

Marketing Management of Electronic Commerce in the Process of Current Marketing Management

Peter Stuchlý¹, Klára Hennyeyová¹, Erik Janšto¹, Edita Šilerová², Jiří Vaněk²

¹ Faculty of Economics and Management, Slovak University of Agriculture in Nitra, Slovak Republic

² Faculty of Economics and Management, Czech University of Life Sciences Prague, Czech Republic

Abstract

Electronic commerce is booming and has become a phenomenon of our time. While it only existed for a relatively short period of time, it left a significant mark on the current form of business, which can be referred to as the era of the information revolution. In the newly forming conditions, companies must adapt. Otherwise, they will disappear sooner or later. The article discusses the marketing management of electronic commerce with agricultural and food commodities. Its main purpose is to suggest a solution of possibility to strengthen the competitive position of companies with agricultural and food commodities trading mostly electronically by using a marketing management model in order to accomplish this. E-commerce provides opportunities for identifying the main weaknesses in marketing management of the company and recommending how they can be addressed. In addition, the best e-commerce marketing practices and tools are identified and recommended. The current ones are analysed and summarised as well as generalised knowledge of marketing management and electronic commerce and designated for solving problems in marketing management in e-commerce among selected companies that trade predominantly in research savings.

Keywords

E-commerce, marketing, management, strategic management process, trade, entrepreneurship, e-strategies.

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Introduction

The field of e-commerce is booming and has become a global phenomenon. Its relatively short existence greatly influenced the current form of business, which has been referred to as the era of the information revolution (Collins et al., 2006). Changes in these areas inevitably alter the lifestyles of buyers and traders alike. Unless companies adapt to the newly forming conditions, they will eventually disappear, according to Kumar et al., (2011). Business transactions are changing due to the development of information and communication technologies. In the past, buyers had to satisfy the asymmetry of information in favour of sellers and were therefore passive recipients of marketing information (Maglio et al., 2009). With the creation of internet media, this situation changed completely. Consumers can learn a great deal about products and companies easier to search and verify than ever before, according to Erumban et al., (2006) and Jai Arul et al., (2011). Therefore, the absence of active participation in new communication platforms is practically

impossible for a successful seller. In this new era of technology, orienting yourself and using these new aspects to your business advantage is essential.

The historical development of marketing shows that some approaches and orientations have survived and are still applicable today. However, others have disappeared or are only used in limited situations and cases with the company's development, competitive market, and customer needs (Vaněk et al., 2011). In addition to the definition of marketing, the work discusses the shift from traditional marketing to modern marketing. It has been clearly stated by Rusu et al., (2015), Wielky et al., (2017) and Tullis et al., (2013) that the digital revolution is influencing modern marketing, resulting in a substantial increase in purchasing power, a greater diversity of products and services, a greater amount of information about practically anything, more accessible contact, submission and acceptance of orders, or comparison of product and service reports.

A successful company operating on the current market follows and uses modern marketing concepts that support traditional marketing tools, as reported by Bolková et al. (2012) and Azavadar (2011). However, a successful company does not reject any marketing concept but integrates its individual components into the context of traditional and modern marketing approaches to managing complex activities (Boer et al., 2003; Leede et al., 2005). Research results have shown that companies with marketing activities that are not solved separately but as a system of activities optimise business management and achieve business and marketing goals more effectively.

