



# **E-commerce Impacts on Selected Economic Area in Slovakia**

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**ABSTRACT:** The aim of the research was to analyze the influences of e-commerce in the selected trade area in Slovakia. In this paper have discusses the general influences of e-commerce on the economy, in labor market and on productivity in Slovak republic. To carry out survey results the article uses a simple example to describe such methods as weighting and questionnaires. This paper formulated an online sales factor equation and further analyze the e-commerce impact on the economy, employment and productivity in Slovak republic.

**KEYWORDS:** E-commerce, labor market, influences, trade, weighting and questionnaire methods

## **I. INTRODUCTION**

As the impact of e-commerce becomes more widely felt through the community, its implications are becoming apparent to all sectors of society – even those which have hitherto tended to see the new economy as irrelevant to their activities. Impact of computers and ICTs on business and economic growth and productivity in industrialized, and to a limited extent, in less industrialized countries, has been extensively discussed and documented. While some of studies have shown that internet and especially e-commerce technology has a positive impact on the business sector, doubts have been raised about its impact on macroeconomic growth, and labor market in particular.

There are very few studies which have focused on the impact of internet and e-commerce on employment, labor market and productivity in Slovak republic. In fact, this domain of Internet activity has received relatively little attention. Therefore, it has become pertinent to analyze the implications of e-commerce in the labor market. The present paper seeks to analyze the impact of e-commerce in the labor market and also points out some estimation problems that the economists are facing in the internet and e-commerce environment. The emergence and growth of information and communication technologies (ICTs), in their diverse form ((David 2001, p. 28-40), are revolutionizing the world of work, how organizations function, change and evolve and the nature of leadership, managerial roles and professional careers.

The advent of IT has shifted demand for labor toward workers with skills complementing the new technologies. The low cost of transmitting information over the internet is shifting job search and recruitment activities to the Web. The ease of communicating and interacting over the internet has led unions to experiment with web-based modes of servicing members and carrying their message to the wider public. The new technologies, together with other important changes such as the continued increase in the educational attainment of the work force, shift of employment to service sectors, and increased employment of women, is producing a labor market that differs greatly from the industrial labor market that characterized the 20th Century.

A key economic impact of e-commerce today is its beneficial impact on reducing firms' production costs. This is identified as a factor that will spur the use of e-commerce (OECD 1999), within and between businesses. Although there are measurement problems associated with capturing the quality changes inherent in many of these activities, it is assumed that e-commerce will result in productivity gain (OECD 1999). This paper being analyzed some of the e-commerce impacts on different trade area in Slovakia.



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## II. METHODS OF RESEARCH

This research has been performed on the basis of the underlying data derived from primary and secondary sources. Secondary information sources were factual literary publications focused on the issue of e-commerce, along with publications journals. Secondary information sources are also materials corresponding to the analyzed issue published and the public information available on the website.

The basic primary source for obtaining the data was two questionnaires sheet. The first survey is a representative component of 500 consumers. This research focuses on consumer attitudes in Slovakia in relation to the online store and buying over the internet. Conversely, the second questionnaire is directed at 100 companies operating in various sectors of the economy, disposed stone branch and e-shop. This review discussed the views of the companies on the impacts of e-commerce. For the treatment of both questionnaires were used Microsoft Excel and Google docs.

In conclusion, we use the method of induction, where the documents our findings, we draw a general conclusion, which is related to our research.

## III. RESULTS AND DISCUSSION

The aim of our survey is to analyze the effects of e-commerce on the economy. Given the extensive impact of e-commerce on the economy, it is not possible to implement such extensive research in this paper because of the complexity of the issue. Therefore, we focus only on the specific parts that are presented in the abstract in this paper, namely: economic impact, impact on employment, production and environmental impact.

### A. Economic Impacts

E-commerce has a bright, positive hold on growth, commercial sector, but come into being switched its impacts on macroeconomic growth and developments. E-commerce has potentially stimulated growth in industrialized and developing countries. E-commerce allows shopper and sellers to encounter effective generated to open new market opportunities and hold on micro and macro economy influences on business. Different case studies prove that e-commerce has weighty reach on productivity growth. Primarily USA, that are dominating world IT e-commerce record expressive productivity growth already since 1995, but in developing countries didn't happen because proof less stay with web technologies. Analyses focused on saving of expenses prove that e-commerce is able to reduce maintenance costs primarily on retail and wholesale, especially the area of transports and financial service. Saving of expenses in service, induced scab productivity, expression through the medium macroeconomic index like GDP, growth life levels and wages. Commerce and economics are inseparable backward for development and feeding new technology. Technological innovation play exclusiveness role how tool economic development, basic pulse, who establishes and holding machine capital in the direction of new customer, goods, new production, transfer methods that are formed capitalistic entrepreneurship. Prosperity isn't mean it's national source and labor forces, but it is earlier ability its industry innovates itself. Continued growth of e-commerce will have a deep hold on the structure and function of economy on various levels.

