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Basic operating principles of electronic marketplaces and their adaptation to industrial business

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Abstract: The process of formation of electronic marketplaces by industrial businesses has been investigated. It has been described that one of the most effective tools for marketing activities in the market environment is an electronic trading platform created for commercial cooperation in the business community on the Internet. The need to provide for integration of internal information systems with online systems of other market participants has been determined.

The functioning principles of vertical and horizontal electronic marketplaces have been briefly defined; possibilities of vertical marketplaces have been described: increased fragmentation among buyers and sellers, decreased effectiveness of existing supply systems, deep knowledge of market specifics and relationships between the parties, creation of main directories and convenient search system, presence of concurrent verticals that balance the customer base; for vertical marketplaces: the level of process standardization, deep knowledge of the process and experience of its automation, supplementing the process automation with in-depth information content, ability to adapt the process to specific requirements of various industries.

The basic principles of electronic marketplaces have been determined, such as ease and convenience, flexibility of catalog management, administration, business analysis, provision of additional services and security.

Keywords: corporate website, E-commerce, vertical and horizontal marketplaces, independent marketplace, private marketplace, industry sponsored marketplace.



Хижняк О. Основні принципи роботи електронних торгових майданчиків та їх адаптація щодо промислового бізнесу / Олена Хижняк // Соціально-економічні проблеми і держава. — 2016. — Вип. 2 (15). — С. 18-24.



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1. Постановка проблеми

На сьогодні майже всі галузі економіки мають власні електронні торгові майданчики для розгортання купівлі-продажу товарів і послуг виробниками і постачальниками. Всі ці віртуальні ринки втілюють загальну мрію їх творців, які вважають, що автоматизація процесів обміну товарами і послугами дозволить кардинальним чином скоротити витрачаються на них час, гроші і сили.

Першим кроком на шляху забезпечення електронної взаємодії підприємства із зовнішнім світом є корпоративний сайт компанії в Інтернет. На перших порах він використовується як інтерактивний інформаційний канал для створення позитивного образу компанії і просування її товарів і послуг на ринок. Надалі в нього можуть бути включені ті чи інші функції CRM, SRM і / або SCM, що перетворюють його в комерційний корпоративний торговий портал B2B або B2C.

2. Аналіз останніх досліджень і публікацій

У світі онлайн-торгових майданчиків не існує таких, які пропонують весь набір функцій, необхідних для укладення та виконання угод. Хоча багато моделей електронної торгівлі пропонують широкий набір функцій, жодна з них не може підтримувати всі з них в рівній мірі. У кожному конкретному випадку найкращим рішенням є вибір набору послуг (від інформаційного наповнення до управління ланцюгами поставок) і їх функціональних можливостей, найбільш повно задовольняють користувачів.

3. Невирішені раніше частини загальної проблеми

Слід зазначити, що компанії, які не досягли певного рівня автоматизації внутрішніх процесів, навряд чи зможуть повністю використовувати переваги онлайн-торгівлі. З одного боку, важливою перевагою онлайн-продажів є надання спеціалізованої, динамічного інформаційного наповнення (інформація про продукцію, наявності її на складі, ціну та умови поставки), важливого для покупців. З іншого боку, при використанні технологій онлайн-покупок необхідно постійно мати інформацію про потреби всіх підрозділів підприємства в виробничих, невиробничих та витратних матеріалах. Все це вимагає доступу до інформації з різних підрозділів компанії, її автоматичного оновлення і обробки. Все це і повинна забезпечувати корпоративна інформаційна система. Ще складнішими є інтеграція внутрішніх інформаційних систем з онлайн-системами інших учасників ринку.

4. Постановка задачі

Мета статті полягає у систематизації основних принципів роботи електронних торгових майданчиків та вибору найбільш прийняттого типу інформаційної системи на підприємстві.

5. Presentation of main research materials

A key element of a corporate website is a catalog of goods and services with prices and terms of delivery, as well as related parts and interactive functions of the website. In the commercial part of the website the catalog should provide a possibility to go to pages with supply terms and forms of payment, to make and confirm orders. Only in this case one could say that the company has arranged its Internet trade in goods and services (Table 1).

