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A preliminary analysis on E-commerce in Italy

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Introduction¹

This paper contains a brief preliminary analysis on e-commerce (e-C) It is only a beginning to study the phenomenon and to understand which are the mechanisms that determine e-commerce market prices of goods and services. In Italy short term surveys do not collect e-commerce yet, but interest in this topic already exists and is increasing.

Paragraph 1 describes e-commerce and its characteristics; Paragraph 2 provides a brief overview of the market; Paragraph 3 focuses on general pricing issues; Paragraph 4 concludes.

1. E-commerce description and characteristics

1.1 E-commerce definition

E-commerce stands for electronic commerce. It is a form of trade and sale of goods or services through the Internet, with different types and structures of web platforms, on which the seller uploads the good/service catalog so that the buyer can consult it online, choosing the products to buy and sending the order. In addition, online distribution of digital content, electronic financial and stock exchange transactions, public procurement by electronic means and other public-sector selling procedures are included in e-commerce too.

According to the object, e-commerce can be distinguished in:

- direct e-C: virtual items such as services can be provided, transferred and delivered to the client exclusively through the Internet;
- indirect e-C: physical items such as goods can be ordered on the Internet and delivered to the client through express courier or other means of transportation.

Furthermore, Figure 1 below shows e-C classification according to several types of client. For example: (i) BtoB relates to business transactions involving two or more companies; transactions are cheaper, barriers at entry are lower, sales are faster. (ii) BtoC refers to transactions between a company and a final private consumer; the widespread dissemination of the Internet allows to access to an exceptionally wide range of products staying comfortably at home. (iii) CtoC is a newer form of e-C and is becoming increasingly popular thanks to the opening of online auctions websites (for example, eBay is the site that dominates this market: buyers and sellers meet to take part in an auction relating to any type of product). (iv) CtoB is not yet developed. In this case consumers determine the price they are willing to pay for a good or service and at the same time companies can accept or reject their offer.

¹ Attributions to the authors: to Cristina Cecconi paragraphs 1, 3, 4; to Roberta Cacciaglia paragraph 2.1; to Fabiana Cecconi paragraph 2.2.

The views expressed in this paper are those of the authors only and do not necessarily represent the position of Istat.

Figure 1 – Types of E-commerce by clients

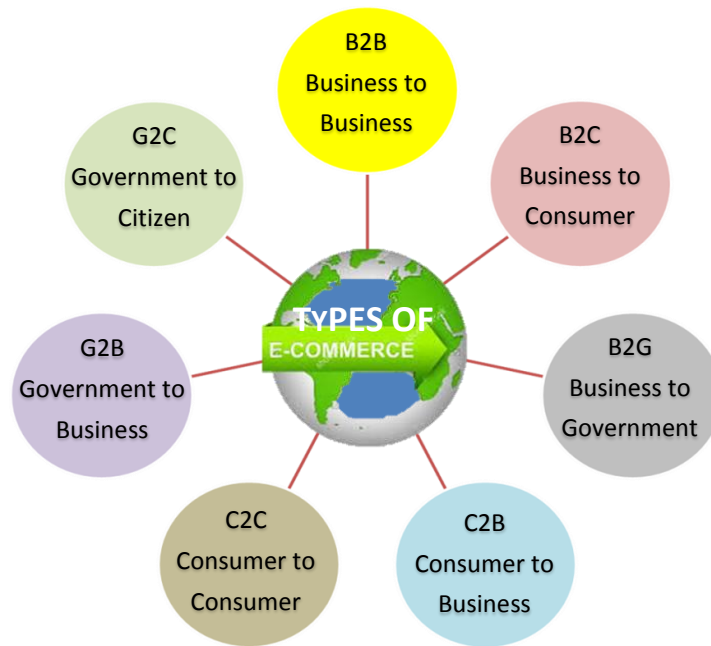


Figure 2 below describes the e-commerce customer buying cycle where there are several stages before, during and after transaction is completed.

