

Why Are Entrepreneurs Resistant to E-tools?

D. Ščeuļovs and E. Gaile-Sarkane

Abstract—Latvia is the fourth in the world by means of broadband internet speed. The total number of internet users in Latvia exceeds 70% of its population. The number of active mailboxes of the local internet e-mail service Inbox.lv accounts for 68% of the population and 97.6% of the total number of internet users. The Latvian portal Draugiem.lv is a phenomenon of social media, because 58.4 % of the population and 83.5% of internet users use it. A majority of Latvian company profiles are available on social networks, the most popular being Twitter.com. These and other parameters prove the fact consumers and companies are actively using the Internet.

However, after the authors in a number of studies analyzed how enterprises are employing the e-environment, namely, e-environment tools, they arrived to the conclusions that are not as flattering as the aforementioned statistics. There is an obvious contradiction between the statistical data and the actual studies. As a result, the authors have posed a question: Why are entrepreneurs resistant to e-tools? In order to answer this question, the authors have addressed the Technology Acceptance Model (TAM). The authors analyzed each phase and determined several factors affecting the use of e-environment, reaching the main conclusion that entrepreneurs do not have a sufficient level of e-literacy (digital literacy).

The authors employ well-established quantitative and qualitative methods of research: grouping, analysis, statistic method, factor analysis in SPSS 20 environment etc.

The theoretical and methodological background of the research is formed by, scientific researches and publications, that from the mass media and professional literature, statistical information from legal institutions as well as information collected by the author during the survey.

Keywords—E-environment, e-environment tools, technology acceptance model, factors.

I. INTRODUCTION

SEVERAL sets of statistical data indicate a healthy development level in Latvia's IT sphere. Active use of internet is widespread among both groups of market participants – the consumers and sellers or companies. Latvia ranks the fourth in the world by means of broadband internet speed [1]. The number of internet users in Latvia continues to increase each year and, in 2012, it reached 70.3%. 90.7% of companies use internet on a daily basis [2]. The number of social network users also increases at a steady rate each year. Latvia has its local social network Draugiem.lv that, in a way, is a phenomenon, because 61 % of all inhabitants of Latvia are users of this social network [3]. Twitter.com to a much lesser extent, and the number of users of a social network as of

January 2013 was 6.2% of the population [4]. As can be seen, the data are contradictory, because on the one part, the number of internet users is high, while imbalance can be observed in the use of e-environment tools. For instance, companies actively use Twitter.com, however, it is not particularly popular among consumers [5].

Furthermore, several studies performed by the authors (see Chapter II) point to various problems and uncertainties in the use of e-environment and e-tools for entrepreneurial needs, intensity use, etc.

II. STUDIES ON THE USE OF E-ENVIRONMENT AND E-TOOLS IN LATVIA

A. Survey E-tools Used in Latvian Companies 2009-2010 [6]

Research period: December 2009–January 2010.

Research aim: to confirm the importance of communications via Internet for companies.

The target group comprised of people in the age group from 25 to 63 years of both genders, which includes managers and employees of different companies

Total number of respondents was 136. The questionnaire included 10 questions.

According to the research results, 87 people were in the age group 25–32 years old. This was a group of particular interest as they are greatly influenced by the Internet. The research confirmed that this group uses the Internet every day and they cannot imagine their life without it. 98% of respondents have profiles in various social networks. At the same time, only 44% of all respondents use social networks in order to obtain information from other social network users about a company or its products. All respondents use one or several e-tools for various purposes – communication, advertising, sale etc. 83% of respondents have a company web page. 66% of respondents under the age of 32 would like to use free e-tools frequently or regularly. 82% of respondents aged 39 to 63 have doubts or they are not sure of the usefulness and effectiveness of free e-tools or they have never used them. 97% of respondents aged 26 to 35 would use free e-tools for the following activities: personnel recruitment, sales, advertising, compiling an up-to-date client contacts database, market research, marketing activities. More than 90% of respondents aged 39–63 admitted that they lack the knowledge necessary for working in e-environment, but 97% of respondents aged 25–32 and 91% aged 33–39 years old claim that they feel at ease to work with e-tools. The most popular social network site among respondents (respondents were from Latvia) is the local social internet network

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Draugiem.lv (it is very similar to the globally popular network Facebook.com). 33% of respondents use it every day. The second place is Facebook.com, which is used by 24% of respondents. Another popular social internet network is One.lv, which is used by 21% of respondents.