According to Vaněk et al. (2009) and Leach et al. (2008), marketing began with the information age. The priority is to focus on the customer as a follow-up to the individualised one marketing, transitioning from traditional market-oriented marketing to market-oriented marketing to the digital market and changing traditional market-oriented marketing to market-oriented marketing for the digital market, as well as integrating what has been known so far as procedures and principles into a complete marketing approach. Many authors, such as Bresnahan et al. (2002), Zairi et al. (1995), Miller et al. (2012) and others, argue that they have evolved over the years with the development of new communication media and the approach of customers to specific forms of marketing (specific marketing), which reflect both traditional and modern marketing principles. It is argued by Hassenzahl et al. (2006) that specific marketing focuses on a specific area to which all marketing activities, including its tools, are subordinated. When new communication media emerge and consumer needs change, the subsequent forms of specific marketing appear. As a result of their declining effectiveness over time, other forms of marketing have emerged. According to Smith (2003), traditional marketing becomes more and more expensive if it wants to be as effective as in the past. Over 90% of respondents trust references (most often on social networks and in virtual environments), while 14% trust traditional advertising in traditional media (television, radio, press, etc.). As a result of long-term mass marketing, consumers have become increasingly immune to companies' marketing campaigns. As a result, new forms of marketing are today more significant than traditional forms, not by the volume of funds spent but by effectiveness. This determines the dynamics of the researched department.

Teamwork is crucial in the final process

of marketing management, according to Corso (2011) and Manas (2005), and it should be concentrated in a defined or determined work team (for example, the marketing department that cooperates closely with other departments within the organisation). The process of marketing management should become an integral part of corporate identity, which is co-created by a marketing manager who performs several managerial and marketing functions. Jones (2003) talks about some managerial and strategic instruments that create synergy in the marketing process. This includes, for instance, the decision-making process, the development of a competitive, growth, and rescue strategy, the cooperation between top management and other departments of the company, and other external and internal factors. According to Jensen (2010), the development of the Internet market and information technology, in general, offers new opportunities for marketing management. It is mainly due to globalisation, which makes it possible to obtain a large amount of input information and compare them for an effective marketing process. Thus, knowledge management and marketing management can work together. Rao (2007) presents the main themes of contemporary marketing management in relation to general societal and consumer protection themes. Marketing management topics are mainly focused on the classic 4P marketing mix while respecting other external factors that significantly influence the marketing management process.

Different opinions have developed over time regarding the marketing management concept, reflecting the field's effectiveness. The consensus in practice and theory (in this form taught at universities) includes phases such as analysis, planning, implementation and control. However, the validity of this model is limited since it does not consider factors such as the external environment or opportunities for creating a marketing program or business strategy. According to Corso (2011), it eliminates these shortcomings in the marketing management model.

Miller (2012) suggests that it should be refined and formulated based on an analysis of business strategy and strategies at the strategic business units (SBU) level. A marketing program is based on the classic 4P marketing mix, which includes decisions on product policy, price policy, distribution policy and promotional communication policy. On this basis, it should be consistent with the marketing program creating the primary strategy according to the scope in the main markets. It is in the last stage created strategy

according to the marketing program, which is implemented in the planned process, and at the end a control is performed based on the created system measurements and monitoring whether the main business and company strategy has been achieved.

Strzebicki (2015) states that in agribusiness it is important to address the decisionmaking process, the development of a competitive, growth and rescue strategy, cooperation between top management and other company departments and other external and internal factors. Although e-commerce has a great potential to provide many benefits for both consumers and businesses, its development in Poland is still at a lower level compared with the highly developed countries of the European Union. However, electronic commerce affects the operation of many enterprises and agricultural markets. In Poland, one can observe two main directions of development of B2B e-commerce in agribusiness. On the one hand, traditional enterprises of agri-food chain try to use e-commerce solutions to strengthen their market position and to better conduct existing functions. On the other hand, there are beginning to appear new cybermediaries who try to take advantage of the fragmented Polish agricultural market.

Rusu et al. (2015) identify this principle of marketing management. Wielky et al. (2017) emphasise analysing individual environmental factors to follow up on the central marketing strategy concept and apply the basic management principles. Tactical and operational tools should correct the main strategic points. Azavadar (2011) adds that the entire process up to its implementation had to be customer-oriented and connected to their needs. The entire marketing process, according to them, management should be socially (holistically) oriented.