The customer: (i) looks for the products on the e-C web site; (ii) reads their features and looks at the photos; (iii) orders the number of products he wants and puts them into the shopping cart; (iv) accepts the term of sale and pays; (v) the order is completed and an e-mail is sent to customer and trader to confirm the order; (vi) the order is sent to the warehouse for fulfillment; (vii) a shipping carrier picks up the shipment; (viii) the shipment is delivered to the customer. Every stage is controlled and at last the customer has the possibility to return the product to change it too.

Figure 2- The e-commerce buying cycle



1.2 Some advantages and disadvantages of e-commerce

E-commerce is characterized by some advantages and disadvantages.

Undoubtedly web has revolutionized shopping giving the consumer great power thanks to the overall competition among traders and allowing sellers to lower their costs and set lower prices respect those of traditional stores.

From the trader point of view, some of the benefits are described below:

- e-commerce goes down any geographic barrier: it's possible to reach and acquire new customers wherever they are;
- market entry barriers are low, as the costs of starting an online business are considerably lower than a traditional business;
- costs associated with marketing and inventory processing, storage and inventory management are reduced;
- intermediaries are not needed;
- customer behavior is collected and managed by developing and implementing effective marketing and promotional strategies.

Instead, some of the traders' problems are the following:

- the amount of regulations on e-C and many bureaucratic formalities sometimes make hard to begin an online activity;
- lack of understanding of customers behavior: buying habits, expectations and motivations;
- lack of a competitive online scenario analysis;
- lack of optimization: e-commerce needs continuous monitoring to assess the impact it has on search engines and consumers.

Benefits from the customer point of view:

- the Internet gives access to an unlimited number of business information, services and goods: comparisons among many sellers and many prices at any time;
- there is a quick response to the consumer need;
- the market is more competitive (prices are lower) and the supply of goods and services is greater;
- customers may have more contractual power in the decrease of prices.

Disadvantages for customers are:

- no direct contact with the good and the seller;
- no direct sales assistance;
- doubts about security (for example: payments);
- lack of instantaneous gratification with online shopping.

Nowadays, the idea of integrating a traditional store and a virtual store is becoming more and more realistic. The two types are not in competition, but they have to work to support each other while maintaining their own differences. A lot of customers search online information (reviews, product description, technical data, etc.), make an opinion of the product and then go to the physical store to immediately have the item. This is a great opportunity for the offline sellers

because hosting accurate descriptions and photos on their own website can offer consumers the information they are looking for on the web.