The Main Conclusions of the Research Are

- In electronic environment, Latvian companies use various electronic tools and the most active people age from 25 to 38 years old.
- Unfortunately, a small number of companies are using electronic tools regularly for company's and its products promotion, sale etc. in e-environment.
- A serious problem is the fact that the older generation needs to increase their digital literacy, because nowadays they are heads of companies or hold a key position in companies.
- Electronic environment requires special knowledge and skills as navigation in it demands the ability to work on the computer using internet as well as other digital tools and instruments. E-environment calls for creative thinking and action. The entrepreneurs must be flexible and able to react to changes in e-market knowing that essentially e-environment is dynamic and interactive. What is becoming increasingly important is the education of the entrepreneurs in their ability to manage electronic tools.

The authors of the paper recommend the regular use of various e-tools; many of them are free of charge, to implement various activities in e-environment: sale, marketing, human resources, advertising etc.

B. Survey Factors and Habits of Consumers in E-Environment 2009 [7]

Research period: September–November 2009.

Research aim: to confirm various habits of consumer behavior.

The target group comprised people in the age group from 17 to 63 years, both genders; the total number of respondents was 236. A questionnaire was designed with 17 questions including 3 open questions.

The research confirmed that people aged 17 to 32 uses the Internet every day and cannot imagine their life without it. At the same time 74 % of all respondents use the Internet frequently.

More than 80% of respondents use the Internet for entertainment and downloading files (music, films etc.).

According to the authors' research, all respondents use the Internet for searching for information and learning, for various deals, and for the communication with other people in social networks. They read news and carry out payment transactions.

Constant access to the Internet is vital for 70% of the respondents wherever they are or going to be. The research reveals the main factors on the consumer decision-making of shopping in the e-environment:

- ability to shop without leaving one's home on at any given time
- lower prices for the same products than in a traditional shop;
- larger range of product variety than in a traditional shop;
- opportunity to compare prices and choose the lowest price;
- opportunity to purchase a good that is not available in one's country;
- easy navigation of a site;
- design of a site;
- information accessibility, overview of contents;
- opportunity to choose the language;
- brand loyalty, to be brand advocate;
- efficient reaction of a sales person,
- etc.

On the other hand, a range of factors hinder consumer decisions:

- missing information for online shop-ping opportunities,
- slow speed downloading;
- unexpected sounds, animations, pop-ups, banners, etc.;
- unclear structure of a site, which slow down search process;
- too much information, complicated texts;
- lack of visual explanatory images;
- concerns about payment security;
- lack of information of a product, insufficient visual depiction of a product;
- lack of computer literacy;

The authors have found that the shopping habits in the e-environment depend on the age, job, lifestyle, family status, mood and other factors. The most favored products for online shopping are flight tickets, hotel reservations, car rentals, music and films with or without the data carrier, clothing, shoes, goods for home and interior design. The important finding is on the role of spontaneous decisions. More than 50 % of the respondents have admitted to spontaneous decision to shop online as a result of advertisements and special offers. However, more than 60 % of the respondents love to find information on the desired service or goods, to analyze it and do well considered shopping. About 70 % shop only recognized brands which they are familiar with.

Main Conclusions of Research Are

- Companies face two main problem areas in the electronic environment – controllable areas and non-controllable areas. A vast number of individual differences can influence the behavior of consumers. Some of the most important ones include personality, lifestyles and psychographics, and motivation. Personality reflects a person's consistent response to his or her environment. It has been linked to differences in susceptibility to persuasion and social influence and thereby to purchase behavior. At the same time electronic environment is

different and organizations cannot apply the same standards to the internet purchasing.

- Technologies develop very fast and it creates confusion for both the customers and the companies. According to statistics, just approximately 15 % of all customers are open to the use of newly developed technologies. At the same time, companies wanted to be up-to-date and apply all new technologies as fast as possible. It is a risk to lose those customers who do not belong to the said group of early adopters of technologies.

After performing an analysis of research results, the authors concluded that all answers of customers can be translated for companies in pros and cons. For example, comment “lack of visual expletory images” can be explained as necessity for companies think more about navigation of web attributes of visualization.

C. Survey Internet Use by Small and Medium-Sized Latvian Companies 2010 [8]

Research period February–March 2010

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Research aim – to confirm importance of Internet for small and medium enterprises.

The total number of respondents was 315 enterprises. The target group comprised owners, top managers (85%) and employees (16%). 49% enterprises were founded more than 10 years ago. The questionnaire had 10 questions.