Additionally, Azavadar (2011) emphasises the importance of precise targeting of marketing information systems in the process of marketing management. Electronic commerce constantly impacts a company's management system, including factors such as online and offline competition, online and offline customers, suppliers, Internet and classic market conditions, and expected and unexpected changes. Through the strategic management process, an Internet company's main e-strategy is created based on its vision and mission. Among the lower management units, she discusses are personnel, IT, marketing, logistics, production, and finance. Collaboration and participation in the company's overall output are essential. All these aspects co-create the corporate culture of an Internet company. The system of management

and coordination targeted support contributes to the efficiency of the output of the entire process, creativity or effective communication, motivation and cooperation of all marketing members. The output, which is the result of the systematic work of all company units, affects the ecommerce environment.

Material and methods

We collected material and verified hypotheses based on theoretical preparation and knowledge of the current level of problem-solving. Before starting the research process, it was necessary to analyse and characterise the current internet market with agricultural and food commodities. Data from the Statistical Office and other portals that deal with companies primarily involved in the trade were used for this purpose electronically.

In the first stage of the research process, the work was carried out in accordance with the main objective of the article qualitative research, which is to analyse and evaluate the process of marketing management in e-commerce and the possibility of using individual marketing management tools in electronic commerce with agricultural and food commodities. The results of qualitative research serve as a basis for refining hypotheses and research questions formulated in quantitative research. A qualitative study was conducted using an electronic questionnaire with prominent representatives (managers and leaders of the sales and marketing departments). Several departments, directors or owners of five selected companies agreed to participate in this research. The empirical research was conducted in January and February 2020. Choosing these months for the personal inquiry was intentional, as there has been a long-term trend of lower sales during this time period, so there is a more significant assumption that companies are more willing to participate in the research. There is a vast onslaught of internet companies before Christmas when sales can make up to 80% of the total sales for the year. There were 20 open questions divided into sections in the electronic questionnaire:

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- Questions aimed at marketers.
- Questions focusing on marketing strategy and strategic processes.
- Questions targeting suppliers and customers.
- Questions focusing on e-commerce.

On the basis of a previous agreement, these questions were uniformly presented to the selected companies.

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The quantitative research sample for our article focuses on online retail sales which concerns agricultural and food commodities such as oils and fats, canned products, soft drinks, processed fruits and vegetables, nuts and oilseeds, but also coffee, tea and snacks. Retail sales focus on smaller volumes of final consumers with a B2C model (business-to-consumer). In retail, there is a high degree of economic competition and pressure to reduce consumer prices. Salespeople in specialised and non-specialised stores, merchants (e.g. classic stone stores), internet sellers, and merchants with a preponderance of mail order services and other merchants make up retail companies, depending on how they sell. Retail sales on the Internet are blurring the lines between traditional and Internet retail, and the lines between mail orders and online sales are almost nonexistent.

69 companies that primarily trade electronically agreed to participate in quantitative research (questionnaire survey). A total of 57% of questionnaires were returned. This sample set can be considered sufficiently representative, and with the help of statistical induction methods applied to this sample set, meaningful conclusions can be drawn for the entire base set. Our empirical research was based on theoretical information from domestic and foreign literature, as well as our practical experience.

H1: Marketing management does not directly impact the competitiveness or size of companies that trade primarily electronically.

H2: In e-commerce, all phases of the marketing management process are equally important and equally distributed.

We interpret data from quantitative research using the following statistical methods and test the hypotheses formulated in our article:

Pearson's χ^2 - test of independence uses a two-dimensional basis set with a discrete distribution (X, Y). The variables X and Y can represent both quantitative and qualitative statistical characteristics, i.e., both statistical characteristics have a finite number of values. Chi-square tests are included among conformity tests because they assess the conformity of the distribution to the basic

set of probabilities. Assume that (X_1, X_2, \dots, X_n) is a random selection. This random sample is formed from a population with some particular probability distribution, which we are testing statistically. Results obtained from measuring elements of the sample set must be representative, i.e. they must reflect the properties of the entire basic file.

