Introduction to E-Commerce

1-1 The history

Electronic commerce has existed for over 40 years, originating from the electronic transmission of messages during the (Berlin airlift) in 1948. See [1]

From this event, electronic data interchange (EDI) was the next stage of e-commerce development.

1-2 WHAT IS "ELECTRONIC COMMERCE"?

Trade can be defined as Commercial transaction involving the sale and purchase of goods; service(s); or information. Previous definition can be referred to traditional trade or commerce.

The other form of trade is "**Electronic commerce", commonly known as E-commerce or eCommerce; it is trading in products or services using computer networks, such as the Internet or private network (previously).**

Also **E-commerce (electronic commerce or EC) is the buying and selling of goods and services, or the transmitting of funds or data,**

over an electronic network, primarily the Internet. The terms e-commerce and e-business are often used interchangeably.

1-3 Ecommerce in figures

[2] states that E-commerce is the fastest growing retail market in Europe and North America. Online sales in the UK, Germany, France, The Netherlands, Sweden, Italy, Poland and Spain

Table 1

Online Retail Sales	Online Sales (£ bn) 2015	Growth 2015	Online Sales (£ bn) 2016	Growth 2016	Online Sales in euros (bn) 2016
UK	£52.25	16.2%	£60.04	14.9%	€71.05
Germany	£44.61	23.1%	£52.77	18.3%	€62.45
France	£30.87	17.0%	£36.02	16.7%	€42.63
Spain	£8.15	18.6%	£9.68	18.8%	€11.45
Italy	£6.35	19.0%	£7.42	16.9%	€8.78
Netherlands	£5.94	16.8%	£6.92	16.5%	€8.19
Sweden	£4.17	15.5%	£4.85	16.4%	€5.74
Poland	£4.33	21.0%	£5.10	17.8%	€6.03
Europe	£156.67	18.6%	£182.80	16.7%	€216.32

Figure 1

Online Shares of Retail Trade 2014-2016 (forecast)

Country	2016	2015	2014
UK	16.8%	15.2%	13.5%
Germany	13.5%	11.6%	10.0%
Europe Mean	9.4%	8.4%	7.2%
France	9.2%	8.0%	6.9%
Sweden	8.8%	7.8%	7.6%
Netherlands	8.5%	7.4%	7.1%
Spain	4.1%	3.5%	3.0%
Poland	3.7%	3.3%	2.8%
Italy	3.0%	2.5%	2.1%

Share of Retail Trade
Percentage of Retail Sales, excluding vacations, autos, gas, & tickets
* sales weighted transactions

U.S. E-Retail Sales, in billions

Year	Sales
2011	$202
2012	$226
2013	$252
2014	$278
2015	$304
2016	$327

U.S. E-commerce Sales: 2011-2016

Online consumers will increase their spending 62% by 2016, according to Forrester Inc.

Source: Forrester Inc.

In order to understand electronic commerce, it is important to identify

The different terms that are used and to assess their origin and usage. According to the editor-in-chief of *International Journal of Electronic Commerce*, Vladimir Zwass, '***Electronic commerce is sharing business information, maintaining business relationships and conducting business transactions by means of telecommunications networks'***.

التجارة الالكترونية هي عملية مشاركة للمعلومات التي تخص العمل بالاضافة الى عملية ادامة للعلاقات والعوامل الضرورية للتجارة والاعمال وانجاز التعاملات الماليه عبر شبكات الاتصالات.

Electronic Commerce: Structures and Issues

Vladimir Zwass

International Journal of Electronic Commerce

Volume 1, Number 1, Fall, 1996, pp. 3 - 23.

http://www.ijec-web.org/v1n1/p003full.html

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1-4 How Ecommerce works

summarize the process of commerce as listed below:

1. Sitting at computer, a customer tries to order a book online. Her/his web browser communicates back-and-forth over the Internet with a web server that manages the store's website.

2. The web server sends her order to the order manager. This is a central computer that sees orders through every stage of processing from submission to dispatch.

3. The order manager queries a database to find out whether what the customer wants is actually in stock.

4. If the item is not in stock, the stock database system can order new supplies from the wholesalers or manufacturers.

5. The stock database confirms whether the item is in stock or suggests an estimated delivery date when goods will be received from the manufacturer.

6. Assuming the item is in stock, the order manager continues to process it.
   Next it communicates with a merchant system (run by a credit-card processing firm or linked to a bank) to take payment using the customer's credit or debit card number.

7. The merchant system might make extra checks with the customer's bank computer database.

8. The bank computer confirms whether the customer has enough funds or not.

9. The merchant system authorizes the transaction to go ahead,

10. The order manager confirms that the transaction has been successfully processed and notifies the Web server.

11. The Web server shows the customer a Web page confirming that her order has been processed and the transaction is complete.