Almost all respondents link company's development with Internet. 95% of companies hold this opinion. It indicates that a vast majority of entrepreneurs identified the importance of the Internet and its necessary usage. Fewer companies, only 74% of them, know how to use the Internet to achieve business goals. This fact leads to the idea that some entrepreneurs try to pass the desirable for reality. As product promotion in the Internet is a relatively new trend, and many professionals are still not able to grasp subtle nuances of such promotion. While it can be assumed that answering the question about knowledge in online product promotion respondents were considering standard options, which are company web-page and banner advertising. Study results showed, that only 1 of 4 companies use its home page as a selling tool, 21% of them use advertisement portals searching for new customers, 18% of them are using mailing tools and 12% of them are active in social networks. The entrepreneurs devote less attention to such product promotion methods like banner advertisements, blogging and PR. Responses to this question show that the majority of companies use traditional methods for product promotion on the web. Study also showed the role that the entrepreneurs assign to the home page for achieving business goals. Only 35% of the respondents or only every third company uses its home page for attracting new customers. Such an extremely low indicator is present because entrepreneurs still do not understand clearly that it is possible to use home page for product promotion. 23% of them are using the homepage as a company's business card and 11% for brand popularization. It is interesting that only

3% of respondents are using the company's website for recruiting. In other Western countries, such as the USA, this percentage is close to 20. Currently 52% of companies are engaging in social network activities. Survey authors conclude that entrepreneurs are planning to pay much more attention to web, for instance, 85% of respondents are planning to improve the company's website.

D. Survey Most Popular e-Environment Usage by Latvian Enterprises 2010 [9]

Research period: October–December 2010.

Research aim: to define how Latvian enterprises use most popular e-tools such as corporate homepages, blogs etc.

The target group comprised people in the age group from 30 to 65 years (managers and employees of various companies), both genders; the total number of respondents was 175 small and medium enterprises, acting in various Latvian economic structures emerging sectors. The questionnaire consisted of 10 questions.

99% of all respondents have homepages in Latvian, but only 43% of all respondents' homepages are translated into Russian and English or other language. Only 31% of all respondents have corporate blogs, and just 13% of them regularly update information in blogs. 90% of bloggers write those in Latvian. 80% of all respondents' homepages name and emails correspond to the name of the company. Only 5% of all respondents use homepage for human resources activities, such as headhunting. In contrast for example, in other Western countries, such as the United States, this proportion is close to 20%) [10]. 76% of all respondents have a separate section with a description of products and services offered. Only 34% of all respondents have links to their profiles on popular social networks. Only 12% of respondents offer to buy and pay for products and services via corporate homepage. In 98% of all respondents' homepages, users can easily find information regarding the company. A positive fact is that one third of respondents maintain relationships with customers with the help of a corporate blog, but communication takes place only in Latvian. Irregularity of such communication also reduces the company's awareness among other consumers.

The conducted study shows that Latvian companies are not very active or effective in using the main e-tools, using mostly only a single language to communicate with consumers, which narrows the number of potential buyers. The author assumes that they are not completely aware of the market globalization, as well as e-market opportunities and benefits. The study also confirms the fact that the majority of respondents use a website as a company's business card, and not as a sales and interactive communication tools.

The authors believe that Latvian entrepreneurs should change themselves as soon as possible, change their views on e-market e-business and e-commerce management, as it can lead to a situation where not only competitors, but also consumers will be more intellectually mature in the same business and thus the business will bring significant losses, as

Chairman and Chief Executive of GE prof. Jack Welch said: "At a time when off-track change take place faster than in-house one, your end is not far away [11]."

E. Survey Social Networks Usage by Both Sides of E-Market - Latvian Enterprises 2011 [12]

In order to understand what kind of e-tools are used by Latvian e-market shares, authors of the paper have carried out the following research activities: one study describes buyers' or prospective buyers' activity, the other one describes the internet selling activity. Due to the fact that it is impossible to cover all e-environment, in the study, the authors have imposed certain limitations. In the buyers' case, a separate e-environment element analysis was performed, namely, an analysis of the social networks and their users.

1. Social Networks and Those Participants – Customers

Research period: January 2011.

Research aim to understand what activities in what social networks customers do.

The target group comprised people in the age group from 20 to 43 years, both genders; total number of respondents was 147. A questionnaire was designed, with 8 questions including 2 open questions.