Results and discussion

This chapter aims to provide more accurate results by providing summary descriptive statistics for selected survey questions (i.e. mean, median, mode, standard deviation, variance, maximum, minimum). In all sections of the questionnaire survey, these questions were asked (i.e. companies that use the concept of marketing management, companies that do not use the concept of marketing management, but consider it, and companies that do not use the concept of marketing management but do not consider it). Table 1 summarizes the results for all groups ($n = 69$). In the first group of questions, specific marketing forms were discussed. Generally, companies attribute the greatest importance to internet marketing (on average 5.12 points, mode 4 points, and median 4 points). Printed media marketing (average 3.87 points, mode 5, median 4), radio marketing (average 4.11 points, mode 4, median 4) were placed at other places with the importance that companies attribute to individual forms of marketing and television marketing (average 3.31 points, mode 5, median 3).

A buzz marketing strategy (on average 1.13 points, mode 1, median 1), a holistic marketing strategy (on average 2.4 points, mode 3, median 3), an event marketing strategy (on average 2.4 points, mode 2, median 3) and a behavioral marketing strategy (on average 4.49 points, mode 1, median 2). The low rating of the last mentioned form of marketing may be attributed to general ignorance of them. This confirmed the stereotypes that companies apply in practice. This proves that most internet businesses do not follow new trends in marketing, in most cases they rely on internet marketing tools. Another group of questions focused on the use of selected forms of Internet marketing. Internet companies attribute the greatest importance to website optimization (on average 6.12 points, mode 5, median 4). Companies attribute the second highest importance to the PPC (Pay per click) system, which means that the company pays for the published advertisement when the customer clicks on it and other similar systems (average 6.79 points, mode 5, median 4). The next step is

	N	Average	Median	Modus	Freq.	Min	Max	Lower quartile	Higher quartile	Var.	St. deviation
Price strategy	69	38.8	50	50	16	10	60	30	30	245.12	14.78
Distribution strategy	69	12.9	10	10	25	0	59	5	20	100.18	8.7
Propagation	69	15.1	10	10	35	0	58	10	20	98.45	6.8
Production strategy	69	8.8	10	0	23	0	23	10	40	87.54	7.7
Segmentati on	69	3.6	2.5	0	34	0	60	10	30	78.56	2.6
B2B	69	2.4	0.5	0	18	0	60	0	10	15.56	5.7
Positioning	69	3.8	5	0	19	0	45	0	10	13.45	4.8
Marketing strategy	69	8.1	10	10	16	0	40	0	10	12.45	6.1
E- strategy	69	5.9	5	0	18	0	45	0	10	5.13	4.7

Source: own research and processing

Table 1: Statistical expression of the basic set of observed quantities of empirical research.

to analyze web traffic and banner advertising (on average 6.22 points, mode 5, and median 3). According to the interviewed companies, online public relations is the least important tool of Internet marketing (on average 1.1 points, mode 1, median 1), followed by viral marketing (on average 3.21 points, mode 1, median 1), behavioral advertising (on average 1.25 points, mode 1, median 1), and discussion forums (on average 4.98 points, mode 1, median). The use of discounts on discount portals and marketing in social networks, as a current phenomenon, received rather below average ratings (marketing in social networks - on average 2.05 points, mode 1, median 1.5; discounts on discount portals - on average 7.81 points, mode 1, median 2).

These results indicate that modern forms of internet marketing are not useful for e-commerce and do not contribute to conversion marketing's ultimate goal. The last set of questions evaluated the importance of selected marketing activities. On average, internet companies gave the pricing policy the highest rating (45.71 points, mode 30, median 40). Distribution policy (average 16.55 points, multiple mode, median 10) and product policy (average 12, 82 points, multiple mode, median 10) followed with a great distance (average 13.83 points, mode 10, median 10). Based on this analysis, companies implement their marketing processes tactically. Marketing strategy gets the most attention (on average 8.4 points, mode 10, and median 10), customer targeting gets the least (on average 5.35 points, mode 0, median 0.5).

Qualitative research and simulation of the created model of marketing management in electronic commerce will confirm the hypotheses formulated in our article (H1, H2).

