed in the relevant B2C subsection, are also used in B2B transactions. The reader can see subsection “2.2.4.B2C Payment processes” for more information on security issues concerning payments through the Internet. As in B2B transactions often entail the exchange of large sums, credit cards become an expensive mechanism for exchange. Other methods such as electronic cheques and electronic funds transfer may be more economical considering the large sums involved.

B2B payment processes may also require significant credit and insurance processes involving financial and insurance organizations. B2B transactions require significant additional support tasks than B2C as they involve taxation, transportation, import/export for international trading and custom clearance. Usually logistics organizations are involved in such activities and help their client companies with this kind of transactions. It is a challenge for companies offering B2B Web services to integrate these additional support tasks for their client companies.

Several financial organizations have created alliances with other companies (mainly IT) to support their clients with their B2B financial transactions ([www.be24.gr](http://www.be24.gr)). Others are entering the e-business world within alliances by creating e-marketplaces and auction systems to support their clients in their B2B transactions (<http://www.cosmo-one.gr>).

A significant area of B2B applications concerns transactions with government - public organizations. These transactions may be financial transactions with tax and insurance authorities, supplies to government institutions, administrative services etc. It is expected that these transactions (particularly financial) will increase and public organizations will become more involved with such systems thus facilitating the interactions between them and those they deal with.

Finally a B2B enterprise should consider carefully all the other security issues such as access to intranets, access to transactions, data protection, privacy of client information etc. so that security is assured at all levels, at all systems and at all transactions.

### **2.3.7. B2B Inventory Management**

Like in B2C the management and control of inventories is very important, as they represent a significant cost factor for the enterprise. The selling organization must be able to cover the demand without holding extra inventories that must be stored for a long time in the warehouse. The whole management of inventories is a rather difficult and complicated task, especially for B2B companies with many different products and variable demand, since every type of product has its own demand, re-order quantities, re-order periods and safety stocks. The main inventory cost categories that appear are mentioned in the relevant B2C subsection "2.2.5.B2C Inventory management" where an introduction on the management of the inventories appears.

There are some specific issues which should be considered for the management of inventories in B2B e-business transactions.

First, the primary goal of the B2B business is to achieve the most accurate calculation of the demand (either forecasting-based or order-based). Variations on demand estimations will result in variations on quantities and/or delivery times and these in turn may result in losing buyers who are more demanding and now have more options for their supplies. In B2B ordering, the re-order quantities are getting smaller, so delivery times need to become shorter and the scheduling of the distributions / deliveries must become more accurate too. All these changes in the supply chain and inventory costs make inventory management one of the core activities in the new B2B environment. Failing to manage inventories and deliveries appropriately may cause a B2B business to fail.

Integrating the processing of the buyer's orders with the inventory management and the rest back office functions (Enterprise Resource Planning - ERP, purchasing, production, warehousing, distributions and the rest logistics activities) increases the effectiveness of the B2B business. The following paragraphs concern back office issues for B2B: order fulfillment, logistics and integration with the rest supply chain processes.

### **2.3.8. B2B Order Fulfillment - Logistics**

As can be seen in the previous diagram "2.3.1.Information and material flow in an integrated B2B e-business" the fulfillment of the orders includes a number of processes: purchasing from the supplier, production, warehousing, shipping and deliveries. In fact, to fulfill the orders of his buyers, the supplier must activate his whole logistics chain, starting from his own supplies until he delivers the products/services to the customers.