For business, economic index is important of their ratings fruitfulness, which indicates a successful or an unsuccessful effect of e-commerce in enterprise business, consequently shows the numerical ascent over the enterprise business activities. Economic influence should introduce a most exact part of the quantification index influence electronic commerce, because it's indicated real numerical values.

One of the measured parameters is costed out of others. The cost represents financial acknowledgement of enterprises' budget, production factor of enterprises and achievements, further expenses towards operational activities. In this research accounted not only expenses of enterprises, but also on expenses of shopper over the Internet. It is notable that in our research unfocused upon the concrete enterprise, but examined influences e-commerce on the economy in general, this research is proof less scientific express numerically loaded.

### B. Survey cost

For enterprises are the economic indicators most important part of evaluating their success. They mirror the successful or unsuccessful operation enterprise in the economy and a numerical output of company-wide activities. The economic impact should be a part of the most accurate quantification coefficient impact of electronic commerce; it is possible to work with exact numerical values.

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One indicator out of another is the economic effects of the cost. The costs represent a monetary award consumption of enterprise production factors, by the undertaking for its performances and other purposefully incurred costs associated with its activities. In this survey does not only focus on cost companies, but also the cost of consumers buying over the internet. As in our research aim at individual companies, but examines the impact of e-commerce on the economy in general, we cannot precisely quantify the cost value.

The question no. 2, we asked how the impact of e-commerce at the expense of the consumer. This issue discusses graph no. 1, from which we conclude that up to 100% of respondents think that e-commerce reduces the cost of the consumer.

This may be saving the cost of transporting the product recipe. Products ordered over the Internet and their delivery to the home, the cost savings associated with the lower prices of products purchased over the Internet.

Hypothesis H1: In our opinion considers more than half of the respondents the main advantage of buying over the Internet "save time"

On the issue number 1 of the questionnaire survey respondents were asked to state their own opinions on the benefits (advantages) of online shopping. 28% of respondents agreed that the main advantage of buying the e-shop are considered the speed and cost savings. 24% of respondents said that Internet shopping convenient. Saving time is in our opinion in these hurried times great advantage, we assume that there may be a time saving of travelling to shops or Stores, whereas e-shop is usually a wider range of products. The same percentage said the biggest advantage of shopping online is cheaper.

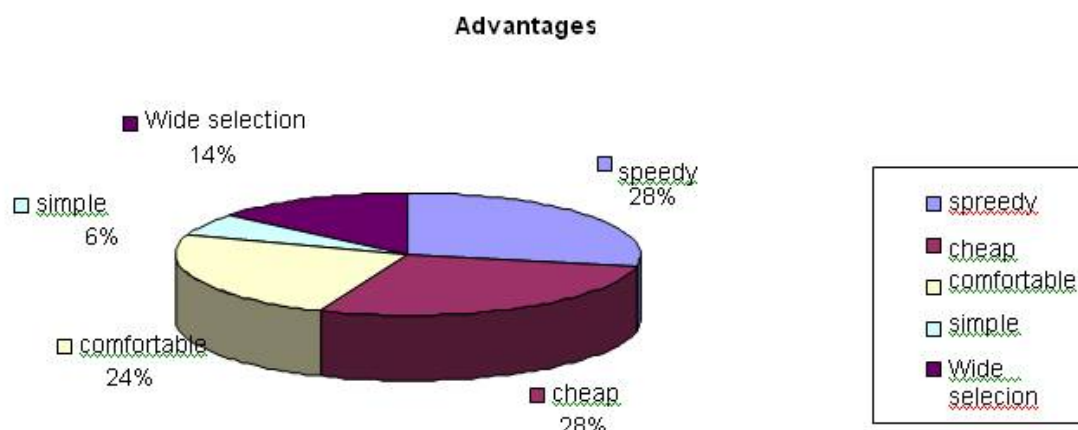


Fig. 1 Own research source

In view of the possible design recommendations, we asked respondents the question demonstrates the potential disadvantages of purchases made via the Internet.