Table 1. Types of Internet trade

Promotion	Ordering	Sale type
Detailed catalog of goods	Via the Internet	Direct online sales
With Internet prices	Email, fax, telephone	Indirect online sales
General information	Personally from vendors	Internet marketing

B2B technologies can be most fully and effectively implemented in specialized online marketplaces, whose services can be used by groups of companies acting either as sellers or as buyers. Due to specialization, marketplaces allow organizing comprehensive Internet trade providing participants with a required set of services. An integration scheme of online trading systems is shown below (fig.1). Modern electronic trading platforms today can operate according to different principles of interaction between the main parties to the transaction. Among them, one should note availability of fixed prices for goods or services using standard

catalogs or systems that provide dynamic pricing. However, in most cases, three basic principles of operation are distinguished, including the auction, catalog or exchange.

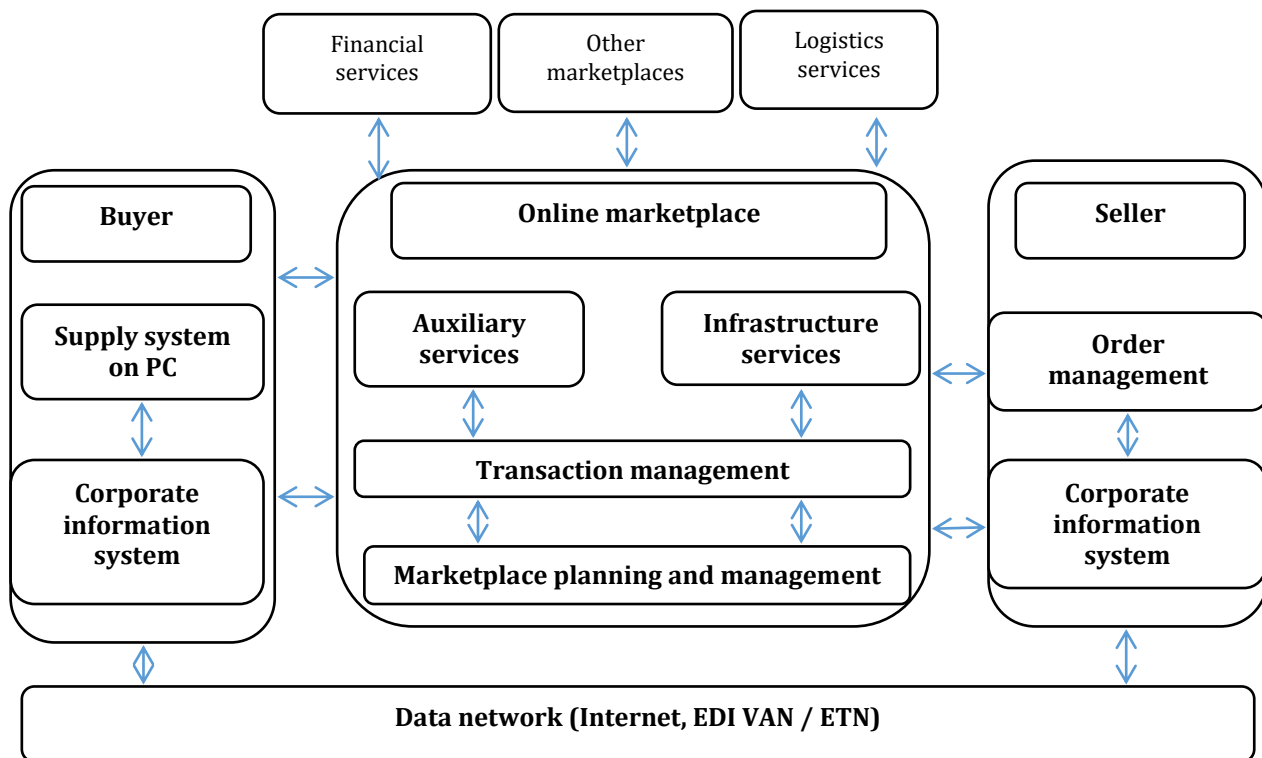


Fig. 1. Integration points of online trading systems

If multiple types of interaction are provided simultaneously, then each customer of the marketplace has the opportunity to choose the most suitable among them.