2. E-commerce market conditions

2.1 A view from inside and outside Europe²

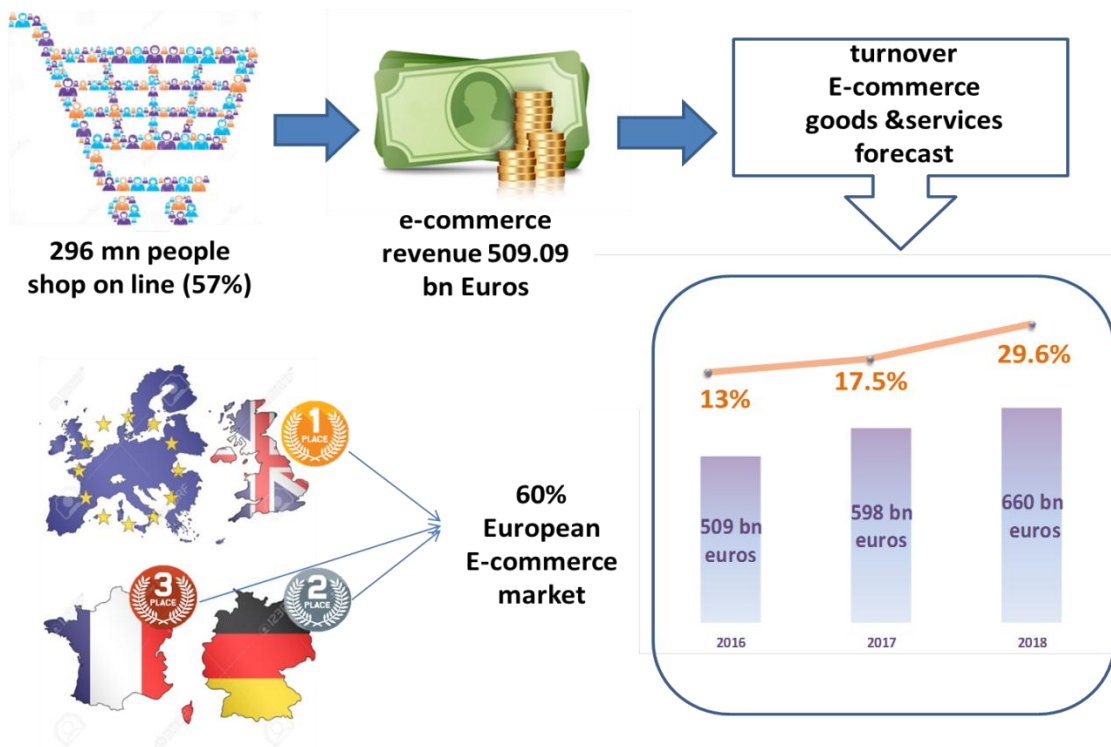
In 2016, the value of e-commerce in Europe is estimated 509.09 billion Euros and is produced by purchases online done by 296 million people from 48 European countries. The above value increases of 13% respect to 2015 and forecasts say that it will increase of 17.5% in 2017 and 29.6% in 2018 reaching, respectively, 598 and 660 billion Euros (Figure 3).

The three countries with the highest e-commerce sales are the United Kingdom, Germany and France confirming the positions they already had in the market in 2015 and covering about 60% of the European e-commerce market.

Regulatory aspects play an important role in the evolution of the European e-C market. At the beginning of 2015 a European law decided that the VAT of the country of origin of the customer must be applied to the sale of digital goods and services within the European Community. For this reason to help traders in managing different VAT rates for each customer's nationality, some countries opened dedicated centres such as the one set up in Italy by the Revenue Agency. For physical goods, this standard is still inoperative and therefore there are strong differences in VAT: in some countries such as Malta or Cyprus it is 18%, while in others such as Sweden or Denmark it is 25% and this difference is even more marked for some specific types of goods. Furthermore, the European Commission has already proposed new rules for all electronic communications that guarantee a high level of data privacy protection and these rules will be adopted at the beginning of 2018. A strengthened consumer protection and an improved payment security over the Internet will stimulate more e-commerce.

² Casaleggio Associati (2017). *E-commerce in Italia 2017*. Report maggio 2017.

Figure 3 - E-commerce in Europe (Source: Casaleggio Associati, 2017)



The use of Internet has grown exponentially all over the world during the last twenty years; in fact in 1995 Internet users covered only 1% of the world’s population, in 2016 this percentage reaches around 46% (3.4 billion people).