H1: It is not clear whether using marketing management has a direct impact on the competitiveness and size of companies that trade primarily electronically, i.e. marketing management does not affect a company's position or size on the Internet.

As a result of the comparison between the significance level of 0.05 and the p value of 0.06 of Pearson's 4-test of independence, the null hypothesis was rejected, since $p = 0.006$. Consequently, it can be argued that the concept of marketing management has a direct impact on the competitive position of companies that trade electronically, i.e. the concept of marketing management determines the company's competitive position.

Using individual marketing management tools and the entire concept of marketing management in e-commerce more effectively (i.e., a better competitive position) was revealed by qualitative research. In comparison to firms in a lower or average competitive position, they use intensively and synergistically available marketing management tools and apply the knowledge of responsible employees, including following trends. It can be concluded from these partial results that marketing management is dependent on the ability of firms that primarily trade electronically.

Pearson's χ^2 - test of independence, which tests the hypothesis at a significance level of 5%, i.e. $A = 0.05$, in which the study seeks to determine whether there is a relationship between firms that trade primarily electronically utilizing marketing management (denoted as a random variable X) and their number of employees (denoted as a random variable Y), i.e. in our article's questionnaire research, questions number 1 and 6.

In order to reject or confirm a verified hypothesis, the P-values need to be compared, which is the minimum significance level for rejecting a null hypothesis. It was decided to establish two hypotheses: a null hypothesis (H0) and an alternative hypothesis (H1): H0: X and Y are independent (E-commerce marketing management is not dependent on the size of the company). Qualitative and quantitative research confirmed the relationship between the competitive position of the firm and the marketing management concept, but not the relationship between the firm's size and the concept. Therefore, hypothesis H1 was rejected.

In e-commerce, all phases of the marketing management process are equally important and equally distributed. A comparison p-value is used to determine the rejection or confirmation of the verified hypothesis, which is set at 5% for the tested hypothesis, i.e. $\alpha = 0.05$. To verify the hypothesis H2, the statistical method of the goodness-of-fit test using Chi-test square. Hypothesis verification is carried out using the Statistica program, which evaluated the results. They clearly demonstrated that the observed frequencies differ from expected frequencies. According to the results, the significance level of p is less than 0.01, i.e. $P \leq \alpha$, so the null hypothesis is clearly invalid. So it can be argued that the use of marketing management tools by companies that trade predominantly electronically, is not evenly distributed. The rejection of hypothesis H2 supported the answers of the quantitative research, which focused on the shortcomings of the companies in the process of marketing management in e-commerce. Internet companies are aware of the shortcomings in not using some marketing management tools, in particular the strategic ones. From this it can also be argued that companies marketing management tools do not use e-commerce evenly, i.e. some are preferred over others. The results of quantitative research confirmed that Internet companies attach individual phases that have different meanings and individual tools of marketing management are not evenly used. Therefore, hypothesis H2 was rejected. The results of quantitative research proved that the concept of marketing management is used in 62.31% of cases. Most companies indicated that they do not use marketing management, but think about it, and that they do not use marketing management and do not think about it. It is most common for companies that do not use marketing management to indicate a lack of knowledge and experience about the concept

or an unimportance of the entire concept. Internet businesses are also interested in learning more about this subject, according to research. It is possible for Internet companies to significantly increase the effectiveness of their marketing activities with this recommendation. In the field of electronic trading, marketing is considered very important by the majority of Internet companies which trade in agricultural and food commodities (80.8%).

Most of the surveyed companies implement their marketing activities within their marketing departments or specifically within their marketing departments (17.95%). Small and medium-sized companies are all included in the category of small and medium-sized businesses. According to quantitative research, companies using the marketing management concept underestimate the analysis phase and do not view all phases of the marketing management process equally. The analysis phases and all remaining phases of marketing management, as well as the implementation and control phases, differed significantly. The use of tools in individual phases of marketing management is also not equally distributed. These tools are also given different weights and importance by companies (although theoretically, all tools should be used equally). In addition, quantitative research has confirmed that internet companies place the greatest importance on internet marketing. Often, it is the only form used by the companies approached. Additionally, companies use relationship marketing and print marketing. The fact that television marketing and radio internet companies do not actually use marketing is surprising (although literature searches undermine the effectiveness of these traditional forms of marketing). Due to their ignorance, companies rarely use other modern forms of marketing (such as low-cost marketing and holistic marketing). Marketing in electronic trading is mostly limited to internet marketing, while other traditional and modern forms of marketing are not used. However, this reduces the complexity implementation of marketing on the Internet market, which can again lead to its lower efficiency.