For example, in the case of an auction, the principle of such marketplace is based on the absence of fixed prices for goods, because the cost of products offered is set during the auction. As a rule, this type of interaction is today actively used for procurement through tendering.

Online catalogs provide for minimum time of interaction between buyers and sellers. They now actively use modern technology and unlimited search functionality allowing to compare products with specified characteristics when selecting the required ones. This format is the most appropriate for industries that involve a large number of small organizations or companies.

As for exchange, this model of electronic trading is now just beginning to gain momentum, becoming indispensable in areas of the market characterized by price fluctuations that entirely depend on the cost and supply of goods (services). This not only allows to determine an optimal supply and demand ratio for products (work), but also enables stakeholders to transact in real time.

Three types of B2B marketplaces are distinguished by the type of management:

- Independent trading marketplace
- Private marketplace
- Industry sponsored marketplace.

Industry sponsored or private marketplaces can be created both by suppliers interested in simplifying the process of selling and shipping their products (sell-side marketplace), and by buyers wishing to optimize the procurement of components and materials (buy-side marketplace).

Independent trading marketplaces used to attract huge attention of the media and investors. They were usually created by young and vigorous Internet companies to service certain industries or product groups. In turn, these offered participants a solution of the problem of finding trading partners, a single venue for transactions, virtual management of business relationships and possibility to compare prices of different suppliers.

Industry sponsored marketplaces were a response of traditional business to excessive numbers of newly-minted Internet companies. These trading platforms enabled industrial giants to take advantage of online business processes themselves and to manage the development of B2B commerce in their sectors of economy.

Private marketplaces are created by large firms to maximize the use of online technologies to deepen integration with their trading partners. Private marketplaces unite existing internal information system of participants to improve supply chains and reduce transaction costs between them. ETMs are usually focused on

particular areas and products (vertical units) or specific business processes (horizontal units). Attempts to satisfy everyone are a direct path to failure.

The creation of vertical marketplaces can be initiated by intermediaries or corporations, industry consortia, E-commerce companies or public enterprises.

Vertical (industry sponsored) marketplaces serve vertical markets (engineering, rolled stock, oil products). They provide information specific for the industry and take into account the specifics of relationships that have developed. Vertical marketplaces support all phases of E-commerce - from transacting to support of supply chains. Their mandatory service is enabling customers to place orders for purchase or sale of products.

The main objective of organizers of such marketplaces is to create their own commercial infrastructure that can provide logistics for necessary resources and implementation of product sales. In this case, marketplaces focused on international trade should use a multilingual interface and support of different currencies.

Most often, information is placed on vertical marketplaces by duplicating from participants' own websites (product range, prices, news, demand, vacancies, etc.). Some companies use the system by automatically transferring new information when it appears on their websites. Access to information on vertical marketplaces is provided through subscription. The main source of income for vertical operators is commission for transactions. Most marketplaces enable sellers to work with each partner individually, with regard to individual discounts, schemes of deliveries and payments for regular customers.

The following factors contribute to promotion of vertical units:

- increased fragmentation among sellers and buyers;
- reduced efficiency of existing supply systems;
- deeper knowledge of market specifics and relationships between participants;
- creation of main catalogs and convenient search systems;
- presence of concurrent verticals that balance the customer base.

Functional B2B platforms are focused on certain functions or automation of certain processes (logistics, insurance, payments) for various industries. Their experience is usually centered around a specific business - a process that is horizontal, i.e. easily transformed into different vertical markets.

Horizontal marketplaces can be created as closed (targeted at a specific group of buyers or sellers) and open (allowing simultaneous interaction between all market players).

According to the principles of operation, horizontal electronic marketplaces are divided into independent, industry sponsored and private models, each of which has its advantages and disadvantages.