12. The order manager sends a request to the warehouse to dispatch the goods to the customer.

13. A truck from a dispatch firm collects the goods from the warehouse and delivers them.

14. Once the goods have been dispatched, the warehouse computer e-mails the customer to confirm that her goods are on their way.

15. The goods are delivered to the customer
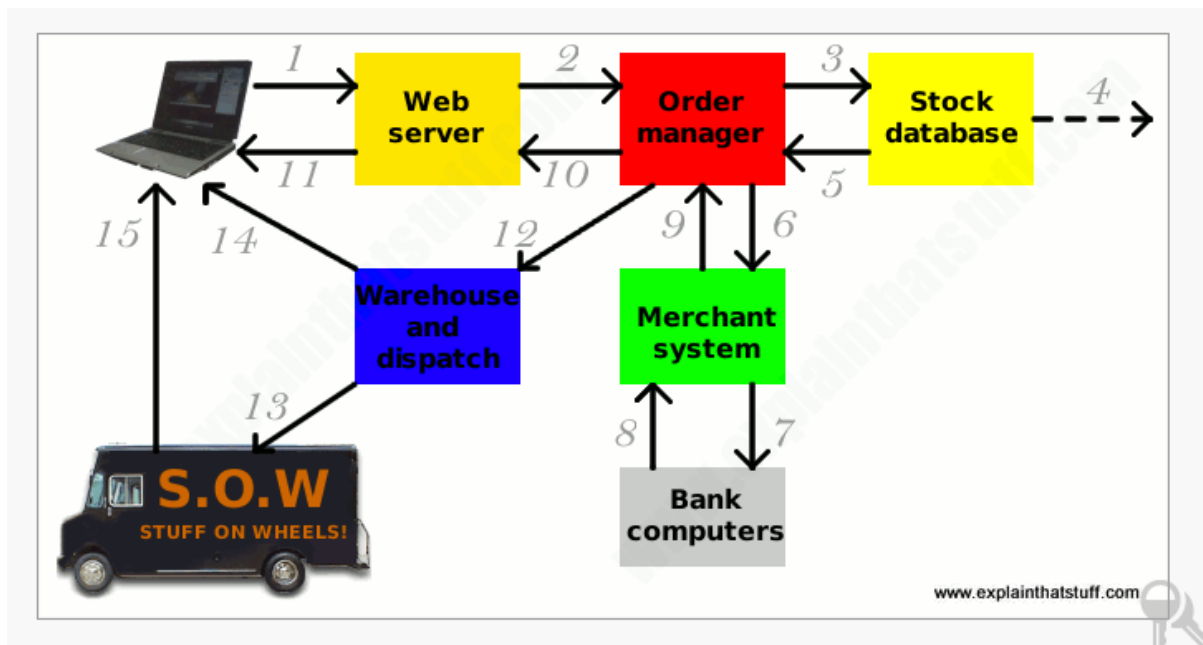
1-5 Electronic Data Interchange (EDI)

In the 1960s a cooperative effort between industry groups produced a first attempt at common electronic data formats. The formats, however, were only for purchasing, transportation and finance data, and were used primarily for intra-industry transactions.

في عام 1960 قامت مجموعات صناعية (شركات صناعية كبرى ورائدة) ببذل جهد مشترك لانتاج نموذج اولي لشكل البيانات الالكترونية. هذا النموذج تم تصميمه لاغراض (الشراء، نقل البيانات، التعاملات المالية) علما ان هذه البيانات الالكترونية كانت تستخدم بشكل رئيسي في التعاملات المالية البينية للشركات الصناعية نفسها.

The work began for International Electronic Data Interchange (EDI) standards not before 1970, which developed well into the early 1990s.

EDI can be defined as *"the electronic transfer of a standardized business transaction between a sender and receiver computer, over some kind of private network.* **Both sides would have to have the same application software and the data would be exchanged in an extremely rigorous format. Transferred business documents can be internally between organization's various departments or externally with suppliers, customers or any subsidiaries etc. In EDI, paper documents are replaced with electronic documents like word documents, spreadsheets etc.**

EDI يمثل عملية التبادل الالكتروني للمعاملات المالية او البيانات (المتفق عليها بين طرفي التعامل التجاري) بين جهاز الكومبيوتر المرسل وجهاز الكومبيوتر المستلم عبر شبكة اتصالات خاصة بهما، كلا الطرفين يجب ان يمتلكا نفس البرنامج او التطبيق وان البيانات يتم تبادلها بتنسيق عالي جدا.


الفقرة التالية مهمة

An EDI message contains a string of data elements; each element represents a singular fact such as a price; product model number; quantity and so forth, separated by delimiter. The entire string is called a data segment. One or more data segments framed by a

header and trailer form a transaction set, which is the EDI unit of transmission (equivalent to a message).