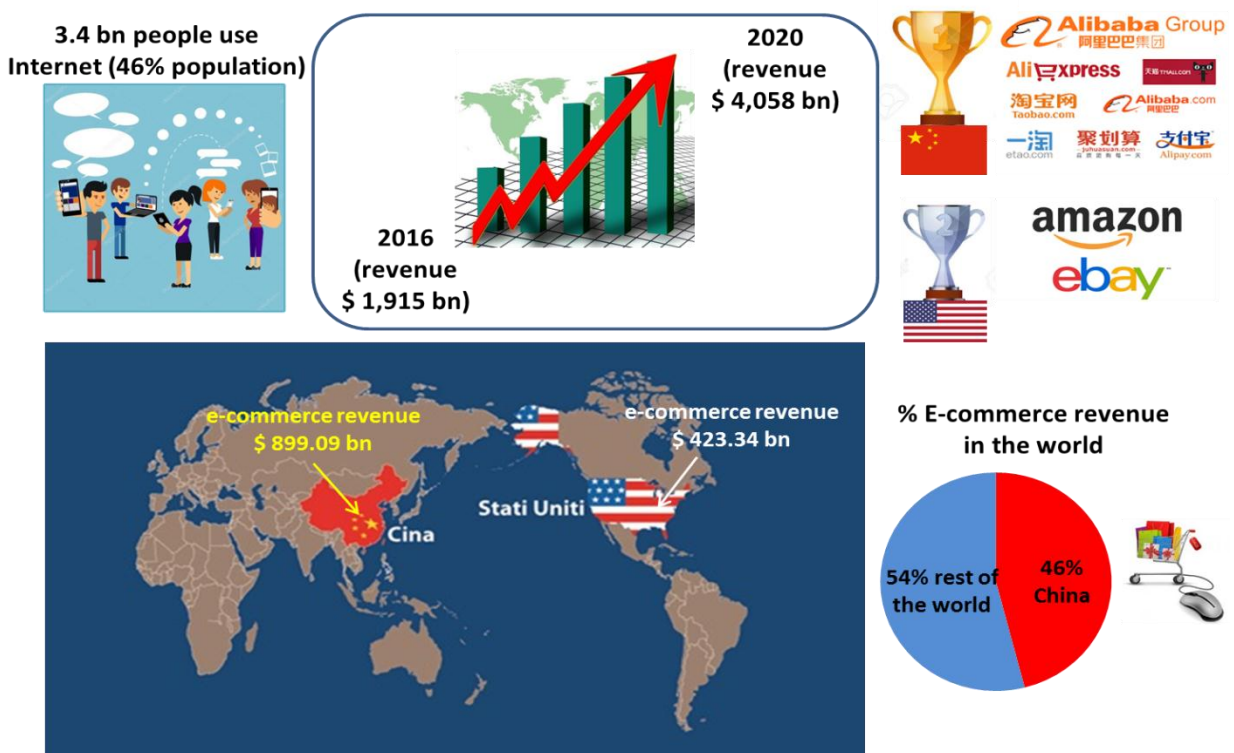
In 2016, the value of the worldwide retail e-commerce market is estimated at 1,915 billion Dollars, accounting for 8.7% of the total retail market, and forecast say that it will continue to expand rapidly up to 4,058 billion Dollars in 2020, reaching 14.6% of total spending per year (Figure 4).

China and the United States are the two countries that dominate the world rankings. China occupies the first position, with online sales revenue estimated at 899,09 billion Dollars in 2016, almost half of the global market (46%). The major e-commerce player in China is Alibaba group.

The United States holds the second place with estimated sales of 423,34 billion Dollars and with the presence of Amazon and eBay.

The Asia-Pacific area is destined to remain the world's largest e-commerce market, with sales exceeding 1,000 billion Dollars in 2016 and where Alibaba and Amazon will invest over the next few years to gain market share. Thanks to their multi-sector public platforms, Alibaba and Amazon, confirm their presence as global giants even if other big players are growing fast, like Google and Apple.

Figure 4 – E-commerce in the World (Source: Casaleggio Associati, 2017)