Thus, independent marketplaces are created primarily to service certain sectors or product groups. They offer participants a solution of the problem of searching for commercial contractors, place of transacting, virtual management of business processes and the possibility to compare prices of different suppliers.

Industry sponsored marketplaces enable industrial concerns to take advantage of E-commerce processes and manage the development of B2B commerce in their sector of economy.

Private electronic marketplaces are more often created by large enterprises to maximize the use of information communication technologies, to deepen integration with their commercial partners. They unite existing information systems of their participants to improve the operation of supply chains and decrease transaction costs.

The following factors contribute to promotion of functional units:

- Level of process standardization.
- Deep knowledge of the process and experience of its automation.
- Supplementing the process automation with deep information content.
- Ability to adapt the process to specific requirements of different industries.

Creation of ETMs uses various models of interaction organization between sellers and buyers. These can be models with fixed prices typical for catalog sales, or dynamic pricing systems typical for auction, exchange or barter trade.

The accounting or catalog model concentrates sellers and buyers in one place. It suits best for industries that are characterized by high fragmentation of sellers and buyers that often transact with relatively inexpensive goods. It does not make sense to coordinate prices, and they are fixed by sellers. The catalog model also works well if most sales are provided by known suppliers and according to certain rules, while buyers have to review proposals a large number of small suppliers to select the seller. Finally, this model works well at markets where demand is predictable enough and prices vary rarely.

The auction model provides a spatial venue for buyers and sellers. It works well in cases where custom, one of a kind or perishable goods or services are sold or purchased by companies that have different approaches to determination of value. This group comprises rare items, capital equipment, used goods, stock residues and similar products.

The exchange model provides temporary coordination of supply and demand. This model requires the creation of mechanisms for real-time coordination of demand and supply, determination of market prices, as well as process for registration and conduct of transactions. This model is the best for standardized products,

which have several easily standardized characteristics. The exchange model is attractive for markets where demand and prices are unstable. It allows market participants to manage surplus or peaks in demand.

Often, units of inter-company E-commerce offer multiple methods of trading. For different types of platforms requirements for functionality of each service differ significantly.

Table 2. Requirements to functionality of marketplaces

Functionality	Type of marketplace		
	Independent	Industry sponsored	Private
Information for the public	*	***	*
Product development	*	*	***
Purchase of non-production materials	***	***	*
Purchase of production materials	**	**	***
Production	*	*	**
Coordination of transaction and payment	***	**	*
Implementation of orders and logistics	**	**	***
Supply planning and management	*	**	***
Maintenance and support	**	**	***

where: * – low or no functionality, ** – medium functionality, *** – high functionality.

Thus, marketplaces differ in the form of ownership, functionality, focus of activities, choice of partners and benefits provided to participants.

When the company has several products and services, they require a flexible platform that allows them to offer multi-divisional B2B, B2C or B2B2C products and solutions. Thus, the platform should also be able to integrate several server systems.

6. Conclusions

The basic operating principles of electronic marketplaces are as follows:

- simplicity and convenience - equal and easy access of all participants to information and services, creation of a simple interface, application of a simple visitor registration process;
- flexibility of catalog management: the addition of new catalogs or participants, replacement of old information should not affect the system in general;
- administration implies regulation of the operation and interaction of site applications developed in different environments. When such applications are few, user guide and access control are built into each application separately. When applications are numerous, administration is important for the organization of the entire website.
- business analysis - efficient organization of commercial relationships at this type of websites requires not only information, but also its analysis, monitoring of business activity at the marketplace, making various reports that allow participants to objectively and promptly analyze the market situation, identify existing and projected trends.
- additional services are provided to attract more participants and raise additional profits. For this purpose, it is advisable to subscribe to a number of services that could be of interest to individual participants. Such list may include the organization of logistics, auctions, financial services etc.
- ensuring security: developers and project participants in business processes should be assured of security of payments and transfer of information.