From the survey has found the potential disadvantages that were mentioned by respondents: main disadvantages of buying over the Internet, respondents considered inability for piloting the product when purchased. However, this is compensated for by us the option of returning the product within the 14-day statutory deadline for return of goods purchased via the Internet (according Slovak local act).

To find how e-commerce influences customer costs, we estimate from the following survey question. Which way to influence e-commerce at the expense of consumer in Slovakia?

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Which way to influence e-commerce at expense of consumer in Slovakia?

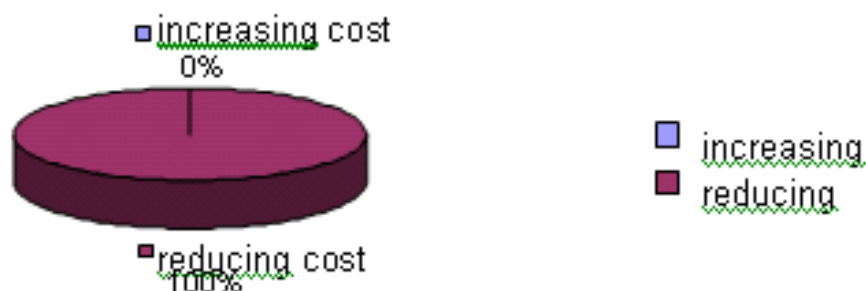


Fig. 2 Own research source

This survey question stiffens up first question conclusions, where 95% respondents were answered „yes“. Whether are costs in e-shop lower than traditional store (stone branch)?

E-commerce to influence markedly too at the expense of concerns business, this statement can see from figure 3.

### C. Survey of Cost at Firm

In this section we gathered the data from online sellers about the expenses of e-shop operation to the purpose of identifying the influences of the price at the firm.

Whether e-commerce influences expense at your firm?

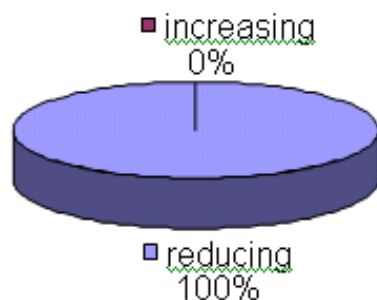


Fig. 3 Own research source

Above figure 3 shows that almost 100% of e-shop operator agreed and identify the reduction of expense of their e-shop operation.

Further, to deeply determine the influences of e-commerce we collect data from the Statistical Office of the Slovak Republic, Which referred in Table 1 we see that the investigated companies received or sent orders for goods or services via the internet and what percentage this represented in their total costs and sales.



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TABLE I  
ELECTRONIC ECONOMIC ACTIVITY

Food production; beverage; Manufacture of tobacco products; textiles;	-	-	
Manufacture of wearing apparel; Manufacture of leather and leather products; wood processing and production			
Products of wood and cork, except furniture; manufacture of articles of straw and	11.4	1.9	
Plaiting materials; Manufacture of paper and paper products; printing and reproduction	-	-	
Recording Media	-	-	
Manufacture of coke, refined petroleum products and nuclear fuel; production	-	-	
Chemicals and chemical products; Manufacturing of pharmaceutical products; production	11.5	0.7	
Rubber and plastic products	-	-	
Manufacture of other non-metallic mineral products; Manufacture of basic metals; production	-	-	
Fabricated metal products, except machinery and equipment	-	-	
Computer, electronic and optical products; Manufacture of electrical	-	-	
Equipment; machinery and equipment as well; Production of motor vehicles, trailers and	7.3	2.1	
Trailers; Manufacture of other transport equipment; Manufacture of furniture; other manufacturing;	-	-	
Electricity, gas, steam and air conditioning supply; collection, treatment and supply	-	-	
Water; Sewerage treatment plant; collection, treatment and disposal activities;	4.7	-	
Materials recovery; Remediation activities and other handling	-	-	
Waste	-	-	
Construction	2.3	0	
Wholesale and retail trade	18.4	1.3	
To the right	14.4	1.3	
Accommodation	30.6	0.5	
Food and beverage service activities	15.6	0.4	
Information and communication	26.9	4.5	
Real estate activities	0.7	0.1	
Professional, scientific and technical activities	7.5	0.2	
Administration and support services	6.8	1.1	
Average	12,521	1,65	

In Table 1 it shows that the economic activity in which they were recorded most of orders of goods or services as housing and this represents 30.6% of the total orders received. Type of economic activity, just for accommodation, the area of information and communication with 26.9%.