The main issues of order fulfillment are similar to those mentioned in the relevant B2C subsection of the handbook (2.2.6.B2C Order Fulfillment and Logistics) like warehousing, packaging, deliveries, tracking of customers' orders, etc. But since in B2B the order quantities are of a different and larger scale than in B2C, a B2B supplier must consider the following as the logistics plan is designed and implemented:

1. Calculations and forecasting of demand must be accurate and must include all the client organizations for a certain period. Significant forecasting errors may increase costs because of high inventories or of not satisfying the demand.
2. Scheduling of production and/or purchases must be able to satisfy the agreed delivery times.
3. Packaging of different product and scheduling of distributions / deliveries must be organized and faced as an integrated problem, since in B2B large quantities of different product categories must be packaged and delivered in different geographic locations.
4. For suppliers with multiple warehouses located in several places an integrated management of inventories of all warehouses is necessary.
5. Linking and integration of the order processing system with the ERP modules is very important in B2B, because this linking / integration helps the automation of the whole logistics chain of the supplier. This way set-up times and non-productive times are reduced, queues and bottlenecks too and the risk of not covering the demand is smaller.
6. B2B enterprises with many categories of products (concerning size, weight, handling, transportation, etc.) should also introduce automation for warehouse management. Warehousing operations need integrated management, optimal material handling and delivery times within the warehouses. Customer order processing and warehousing should also be linked and integrated.
7. Due to large quantities that appear in B2B, the possible methods of shipment and the cost of shipment and insurances should be considered carefully. Alternative solutions should be examined that provide quality services with optimum cost.
8. Decision support systems can be applied in B2B logistics, especially in cases with many product types, large quantities, buyers from many locations and long shipments. These decision support systems can support human decision making in the following areas:
  - ☞ Online Auctions
  - ☞ Transportation
  - ☞ Warehousing/material handling systems
  - ☞ Inventories
  - ☞ Purchasing
  - ☞ Production
  - ☞ Packaging
  - ☞ Distribution/deliveries.
9. In case of B2B suppliers with several distribution channels, several types of products and multiple warehouses distribution logistic modules should be applied like Vehicle Capacity Planning, Vehicle Loading, Vehicle Dispatching, Warehouse Receipt Planning and even a Distribution Requirements Planning (DRP) should be considered. DRP issues are further discussed in the next subsection 2.3.9 due to its importance for e-business B2B logistics.
10. The global dimension of e-business logistics at international level should never be forgotten, especially for those companies that want to participate in international markets.
11. Before a company enters B2B e-business and before implementing its logistics plan the outsourcers for its logistics support should be considered. Even the possibilities of formal or non-formal partnerships with logistics companies should be examined,

since such collaborations help for cost reduction and better quality of logistics services.

### **2.3.9. Distribution Requirements Planning (DRP)**

As we mentioned in previous paragraphs the planning and management of distributions is a significant and complicated task, especially for those suppliers with many products, several distribution channels and multiple warehouses. Distribution management aims to satisfy customer demand within the appropriate time, with the right quantities and within the quality standards.

Distribution Requirements Planning (DRP) is considered as part of the demand management and provides a link between customers, Master Production Scheduling (MPS), Capacity Requirements Planning (CRP) and Material Requirements Planning (MRP). The role of DRP is to provide the necessary data for matching customer demand with the supply of products at various stages in the physical distribution system and of those being produced by manufacturing or purchased from other suppliers. Key elements are the planned timings and quantities for replenishing inventories throughout the physical distribution system. These data take into account the currently available inventories, the online buyers' orders and the forecasts. The planners use these data to evaluate the current match between supply and demand and to make adjustments as required.

Since in most cases the real customer demand is "independent" and cannot be controlled by the B2B supplier, a significant effort should be made to match the real demand with the supplier's production or purchasing plan. Timing and sizes of replenishment shipments, manufacturing batch sizes and purchase order policies are all under management control. DRP can be the vehicle for integrating the marketing and replenishment information into the overall management control processes, especially in B2B e-business where customer orders arrive faster and online connection between these orders and the rest ERP modules (including DRP) can be established. This way DRP can help significantly to adjust demand estimation and to monitor inventory levels in almost real time using as a basis the current real demand at each time period(usually one week maximum).

At a warehouse level DRP can serve two purposes:

1. It provides the means for capturing data, for modifying the forecast or for reporting current inventory positions.
2. It provides the data for managing the local facility for communicating with the customer's order tracking module.