According to the research results, most popular social networks are local network Draugiem.lv, used by 31.4% of the respondents, Facebook.com, used by almost 31% of the respondents, and One.lv, use by 14.3% of the respondents (the site is used more actively by the Russian-speaking population). Business social networks are used by almost 9% of the respondents and almost 13% of them are also active on Twitter.com.

Social networks members are quite active, regular attendance in a single social network is at 31.1%, two and four social networks almost at 16%, three almost at 18%. In addition, 71% of the respondents visit web sites several times per day. Almost 30% of them consider themselves to be active social network users. 30% of respondents use social networks to communicate with friends, exchange of information, advising and recommending sometimes for peers, as well as for consuming this kind of information. Almost 18% of respondents regularly update personal information, almost 26% of respondents follow the events, news and announcements made by friends and other people and made in company profiles. Interesting is the fact that over 45% of respondents like to keep a track of various sales and opportunities with the aim to buy cheaper. For example, sites where it is possible to buy goods and services significantly cheaper (advertisement campaign) (cherry.lv, perkamkopa.lv, deal.lv, etc.). The survey confirmed the fact that social network members use e-procurement environment in a very active manner – more than 46% regularly shop online, more than 25% of respondents use a discount shopping website. Of those who regularly shop online, more than 21% of them rely on friends' views and recommendations; more than 12% of them are influenced by the promotional information in various social networks.

The conducted survey is an evidence of good social network user activity level. In addition, respondents are open to a variety of activities related to shopping. They are actively using opportunities to shop online. Authors believe that companies must communicate and sell their goods and services more actively by using e-environment.

2. Latvian Entrepreneurs and E-Environment

The previous survey showed that Latvian e-environment users are opened to various e-marketing activities; they are willing and are able to spend money on the Internet. In order to understand the level of involvement of Latvian entrepreneurs in e-environment, as well as their operational activity in this distribution channel segment, the authors carried out a survey.

The authors of the paper carried out a research between October 2010 and December 2010 with the aim to define how they use most popular e-tools such corporate homepages, blogs etc. The target group comprised people in the age group from 30 to 65 years (managers and employees of different companies); total number of respondents was 175 small and medium enterprises, acting in various Latvian economic structures emerging sectors. The questionnaire consisted of 10 questions.

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F. A Study of the Entrepreneurial Use of E-Environment by SME of Latvia in 2012

Time of survey: May–October 2012.

The aim of the survey performed by the author was to find out, which e-environment tools companies are using, what the intensity of their use is and what skills they have in using them. In the survey, the level of entrepreneurs' knowledge and attitude towards e-environment tools in general was elucidated.

Altogether, 526 respondents took part in the study (see Table I).

TABLE I
DESCRIPTION OF STUDY SAMPLE

Description	Description	Respondent number (people)	Percentage (%)
Gender of respondents	Male	284	54.0
	Female	242	46.0
	Total	526	100.0
Age of respondents	15 – 35 years	354	67.0
	36 – 47 years	132	25.0
	48 – 66 years	21	4.0
	68 – 83+ years	21	4.0
	Total	526	100.0
Company's category	Micro	232	44.1
	Small	274	52.1
	Medium	17	3.2
	Large	3	0.6
	Total	526	100.0

The survey questionnaire consists of three question blocks. Each block includes several questions, forming the information source for performing the study.

The first block of questions includes questions related to the use of e-environment tools in entrepreneurship – frequency, regularity, intensity, aims of use, etc.

The second block of questions is dedicated to the companies' or entrepreneurs' digital knowledge level, knowledge of e-environment tools, their potential, and use for entrepreneurial aims.

The third block consists of structural questions – finding out the size, field of operations, period of operations of the company, etc.

The survey results show that e-mail and website analyzer are the most popular e-environment tools, as they are used by 95% of all respondents, followed by the next popular tool – a company's website used by 68% of the respondents, communication tools (for example, Skype, MSN etc.) are used by 63% of companies. Social internet networks are used for entrepreneurial needs by 57% of surveyed companies. E-government services, including the electronic tax reporting system is used by 44% respondents.

Generally, well-known e-environment tools are among those that are included in the company's toolbox, while a considerably smaller part of companies use less known tools.

E-survey websites are used most intensively among the respondents (8.90 out of 10), and sites for posting presentations and images are actively used as well (8.69 out of 10). The survey results indicate the intensive use of the following tools: e-sale websites (8.46 out of 10), a company's

internet website (8.40), a corporate blog (8.37 out of 10), e-training (8.27 out of 10). The survey results point to the fact that companies are actively employing various selling and communication tools.