So far we have examined only received orders via the Internet and their percentage of the total sales. The other two questions concerned with sending the order to the company and their percentage terms of all costs.

To evaluate the economic impact of e-commerce on the economy, being used the data derived on table 1. Here, we surpassed the highest weight value of online sales orders, what numeric value is 1. Represents the highest possible level of orders received via the Internet. All orders received through the Internet, supposed Weight value is in this case greater than 1, it refers the company gained positive impact from the use of e-commerce.

The final value of the impact of electronic commerce on businesses in specific areas received orders via the internet will be a proportion of the average of all the areas which has received an order to a specific area. To calculate the online sales factor, we formulated the following formula:

$$\sum_{j=1}^n p_i / Ob_N = \frac{26,9}{12,52143} = 2,15$$

$\sum_{j=1}^n Ob_N$  Is the average value of orders executed through the net in all tested areas of research.



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$p_i$  Is the Partial value of a particular research area.

The value of 2.15 applies to the economic area "Information and communication".

$$\sum_{j=1}^n p_i / Ob_N = \frac{2,3}{12,52143} = 0,18$$

In examining in the "construction" area was reflected in the scale of online sales is much smaller than 1 respectively, close to 0, which means that the e-commerce still does not provide the benefits of the construction. According to the above method, we can determine the weight of the other surveyed areas.

To determine the economic impact of e-commerce, we selected five random fields, which were listed in table 1. The objective was to determine the impact of a complex e-commerce, regardless of whether the effect of the specific area examined. Our chosen areas for this purpose were: transport, information and communication, administrative and logistic services, wholesale and retail activities and food and beverage. Substituting the unit values of revenues to costs in individual areas, showed that despite the scale of the economic impact in some selected area value was less than 1, but at a comprehensive assessment showed that the overall impact was favorable. e.g. the value is greater than 1.

$$\sum \frac{v_i}{n_i} = \frac{r_t + r_{ict} + r_{as} + r_{wr} + r_{fv}}{c_t + c_{ict} + c_{as} + c_{as} + c_{fv}} 5$$

## D. Description of the Variables

$r_t$ - Revenues from the net sale in the "transport" sector

$r_{ict}$ - Revenues from the sale over the net in "Information and communication" sector

$r_{as}$ - Revenues from the sale over the net in "administrative and services" sector

$r_{hr}$ - Revenues from the sale over the net in "wholesale and retail"

$r_{fv}$ - Revenues from the sale over the net in the "food and beverage"

$c_t$ - Fight for revenue over the net in the "transport" sector

$c_{ict}$ - Fight for revenue over the net in "Information and communication" sector

$c_{as}$ - Fight for revenue over the net in "administrative and services" sector

$c_{hr}$ - Fight for revenue over the net in "wholesale and retail"

$c_{fv}$ - Fight for revenue over the net in the "food and beverage"

## E. Impact on Employment

As we have reported in the theoretical part of e-commerce impact on employment. On the one hand it saves costs related to the quantity of employees, as becomes clear from the questionnaire survey, where respondents and 86% of respondents said that in their e-shop employs less employees than their physical locations. On the other hand, it facilitates processes in the corporate management of its introduction, that routine tasks can be automated, thereby reducing the proportion of unskilled work. Figure 4 shows that the e-Shop is no more entitled to the qualifications of their staff, illustrated by the fact that the question be answered "no" to 86% of respondents.



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## Whether e-shop employees less or more employs than stone branch

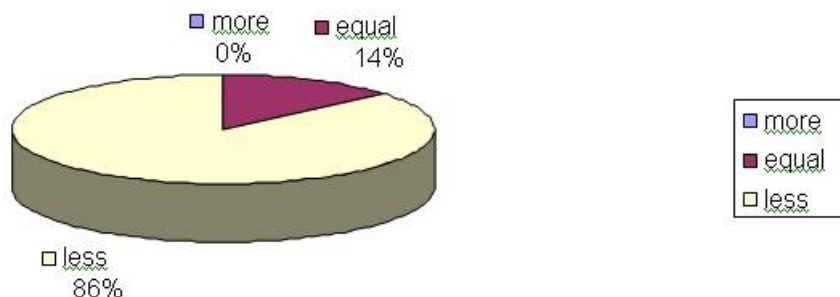


Fig. 4 Own research source

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### F. Impact on Productivity

The impact of ICT on the organization of business processes, the demand for skills and ultimately the productivity was the source of much research. Atrostic and Nguyen discussed the nature of these impacts and changing flights claim that computers essentially have two effects: direct impact as input production process and indirectly through a network, the way streamlines core business processes.