Any head of procurement or purchasing manager faced the fact that it is not easy to quickly find a good supplier of goods or services. The difficulty is not even to find a supplier - it is to determine which ones offer the most favorable conditions of supply. Advantages of ETMs for customers in this respect are obvious: significant saving of time; cost saving for the organization and conduct of procurement; transparency and openness of the procurement process; fair competition, eliminating the work of unscrupulous employees with "affiliated" supplier firms; possibility to participate in biddings from anywhere in the world without leaving one's office; accessibility for members of any business - the price and conditions of lots are not limited in any way.

Advantages of ETMs for suppliers are the same and lie in the fact that any CEO, head of sales and marketing is always interested in expanding the customer base and increasing sales. Huge money is spent for advertising, there are numerous call-centers, but in the end the more the company sells, the more it spends extra money. At ETMs the company gains a number of advantages: quick search of biddings; savings on advertising

campaigns; transparency and openness of the sales process; fair competition, which excludes non-price methods of struggle; equal rights for all suppliers of goods and services; possibility to participate in biddings from anywhere in the world without leaving one's office.

The introduction of electronic trading is a necessary step towards the establishment of Ukraine as a full member of the global E-commerce system, which is now rapidly evolving.

Author details (in Russian)

Основные принципы работы электронных торговых площадок и их адаптация в промышленном бизнесе

Елена Хижняк

Аннотация. Изучен процесс становления электронных торговых площадок промышленными предприятиями. Описано, что одним из наиболее эффективных инструментов маркетинговой деятельности компании в рыночной среде является электронная торговая платформа, созданная для делового сотрудничества между бизнес-сообществом в Интернете. Определена необходимость становления интеграции внутренних информационных систем с онлайн-системами других участников рынка.

Кратко описаны принципы функционирования вертикальных и горизонтальных электронных площадок, наведены их возможности: увеличение фрагментации среди продавцов и покупателей, снижение эффективности действующих систем поставок, глубокое знание специфики рынка и взаимоотношений между участниками, создание главных каталогов и удобной системы поиска, наличие сопутствующих вертикалей, балансирующих клиентскую базу. Установлены возможности вертикальных площадок: уровень стандартизации процесса, глубокое знание процесса и опыт его автоматизации, дополнения автоматизации процесса глубоким информационным содержанием, способность адаптации процесса к специфическим требованиям различных отраслей.

Определены основные принципы работы электронных торговых площадок: простота и удобство, гибкость управления каталогами, администрирования, бизнес-анализ, предоставление дополнительных услуг, обеспечения безопасности.

Ключевые слова: корпоративный сайт, интернет-торговля, вертикальные и горизонтальные площадки, независимая торговая площадка, частная торговая площадка, отраслевая торговая площадка.

Author details (in Ukrainian)

Основні принципи роботи електронних торгових майданчиків та їх адаптація щодо промислового бізнесу

Олена Хижняк

Анотація. Досліджено процес становлення електронних торговельних майданчиків промисловими підприємствами. Описано, що одним з найбільш ефективних інструментів маркетингової діяльності компанії в ринковому середовищі є електронна торговельна платформа, створена для ділового співробітництва між бізнес-спільнотою в Інтернеті. Визначено необхідність становлення інтеграції внутрішніх інформаційних систем з онлайн-системами інших учасників ринку.

Стисло описано принципи функціонування вертикальних та горизонтальних електронних майданчиків, описані можливості вертикальних майданчиків: збільшення фрагментації серед продавців і покупців, зниження ефективності діючих систем поставок, глибоке знання специфіки ринку і взаємин між учасниками, створення головних каталогів і зручної системи пошуку, наявність супутніх вертикалей, що балансують клієнтську базу; для вертикальних майданчиків: рівень стандартизації процесу, глибоке знання процесу і досвід його автоматизації, доповнення автоматизації процесу глибоким інформаційним змістом, здатність адаптації процесу до специфічних вимог різних галузей.

Визначені основні принципи роботи електронних торговельних майданчиків: простота і зручність, гнучкість управління каталогами, адміністрування, бізнес-аналіз, надання додаткових послуг, забезпечення безпеки.

Ключові слова: корпоративний сайт, інтернет-торгівля, вертикальні і горизонтальні майданчики, незалежний торговий майданчик, приватний торговий майданчик, галузевий торговий майданчик.

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