Among the most popular aims of using e-environment tools are the following:

- E-mail – for communication with employees, clients, and potential clients (93%);
- Communication tools – for communication with employees, clients, and potential clients (59%).

Upon summarizing answers to this question, the authors conclude that companies are employing a very narrow range of e-environment tools for rather specific aims. It is most likely linked to the lack of awareness among companies about the e-environment tools as such and about the different uses of these tools. Companies are only informed about the traditional aims of e-tool application. However, currently, nearly all e-environment tools can be used not only for direct, several aims. For instance, payments, purchases can be made, and other activities can be carried out using social networks. It has become possible owing to IT development and convergence of e-environment tools.

To perform an in-depth analysis of the respondents' answers to questions, as well as to comprehend the factors affecting the application of e-environment tools, the authors of the article have performed a factor analysis. With the factor analysis procedure, the authors have identified and interpreted ten factors (see Table II).

Based on the study results, the authors conclude that overall companies are using e-environment tools. There is an obvious lack of awareness and poor knowledge of the entrepreneurs in regards to the application of e-environment tools in business. A positive conclusion is that SMEs understand that e-environment tools can be used to replace / supplement the insufficient or lacking resources. Companies also are willing to gain knowledge and learn how to use e-environment tools for entrepreneurial needs. Several answers point to partial acceptance of e-environment tools among company managers and employees, and that is an obstacle for proper application of these tools. The eighth factor, being nothing but an issue of IT acceptance, also points to this fact. To perform an even more detailed company behavior in e-environment, the authors will apply the Technology Acceptance Model.

TABLE II
FACTORS AFFECTING E-ENVIRONMENT TOOLS

#	Factor Name	Authors' remarks
1	company managers' and management's comprehension of the uses of application of e-tools	
2	understanding communication tools and their application in entrepreneurship	
3	understanding of e-business models	authors' remark: having regard to the variables in this factor, as well as to the correlation coefficient, it can be concluded that companies do not have a clear understanding of the meaning of e-business models.
4	company's communication with stakeholders	
5	company's website as a sales and marketing tool	companies have these tools, but they do not have understanding of their purposes and how to use them
6	use of e-environment tools in market and consumer studies	companies are informed of the existence of these tools, but are not aware as to how they can be used
7	understanding of services offered by the state	the factor is affected not only by the weak application of these business tools, but also by shortcomings of several e-government tools, which encumber their use
8	acceptance (reception) of e-environment tools among employees	
9	versatility of e-environment tools at a company	
10	use of state offered e-services for business and private needs.	

III. TECHNOLOGY ACCEPTANCE MODEL

Computers and electronic communication networks play an increasing part in handling and processing information since equipment is more precise and cheaper than conventional labor cost, besides they provide the fastest storage and exchange of information [13]. The flow of information is the key to the success in the computer age and information society [14]. Successful employment of information raises the effectiveness and profitability of an organization [15]. There are a lot of researches done by international experts and scientists on the topics of how and why people adopt a new technology. The researchers are devoted to two important levels – organizations and individuals.

Among most important models the authors would like to emphasize the Technology Acceptance Model, Motivation Model, Theory of Planned Behavior, Innovation Diffusion Theory etc.

Davis Technology Acceptance Model [16] (see Fig. 1) predicts information technology acceptance and usage.

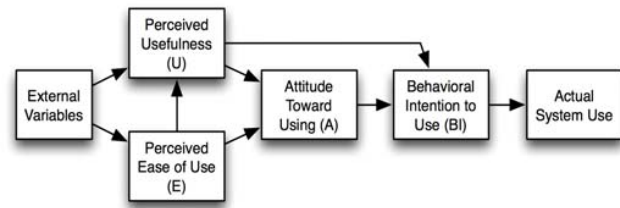


Fig. 1 Davis Technology Acceptance Model [16]

In this model, the user's behavioral intention to use a technology is affected by their perceived usefulness and perceived ease of use of the technology.

This model was originally developed for studying technology at work. Later, it has been used as such and modified to study user's acceptance of consumer services such as Internet services or e-commerce [17] (see Fig. 2). The Technology Acceptance Model constitutes a solid framework for identifying issues that may affect user's acceptance of technical solutions. As Davis and Venkatesh [18] have proved, the model can be enhanced from the original purpose of studying user's acceptance of existing products to study planned product concepts, e.g. in the form of mock-ups. This indicates that Technology Acceptance Model (see Fig. 1) could also be used in connection with technology development projects and processes to assess the usefulness of proposed solutions. Applied in this way, the model also supports the human-centered design approach.