2.2 Some figures from Italy³

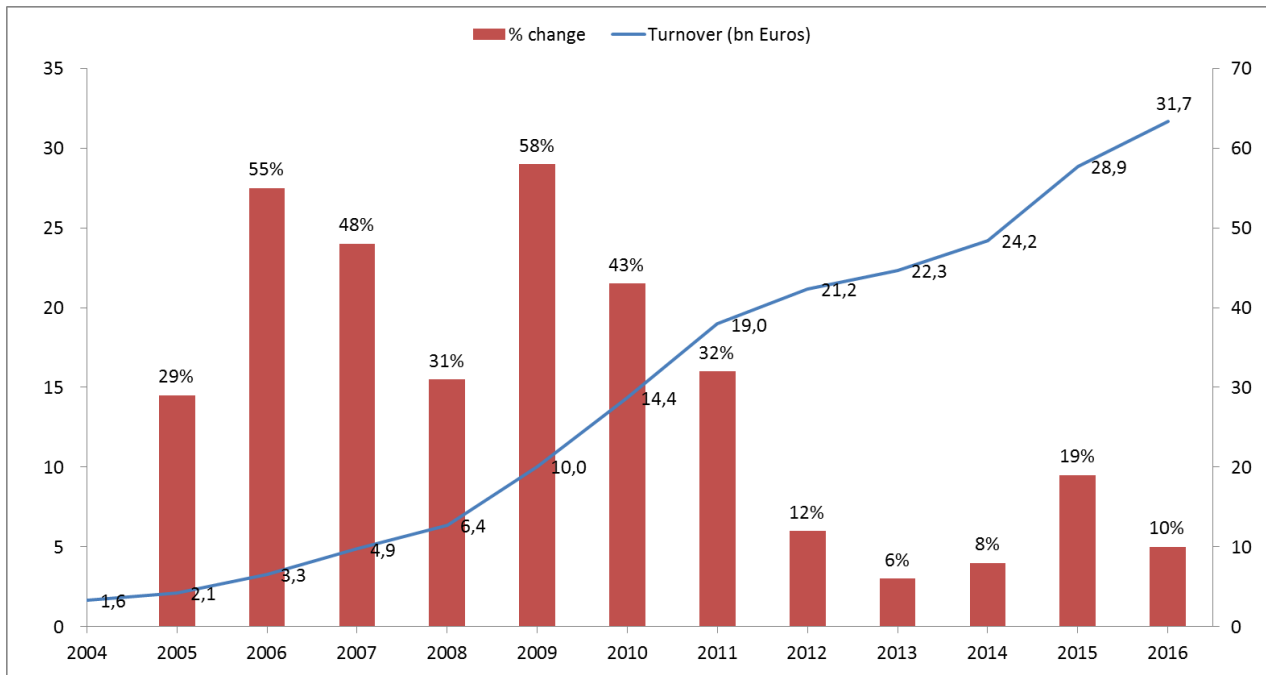
In Italy last ten years are characterized by an increase of about 860% of e-commerce turnover, clear signal of the important and sudden market change due to this new way of selling (Figure 5).

In 2016, the value of e-commerce turnover is estimated 31,7 billion Euros, with an increase of 10% respect the previous year, still positive but lower than the 19% growth in 2015. This is mainly due to the short supply in some sectors, such as fashion, food, home and furnishings, where online sales are still underdeveloped, together with the saturation of older sectors such as free time, insurance and tourism. The latter, in fact, show lower growth rates than newer sectors that grow faster. The strong and growing presence of the great international players contributes to produce the e-C Italian turnover.

Nowadays about 42.6 million Italians are able to access to the Internet, covering 88.7% of the population aged 11-74. On the supply side, in 2016 16,000 companies sell online and forecast estimate they will be 50,000 in 2025.

³ Casaleggio Associati (2017). *E-commerce in Italia 2017*. Report maggio 2017.