Although it is difficult to calculate the exact rate of increase in productivity associated with e-commerce, several studies indicate that the actual and potential improvements that can be achieved. In an internal study, Cisco Systems tried to count savings ingestion of e-commerce and subject to the establishment of Internet governance has improved between 1994 and 1999. Cost savings are achieved through improvements in e-commerce, customer care, supply chain management and optimization of the labor force, leading to increased productivity.

For the economy as a whole in the e-commerce expected to be positive lead to higher productivity. One study reveals that the existence of e-commerce and the internet adds between 0.25 and 0.5 percent point increase in productivity between 2001 and 2005. The impact has been estimated by examining obtained through the Internet for education, financial services, government, healthcare, manufacturing, retail and freight. Since 2001, studies have recorded strong productivity growth through companies and individuals using computers for business. Software innovation and communications technology, that is, the basic elements necessary for e-commerce, allowing our businesses to fully exploit the potential and advantages of personal computers.

These estimates may underestimate the cost savings and increased productivity in the coming years. Increased competition due to the expansion of e-commerce could lead to a faster pace of business innovation in an attempt to differentiate their products from competitors. The computer industry is so competitive that is not entirely due to e-commerce. Contribute to strong productivity increases. Companies are also under increasing pressure to look out for austerity measures as part of their business maintained profitability. In figure 5 sort out the analysis results about the e-commerce impact of productivity.

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## Do you think that e-commerce affects productivity?

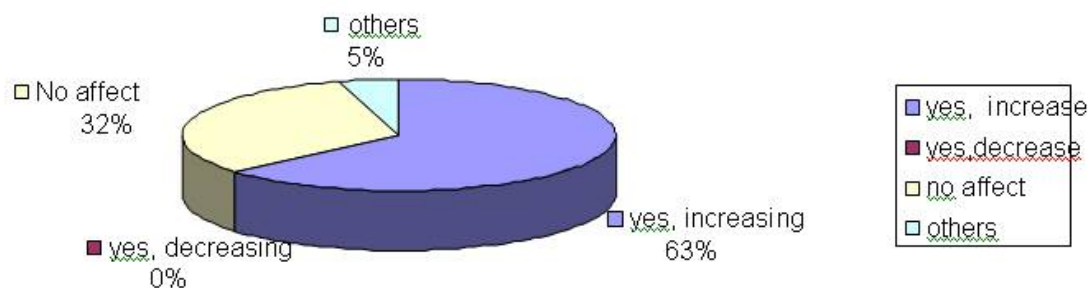


Fig. 5 Own research source

Above figure 5 shows the fact that the e-commerce has an impact on productivity, 63% of respondents think that productivity in the use of e-commerce is growing. As an example, buying goods over the internet, which saves costs the consumer and their lower price, thus creating the expectation that customers buy any goods either still in this e-shop, or use the money to some other consumption. This statement clearly indicates the impact of e-commerce on the productivity of the economy stated in the introduction.

## IV. CONCLUSION

In the present analysis of the work we have dealt with theoretical and practical background of the impact of e-commerce on the economy. We tried to point out the important implications of this new kind of trading on the market environment. This paper sets out what the formula (section C) indicates the positive or negative impacts of specific products or area.

In terms of knowledge resulting from our research, the paper concluded that e-commerce has an impact on the economy. Most pronounced are economically impacted. On the one hand it saves costs for consumers buying over the Internet, but also those companies operating in this sales channel.

Despite the fact that in some areas of economic activity showed negative values, it was confirmed that e-commerce has a comprehensive economic impact on the economy.

Another influence is undeniable impact on employment (section E). We can say that using e-commerce dislocated job market, which also goes by saving labor costs.

Increasing productivity is another benefit undisputed e-commerce on the company using this sales channel, as shown by our survey released (section F).

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