In addition to qualitative research, quantitative research focused on selected forms and tools of Internet marketing. As part of Internet marketing, Internet companies often use website optimization, PPC, similar systems, and website traffic analysis. Modern forms of marketing, such as social networking, are used by companies, but they do not

consider them significant. They only marginally use discount portals.

In spite of the fact that viral marketing is one of the most powerful tools in today's Internet marketing, most companies do not use it or do not give it much attention. Tools that lead to conversion marketing are the current trend. The majority of Internet companies do not use it, according to quantitative research. Even internet marketing is not used effectively by internet companies. Quantitative research has shown that Internet companies differentiate between strategic and tactical processes, i.e. strategic processes are significantly underestimated compared to tactical processes. Internet companies identify marketing with the tactical elements of the classic marketing mix, neglecting other processes. Like other business processes, marketing processes need to be implemented strategically and conceptually, preferably through marketing management processes. Overall, the quantitative research shows that marketing and marketing management in e-commerce are not carried out comprehensively and efficiently, and at the same time, they do not follow modern trends in the field, which can have a significant impact on results.

Conclusion

It is clear from our empirical research that marketing management has a significant impact on the competitiveness of companies that trade predominantly electronically. In some companies, however, its potential is not fully utilized. It reduces the importance and effectiveness of marketing in e-commerce in companies which trade in agricultural and food commodities. All disciplines in the field of electronic commerce can benefit from marketing management. Most companies have the concept of marketing management in e-commerce, but a significant percentage do not use it or do not know how it works. Participation in company processes is no longer important and effective for the marketing team. It is necessary to identify shortcomings and suggest measures to eliminate them as part of the marketing management process. In electronic commerce, the process of identifying individual instruments followed a similar pattern. The results of quantitative research served to formulate the main conclusions and verify established hypotheses.

The main findings from the research process are the inefficiency and uneven use of individual

tools in the process of marketing management in e-commerce in companies which trade in agricultural and food commodities. The importance of strategic tools in the process of marketing management is strongly underestimated in e-commerce marketing. Significantly, companies that use the marketing management concept undervalue the analysis phase compared to the other phases. They attach the greatest importance to companies to insufficient risk analysis, insufficiently formulated marketing goals, insufficiently determined marketing strategy, inability to adapt to unexpected events, poor timing, the impossibility of good feedback from customers, and the process that accompanies all phases of marketing management – insufficient internal communication, employee motivation and targeted creativity support.

During the research process, it was confirmed that companies are using the elements of the marketing mix incorrectly as strategic tools. In most cases, all internet companies only use internet marketing tools and only use other traditional, modern and alternative marketing forms in limited amounts. Despite the literature search finding that traditional forms of marketing are less critical for the final results (especially when compared to new forms of marketing), Internet companies place great importance on them. In addition to internet marketing tools, the study examined conversion (modern) marketing tools, which are not used at all or, to a limited extent, compared to traditional forms of internet marketing. We find a very similar agreement in the partial results between our empirical research and the research conducted by SmartSites in 2017. The same results can also be found in the research conducted by Strzebinski (2015) in agribusiness in Poland.