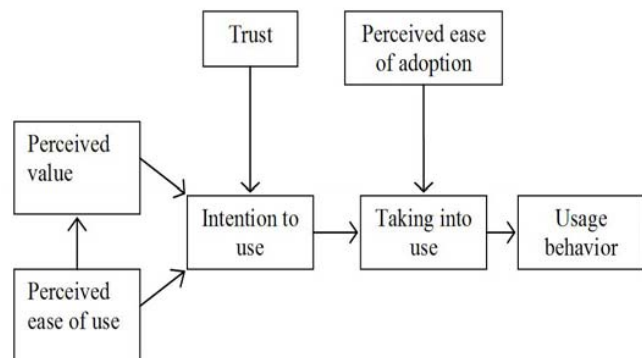


Fig. 2 Technology Acceptance Model for Mobile Services [17]

The authors will study companies' behavior in e-environment, application of e-environment tools, and companies' attitude towards e-environment with the help of Technology Acceptance for Mobile Services, by analyzing each stage within the context of Latvian companies:

- Perceived ease of use;
- Perceived value;
- Trust;
- Intention of use;
- Perceived ease of adoption;
- Taking into use;

o Usage behavior.

The authors have chosen in favor of this model, because it is suitable for e-environment issues.

Based on the respondents' answers given in various studies by the authors, an evaluation table has been created (see Table III).

TABLE III
EVALUATION OF TAM ELEMENTS AND FACTORS

Factor No.	Weight	Perceived value		Trust		Intention of use		Perceived ease of adoption		Taking into use		Perceived ease of use	
		Value	Score	Value	Score	Value	Score	Value	Score	Value	Score	Value	Score
1	0.15	4	0.6	2	0.3	2	0.3	3	0.5	3	0.5	4	0.6
2	0.075	5	0.4	5	0.4	5	0.4	5	0.4	5	0.4	5	0.4
3	0.1	2	0.2	2	0.2	3	0.3	1	0.1	2	0.2	2	0.2
4	0.1	3	0.3	2	0.2	2	0.2	2	0.2	4	0.4	3	0.3
5	0.1	5	0.5	2	0.2	2	0.2	3	0.3	2	0.2	2	0.2
6	0.075	4	0.3	3	0.2	2	0.2	2	0.2	2	0.2	1	0.1
7	0.075	3	0.2	2	0.2	2	0.2	1	0.1	3	0.2	1	0.1
8	0.15	2	0.3	2	0.3	3	0.5	2	0.3	2	0.3	1	0.2
9	0.1	4	0.4	3	0.3	3	0.3	2	0.2	2	0.2	2	0.2
10	0.075	4	0.3	2	0.2	2	0.2	1	0.1	2	0.2	2	0.2
Σ	1	-	3.5	-	2.5	-	2.8	-	2.4	-	2.8	-	2.5

The authors employ the decision-matrix method, also known as Pugh method [19] for evaluation. The authors assess the ten factors classified as a result of factor analysis (see Table II), in line with each TAM stage. The evaluation scale is from 1 to 5, where 1 is the minimum evaluation and 5 is the maximum. Upon performing screening, satisfactory results were not achieved, therefore the authors have performed scoring, by establishing the relative weight of each factor; the summary weight of all factors is 1.

As a result, the authors have obtained score totals. The element Perceived ease of adoption (total score 2.4) scored the lowest, which points to difficulty of companies with adapting technologies. The next problematic TAM stage (total score 2.5) is Perceived ease of use, which means that companies lack knowledge about e-environment tools. The third stage, which obtained the least points is Trust (total score 2.5), pointing to the low level of trust of companies towards e-environment tools.

IV. CONCLUSION

The Pugh method unequivocally indicates to the main problem in the author's opinion: the low level of company e-literacy (digital literacy). The authors believe that the found problem is of a national level and it should be solved by improving the educational system at all levels, by creating special, varied training programs for improving digital knowledge among population. The problem is particularly topical, taking into account the plan developed by the European Commission "Stimulating growth and employment: an action plan for doubling the volume of e-commerce in Europe by 2015", which prescribes a rapid increase of the e-market volume [20].

Upon performing various studies about the electronic environment, as well as having analyzed studies on electronic environment performed by other scientists, including, T. D. Wilson [21], about consumers, electronic market, etc., the authors conclude that consumer behavior apparently has drastically changed. This fact serves as the grounds for

improving consumer behavior models, as well as for further studies on consumer behavior.

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