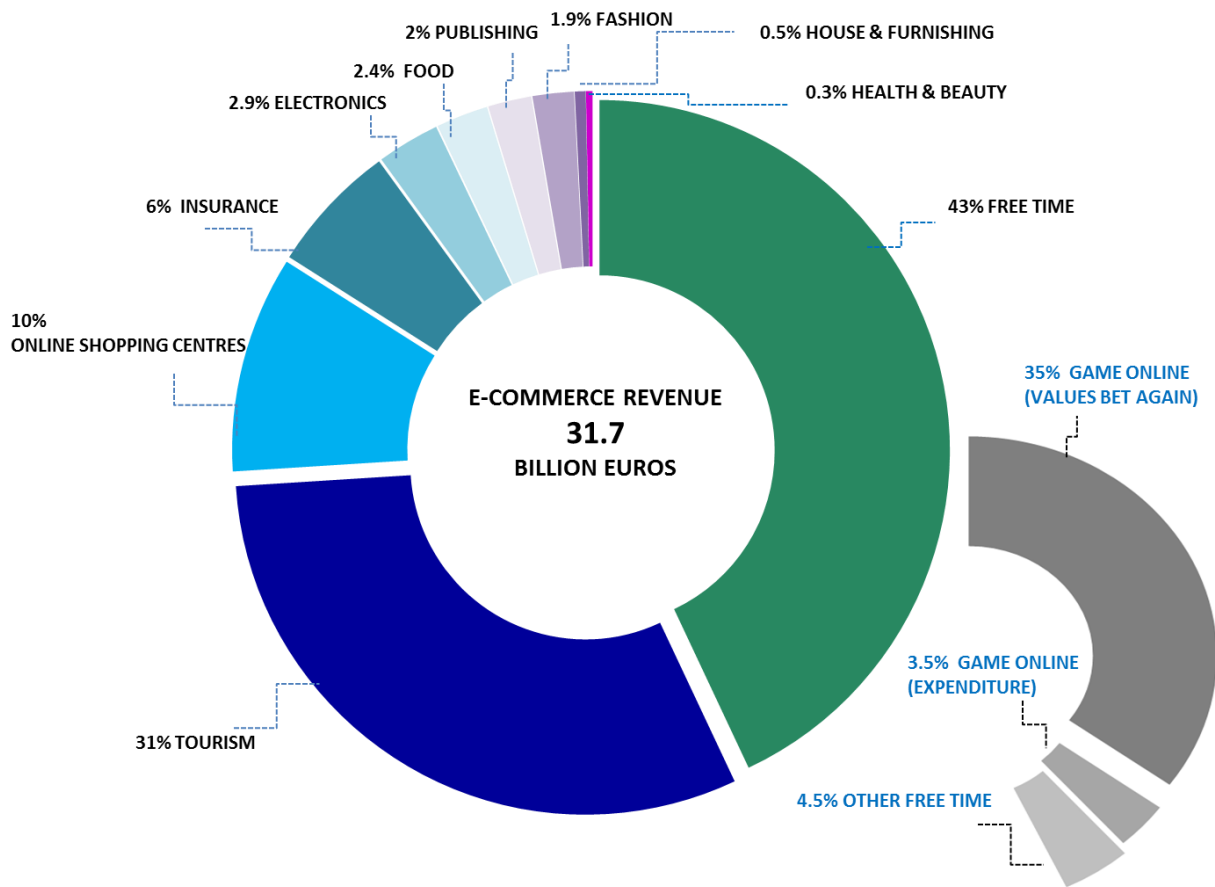
Figure 5- E-commerce turnover trend in Italy, years 2004-2016 (Source: Casaleggio Associati, 2017)



Analyzing the 2016 Italian turnover distribution by sector (Figure 6), free time and tourism sectors represent the largest share of the e-C market. The first covers 43% of the total turnover, the second represents 31% of it and, considering together, they generate three-quarters of the total. Free time sector is high and is growing in absolute value mainly thanks to online gambling spending. Online shopping centres represent 10% and their share is due to the dominance of the major international players. Insurance share follows, with 6% of the total. Other sectors have modest market share.

In terms of growing rate, tourism is stable compared to the free time sector that decreases slightly. The sector with the greatest growing rate is health and beauty (+36%), thanks to the entry of large brands from abroad, followed by food (+33%). The growth of online shopping centres continues due to many consumers choices.