Nowadays, if they have two people, they can implement the same idea in two ways, according to research. Using both traditional and online marketing methods. Marketing services are typically provided 5 days a week, 8 hours a day, and are used to reach the local market. Advertising in newspapers, magazines, billboards, and radio are all used to promote traditional marketing. 24 hours a day, 7 days a week, online marketing is available. It is used when addressing the global market. It does not matter what it is according to the old marketing rules, which are based on disruption. To promote our products or services online, we can use several methods. Websites, e-shops, social networks, e-mail marketing, and advertising campaigns are

the most common. Customers' individual needs are at the center of the new marketing philosophy. In addition to higher quality products, customers expect customized products tailored to their specific needs. As a result, they perceive alternative products less and are less loyal to brands.

As a result, they have access to a large amount of information, which increases their demands. The consumer value of products and services is also becoming more sensitive to prices. The future marketing trend is to be on the market before the need arises, before the demand for the product,

push this demand and purposefully shape consumer awareness.

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Corresponding authors:

Ing. Peter Stuchlý, PhD.

Department of Informatics, Faculty of Economics and Management

Slovak University of Agriculture, Tr. A. Hlinku 2, Nitra, 949 01, Slovak Republic

Email: peter.stuchly@uniag.sk

References

- [1] Azavadar, R. (2011) "Impact of Online/Internet Marketing in Enhancing Consumer Experience on Consumer Industry", *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 3, No. 2, pp. 234-260. ISSN 2073-7122. DOI 10.5539/ijms.v2n2p75.
- [2] Bílková, R. and Dvořák, J. (2012) "Možnosti rozvoje elektronického obchodu", *Scientific paper of the University Pardubice*, Series D, Vol. 19, No. 25, pp. 30-41. ISSN 1211-555X. (In Czech).
- [3] Boer, H. and Gertsen F. (2003) "From Continuous Improvement to Continuous Innovation: A Retrospective", *International Journal of Technology Management*, Vol. 26, No. 8, pp. 805-827. ISSN 1741-5276. DOI 10.1504/IJTM.2003.003391.
- [4] Bresnahan, T., Brynjolfsson, E. and Hitt, L. M. (2002) "Information Technology Workplace Organisation and Demand for Skilled Labour: Firm Level Evidence", *Quarterly Journal of Economics*, Vol. 117, No. 1, pp. 339-376. ISSN 0033-5533. DOI 10.1162/003355302753399526.
- [5] Collins, C. J. and Smith K. G. (2006) "Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence", *Academy of Management Journal*, Vol. 49, No. 6, pp. 544-560. ISSN 1948-0989.
- [6] Corso, M. and Paolucci E. (2011) "Fostering Innovation and Knowledge Transfer in Product Development Through Information Technology", *International Journal of Technology Management*, Vol. 22, No. 3, pp. 126-148. ISSN 1741-5276. DOI 10.1504/IJTM.2001.002958.
- [7] Erumban, A. A. and Jong, S. B. (2006) "Cross-country differences in ICT adoption: A consequence of Culture?", *Journal of World Business*, Vol. 41, No. 4, pp. 302-314. ISSN 1090-9516. DOI 10.1016/j.jwb.2006.08.005.
- [8] Hassenzahl, M. and Tractinsky, N. (2006) "User Experience – A Research Agenda", *Behaviour and Information Technology*, pp. 91-97. ISSN 1362-3001. DOI 10.1080/01449290500330331.
- [9] Jai Arul, G., Sanjeev, C. and Suyambulingom, C. (2011) "Implementation of Data Security in Cloud Computing", *International Journal of P2P Network Trends and Technology*, Vol. 1, No.1, pp. 112-127. ISSN 2249-2615.
- [10] Jensen, R. T. (2010) "Information, Efficiency, and Welfare in Agricultural Markets", *Agricultural Economics*, Vol. 41, pp. 203-216. ISSN 0139-570X. DOI 10.1111/j.1574-0862.2010.00501.x.
- [11] Jones, P., Beynon-Davies, P. and Muir, E. (2003) "E-business barriers to growth within the SME sector", *Journal of Systems and Information Technology*, Vol. 7, No. 2, pp. 1-25. ISSN 1328-7265. DOI 10.1108/13287260380000771.