A transaction set often consists of what would usually be contained in a typical business document or form.

The parties who exchange EDI transmissions are referred to as "Trading Partners".

In computer programming, a delimiter is a character that identifies the beginning or the end of a character string (a contiguous sequence of characters). The delimiting character is not part of the character string. In command syntax, a space or a backslash (\)or a forward slash (/) is often a delimiter, depending on the rules of the command language. The program interpreting the character string knows what the delimiters are.
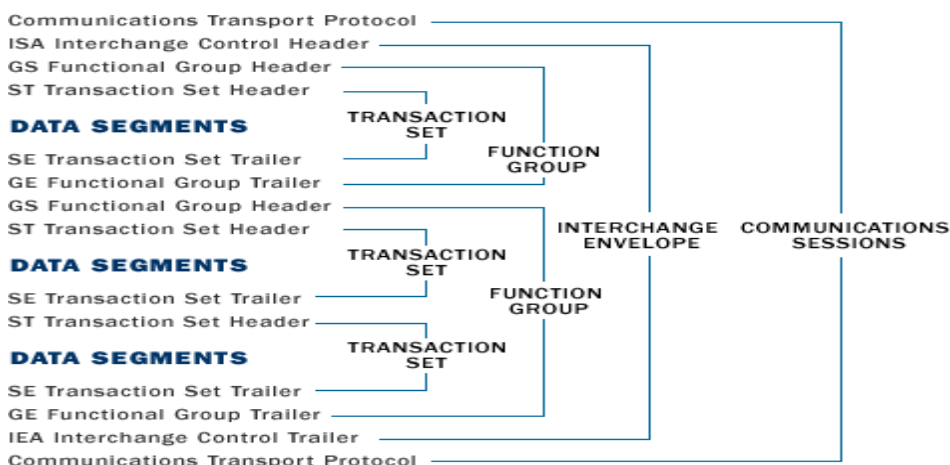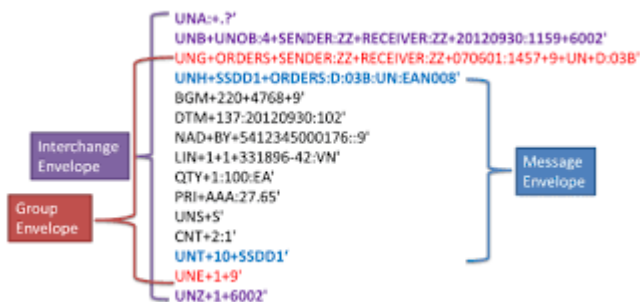
In sectors such as retail, automotive, defense and heavy manufacturing, EDI was developed to integrate information across larger parts of an organization from design to production so manufacturers could share information with designers; producers; stakeholders and other partners.

في بعض المجالات مثل محال التجزئة الكبرى؛ المعامل الميكانيكية، الصناعات الحربية والصناعات الثقيلة تم استحداتث (EDI) وتطويرها لكي تساهم في تكامل نقل البيانات عبر اجزاء المؤسسات الكبيرة والتي بدورها ستؤدي الى سهولة نقل ومشاركة المعلومات بين المصممين؛ خبراء الصيانة؛ المصنعين والمستودعات في عالم الصناعة وسوقها.

Following are few important documents used in EDI –

1. Invoices
2. Purchase orders
3. Shipping Requests
4. Acknowledgement
5. Business Correspondence letters
6. Financial information letters

1-6 Steps in an EDI System

Following are the steps in an EDI System.

1. A program generates the file which contains the processed document.
2. The document is converted into an agreed standard format.
3. The file contains the document is sending electronically on network.
4. The trading partner receives the file.

5. An acknowledgement document is generated and sent to the originating organization.

1-7 Advantages of an EDI System

Following are the advantages of an EDI System.

1. Reduction in data entry errors. – Chances of errors are much less being use of computer in data entry.
2. Shorter processing life cycle – As orders can be processed as soon as they are entered into the system. This reduced the processing time of the transfer documents.
3. Electronic form of data – It is quite easy to transfer or share data being in electronic format.
4. Reduction in paperwork – As lot of paper documents are replaced with electronic documents there is huge reduction in paperwork.
5. Cost Effective – As time is saved and orders are processed very effectively, EDI proved to be highly cost effective.
6. Standard Means of communication – EDI enforces standards on the content of data and its format which leads to clearer communication.

Review Questions

1. Q: what is E-commerce
2. Q: what are the main formats for early attempt of e-commerce electronic data
3. Q: what EDI message contains
4. Q: define data segment
5. Q: whom was the main beneficiary of using electronic data
6. *Q: Define EDI*
7. *Q: what each entity should have to achieve EDI*

References

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