Figure 6- E-commerce turnover distribution by sector, year 2016 (Source: Casaleggio Associati, 2017)



Turnover forecasts by sector estimate a generalized growth: +55% online shopping centres; +40% health and beauty; +35% food; +25% house/furnishing and publishing; +20% fashion; +15% tourism; +10% insurance; +8% free time; 0% electronics.

Finally, the 100 most popular e-commerce players in Italy are ranked in Table 1 below. The ranking is based on data estimates available on the Internet, it has no statistical value but is indicative of the strength relationships between the various players. It can be noticed that two international online shopping centres, Amazon and eBay, are in the first two positions and half of the positions are occupied by tourism players.

Table 1 – Ranking of e-commerce players in Italy, update of data: August 29, 2017 (Source: Casaleggio Associati)⁴

N.	PLAYER	SECTOR	TOTAL ACCESSES	CONVERSION RATE INDEX	ONLINE POPULARITY	FANS FACEBOOK	FOLLOWERS TWITTER	
1	Amazon	online shopping centre	1292	46978113	75	27900000	4369926	2648432
2	eBay	online shopping centre	1165	50449927	72	761000	719184	3383
3	Booking.com	tourism	758	7134625	75	64600000	7395282	123474
4	Trenitalia	tourism	348	8454258	57	7790000	112016	202805
5	Expedia	tourism	345	3653474	72	16300000	6629541	395727
6	Zalando	fashion	328	6372081	79	3850000	4879935	9118
7	Groupon	online shopping centre	321	8451406	66	1110000	17069228	7707
8	Vodafone	free time	315	8106531	55	4610000	1910321	397701
9	Trivago	tourism	302	5329954	82	2150000	9528367	25826
10	eDreams	tourism	286	7004202	66	209000	860825	11266
11	William Hill	free time	281	7144446	62	372000		157
12	Tre	free time	276	8842099	45	197000	874697	173839
13	Decathlon	free time	233	3869544	67	1170000	1183564	25353
14	Mediaworld	electronics	219	4759337	53	1100000	1151555	123685
15	Apple Store	electronics	212	1200000	83	545000	112021	27950
16	Shopty	electronics	205	200000	90	173000	116314	104
17	Lastminute.com	tourism	202	748573	84	172000	129975	-
18	lbs.it	publishing	194	3158807	58	446000	332854	10957
19	Ryanair	tourism	192	2319894	60	1950000	2367846	319439
20	Hotels.com	tourism	192	620000	81	32300	3175010	99177

3. Pricing issues

3.1 Price determinants and strategies

In order to collect prices it is basic to understand how pricing mechanism works, that is identifying the factors affecting product prices in e-commerce, only afterwards statistician is able to choose the right price method to be employed.

Nowadays more than 60% of online buyers consider price as a key criterion that influences their buying decision. In emerging e-commerce markets, consumers are interested in online prices even more. On average they approximately employ ten minutes for each item purchased and make use of price comparison search engines to obtain the better choice. Furthermore e-commerce increases products supply both by creating an infinite and always accessible virtual shop and by dropping prices in real time by dynamic prices.

Prices can be determined by many factors and traders can apply several strategies to fix them.

In fixing prices the most important elements an e-C trader has to watch over are the following:

⁴ <https://www.casaleggio.it/e-commerce-ranking/>

- Costs

The simplest pricing strategy for e-commerce companies of all sizes is cost-based and consists in knowing the total cost of the product they sell. Focusing exclusively on the unit purchase price is misleading because there are many costs centres within an e-commerce company, such as salaries, marketing costs, platform costs, server costs, shipping, packaging, and so on. Each of them has to be taken into account in fixing product price to properly decide company profit margins.

- Price comparisons

Nowadays various e-C sites offer different price rankings that allow monitoring the online market conditions so, thanks to automated price tracking and analysis tools, companies can automatically monitor market data and can act dynamically in taking price decisions holding their profitability.