- [12] Kumar, V., Batista, L. and Maull, R. (2011) "The Impact of Operations Performance on Customer Loyalty", *Service Science*, Vol. 3, No. 2, pp. 158-171. ISSN 2164-3970. DOI 10.1287/serv.3.2.158.
- [13] Leach, J. (2008) "Do new information and communications technologies have a role to play in the achievement of education for all?", *British Educational Research Journal*, Vol. 34, No.6, pp. 783-805. ISSN 1469-3518. DOI 10.1080/01411920802041392.
- [14] de Leede, J. and Looise, J. K. (2005) "Innovation and HRM: Towards an integrated framework", *Creativity and Innovation Management*, Vol. 14, No. 2, pp. 108-117. ISSN 1467-8691. DOI 10.1111/j.1467-8691.2005.00331.x.
- [15] Maglio, P. P., Vargo, S. L., Caswell, N. and Spohrer, J. (2009) "The service system is the basic abstraction of the service science", *Information Systems and e-Business Management*, Vol. 7, pp. 395-406. ISSN 1617-9846. DOI 10.1007/s10257-008-0105-1.
- [16] Manas-Argemí, A. (2005) "Security metrics and measurements for IT", *European Journal for Informatics*, Vol. 13, No. 6, pp. 89-103. ISSN 1684-5285.
- [17] Miller, K. W., Voas, J. and Hurlburt, G. F. (2012) "BYOD: Security and Privacy Considerations", *IT Professional*, Vol. 14, No. 5, pp. 53-55. E-ISSN 1941-045X, ISSN 1520-9202. DOI 10.1109/MITP.2012.93.
- [18] Rao, N. H. (2007) "A Framework for Implementing Information and Communication Technologies in Agricultural Development in India", *Technological Forecasting and Social Change*, Vol. 74, No. 4, pp. 491-518. ISSN 0040-1625. DOI 10.1016/j.techfore.2006.02.002.
- [19] Rusu, C., Rusu, V., Roncagliolo, S. and González, C. (2015) "Usability and User Experience: What Should We Care About?", *International Journal of Information Technologies and Systems Approach*, Vol. 8, No. 2, pp. 1-12. ISSN 1935-570X. DOI 10.4018/IJITSA.2015070101.
- [20] Smith, M. (2003) "Business Process Design: Correlates of Success and Failure", *The Quality Management Journal*, Vol. 10, No. 2, pp. 38-49. ISSN 1068-6967. DOI 10.1080/10686967.2003.11919062.
- [21] Strzembicki, D. (2015) "The Development of Electronic Commerce in Agribusiness – The Polish Example", *Procedia Economics and Finance*, Vol. 23, pp. 1314-1320. ISSN 2212-5671. DOI 10.1016/S2212-5671(15)00573-0.
- [22] Tullis, T. and Albert, B. (2013) *"Measuring the User Experience"*, Morgan Kaufmann, 320 p. ISBN-13 978-0124157811.
- [23] Vaněk, J., Jarolínek, J. and Šimek, P. (2009) "Information Services and ICT Development in Agriculture of the Czech Republic", *AGRIS on-line Papers in Economics and Informatics*, Vol. 1, No. 1, pp. 47-52. ISSN 1804-1930.
- [24] Vaněk, J., Jarolínek, J. and Vogeltanzová, T. (2011) "Information and Communication Technologies for Regional Development in the Czech Republic – Broadband Connectivity in Rural Areas", *AGRIS on-line Papers in Economics and Informatics*, Vol. 3, No. 3, pp. 67-76. ISSN 1804-1930.
- [25] Wielky, J. (2017) "The impact of the internet of things concept development on changes in the operations of modern enterprises", *Polish Journal of Management Studies*, Vol. 15, No. 1, pp. 262-275. ISSN 2081-7452. DOI 10.17512/pjms.2017.15.1.25.
- [26] Zairi, M. and Sinclair, D. (1995) "Business Process Re-engineering and Process Management", *Business Process Management Journal*, Vol. 1, No. 1, pp. 161-173. ISSN 1463-7154. DOI 10.1108/14637159510798248.