Also DRP helps the handling of shipments, the vehicle capacity planning, the vehicle loading, and the vehicle dispatching.

As its main inputs for its calculations, DRP uses the customer orders that correspond to several distribution points, forecasting estimations for the demand for short term periods, and records of existing inventories. The records that DRP produces for each product category have a similar structure to the Material Requirements Planning (MRP) records. The DRP records include presentation of short-term forecasts and customer orders, quantities in transit and scheduled receipts, planned shipments and planned production/purchasing orders of the supplier. These production/purchasing orders are used as inputs to the Master Production Schedule and afterwards to the MRP system for organizing and scheduling the whole production process.

In the case of packaging and shipments of bulk materials, special calculations can take place according to the quantities that have to be packaged and distributed to the customers or to several intermediate warehouses (if such exist). Finally like in MRP, Safety Stock should also

be considered in DRP, to cover unexpected variations of demand and unexpected events during shipments and deliveries.

More information concerning integration issues with the rest ERP functions (MRP, MPS, Capacity Planning etc.) will be presented in subsection “2.5. Enterprise Modeling, ERP, Supply Chain and Integration with e-Business”.

### **2.3.10. B2B Customer Service**

Customer Service is very important for B2B e-business. Bad customer service in B2B can have an even worse effect than bad customer service in B2C, since here customer orders represent large quantities and the customers are whole businesses. Giving bad customer service to large buyers could be a disaster for a B2B supplier. Therefore a customer service and support strategy should be applied which is adjusted to the needs of buyers and which has continuous control of its operations and results.

Like in B2C (see also section 2.2.7. B2C Customer Service) infrastructure for e-mail queries, order tracking, FAQs, telephone support etc. should be provided as well as adequate information about products/services, catalogues, manuals, etc. But since the B2B customer transactions and customer needs are greater than those in B2C, there is a greater need for human intervention, monitoring and support. Perhaps even higher level managing staff of the supplier organizations should be involved in customer service.

The concept of non-formal partnership between the supplier and the buyer organization in B2B should be strongly encouraged by both organizations, since such relations strengthen the links of the supply chain, with positive results for all involved in B2B.

Finally Total Quality Management (TQM) concepts and principles as were mentioned in section 2.2.7 for B2C customer service, should be considered in B2B, because of their importance on achieving better customer satisfaction and better customer relations. The new e-business environment can be a field where Total Quality can be applied with even more significant positive results, than those that have appeared through the application of TQM in traditional business trading and supply chain.

### **2.3.11. Summary – Conclusions on B2B**

Summarizing and closing this section on B2B e-business the following conclusions can be drawn:

1. B2B represents the largest slice of activities of the whole e-business sector.
2. B2B keeps growing rapidly, forcing traditional B2B business to introduce e-business practices.
3. A B2B company entering e-business should consider and apply a wide spectrum of B2B applications that add value to its products & services, focus on customer satisfaction and operate within a secure environment through the Internet.
4. The integration of B2B front office with the back office (ERP) of the enterprise and the rest supply chain results in improved efficiency, less cost and better operation of the whole enterprise.
5. Business Process Re-engineering (BPR) methods should be applied during the implementation of B2B and the transition of the traditional business processes to e-business applications.
6. Relations of suppliers and buyers in B2B are different than in B2C. Steady relations and even non-formal partnerships can appear, but any non-satisfied buyers can easily discover new suppliers.

7. In B2B the management of inventories and the whole logistics processes require significant resources and effort, where new logistics concepts like DRP (Distributions Requirements planning) should be applied.
8. Total Quality concepts, principles and methods should not be left out of B2B applications, especially those that concern the satisfaction of the customers.

In the business world, the adaptation of traditional B2B in the new e-business environment will be a requirement for staying competitive. And if this is not a requirement today, it will be for sure in the next 2 or 3 years from now.

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