- Customers knowledge

Customer centrality is beyond the capability to be competitive. E-commerce companies require knowing customers profile and their needs to fix attractive prices.

Moreover, the following list of factors is not exhaustive but attempts to identify as many as possible prices determinants:

- Prices ending with 9

Several studies have shown that products whose price ends with figure 9 get an average sales rate of 24% higher than the ones with a rounded price to the nearest full digit. The reason is that it seems that customers focus their attention on the first number starting from the left of a figure so, for example, 19 is perceived nearer to 10 than to 20.

- For expensive products: customers are less sensitive to prices

When multiple competitors offer the same expensive product, the price variation is lower. The deduction is that consumers are easily able to compare online products, intensifying competition between traders.

- Elite prices

In case of unique pieces, elite price strategy can be the winning solution for traders because customers' perception of value and utility of that product is influenced by the only effect of its prohibitive price; namely consumer is convinced that the benefit obtained would certainly be higher than that of a similar but economic product.

- Anchored prices

People buy online above all because of the apparent great reductions, up to 80%, of the original price. In these cases traders fix items at a very high price and customers value them in the face of very few available pieces. Only then the price is fixed considerably lower, generating the perception of a secure offer.

- Competitive benefits

Free shipment to avoid abandoned carts or to persuade customers to full them, as well as discounts and sales, induce customers to decide to buy products.

- Extra benefits

Traders can increase the perceived value of a purchase by promising the customer a number of extra benefits such as warranty, satisfied or reimbursed conditions, assistance, etc. Often these benefits do not represent real costs for sellers but appear to be true surpluses for the customer.

3.2 Dynamic pricing

Dynamic pricing is a particularity of e-commerce market and requires a separate focus. It is a key feature in today's e-C economy because demand and supply are driven by price, so if a trader is able to change prices in real time or through structured pricing strategies he is also able to gain market share.

In dynamic pricing, price changes depend on subjective and objective parameters. In fact, on e-commerce sites algorithms perform adaptive controls of different factors, such as competition and demand, for a particular product on the online market. The same article is then offered at different prices to different groups or categories of customers. Therefore dynamic pricing is a type of price discrimination and its application, although generally admissible, may raise some legal issues and some criticisms come from both consumer associations and online shop managers.

Some examples of online application of dynamic pricing are described below:

- In air transport price dynamics based on clusters of customers or on customers' needs are used. Airlines change their prices according to a multiple factors, such as time, the day of the week the search is conducted, the number of days left on departure, etc. For example, discrimination is applied on being a business customer or a family member. Usually, excluding promotions, the business class flight ticket is more expensive than the same flight ticket sold for the cluster family; they differ for the airplane seat and the market demand. The reason is that the business cluster has a higher budget - and therefore a higher purchase price - to get the specific good or service.
- Amazon's price discrimination is one of the most significant experiences on e-commerce sites. In fact, this company uses its database to create clusters of well-targeted users to increase the competitiveness of its online shop. Knowledge of customers spending is a key factor in increasing profit through price discrimination strategies applying dynamic pricing strategies.
- Purchasing Groups are used to differentiate prices: different types of user groups pay different prices for the same product (for example: associations, nonprofit organizations, simple users, etc.).
- Geo-localization: some e-commerce sites are configured to recognize the origin of the IP (Internet Protocol address) to geo-localize specific customers and so discriminating prices.

4 Conclusions

E-commerce is a wide topic, rich of new concepts, and is continuously changing at the same rate of technological improvements.

The first evaluations coming from this brief preliminary analysis suggest that a lot of work needs to be done to go deeply into e-commerce concepts in order to apply them to services producer price indices. For example, issues concerning classification, data identification, treatment and collection, bundle of services, are a few parts of the topics a statistician has to study to describe the e-commerce phenomenon in terms of price dynamic.

Undoubtedly, NSIs can't underestimate the continuous increase of online sales if they intend to produce reliable and robust statistics.

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