

## INFORMATION TECHNOLOGIES AS A TOOL FOR CHANGES IN CONSUMER BEHAVIOUR

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### Abstract

The article describes today's changes in consumer behaviour. Author shows differences between shopping in real market and in electronic environment of Latvian consumers. The research is based on analysis of statistical data, on survey done by Public Opinion Research Centre of Latvia as well as researches done by the authors. These researches give an overview concerning the basis of purchasing behaviour and give an insight into the variety of relevant characteristics of consumer behaviour. Authors clarify where consumers are looking for information about product, their shopping frequency, price evaluations and comparing habits, buying volume and time. Most important benefits of the shopping process at traditional buying process is the process of purchasing and human contact, but for e-shopping drivers are money and time saving, conveniences and all around a clock. Very special role in the article is devoted to the generations of the society in Latvia and the Europe what would help companies and individuals to work more efficiency in distribution of goods and services in the local market.

**Key words:** consumer behaviour, consumption, generations, real market, electronic market, information technologies

### Introduction

**Objective of the paper:** is to analyze customer behaviour and find out the peculiarities of behaviour caused by information and telecommunication technologies.

**Research methodology:** The authors employ well-established quantitative and qualitative methods of research: grouping, analysis, statistic method, etc. The theoretical and methodological background of the research is formed by scientific researches and publications, publications from mass media and professional literature, statistical information from legal institutions as well as information collected by research companies and the authors during the survey.

**Research problem, novelty and relevance:** Informational technologies have a serious effect on consumer behaviour tendencies. The established accessibility of information technologies, implementation of various e-tolls, like e-signature etc., external factors and individual interests have stimulate consumers and enterprises to use informational technologies for everyday activities, including purchasing. As a result customer consuming manner is changing. These changes the authors have identified and analyzed. The authors' contribution of this research is the analysis of impact of different external factors on consumer behaviour.

**Research object:** The research object is particularities of consumer behaviour driven by generations and informational technologies as well

as different external factors what influences the consumer behaviour.

**Research aim:** The aim of the paper is to find out changes in customer behaviour caused by information technologies as well name and group the factors what influences customers in real and electronic environment.

**Research tasks:** Research goal was achieved through the solution of following tasks:

- Analysis of statistical data of IT area,
- To evaluation of different generations in the local market,
- Analysis the results of the surveys.

### 1. Statistical background of the research

According to the statistical information from all active Internet users 96,1% are looking for information or using on-line services, 86,1% using the Internet for communication, 49,6% for collaboration with state institutions, 44,9% for buying or selling goods and services including financial services, and 25,2% for education and study[8].

National media research for Internet audience done by TNS Latvia in spring 2008 established that more than 1/3 of Internet users have recently purchased, ordered goods or services via Internet. According to the research results almost one half of all Internet users live in the capital and 14% of them admitted that during the last half year they have purchased the tickets in the Internet and every tenth respondent had purchased telecommunication and Internet

services in the Internet, but every ninth respondent had purchased office or computer techniques/devices. Every seventh had purchased a phone, every third – press subscription, household equipment and electronics [17].

Information technologies have a serious effect on consumer behaviour tendencies. The established accessibility of Information Technologies, wide activities of national stimulation, for example introduction of e-signature, usage of e-environment at public sector – all these factors stimulate consumers and enterprises to use information technologies, and as a result consuming manners are changing. These changes the authors are going to identify and analyze within the research.

By analyzing internet usage activity in Latvia, we can observe that from all population 96,1% are using the internet for information search and on-line services, 86,1% - communicate via the internet, 49,6% - uses the internet for collaboration with national or regional government institutions, 44,9% - for buying or selling goods and services or financial services, 25,2% - for education and study. Most popular mentioned goals for these activities are: visiting web, using e-mail, using search engine, looking for particular information in any data base or reading Latvian newspapers or magazines in web versions. According to mentioned goals the authors can presume, that websites and search engines should become very popular. Therefore, according to latest statistical data from all world-known search engines and information exchange portals the most popular in Latvia in 2007 were *Google* (international brand), then *Inbox*, *Delfi* (Latvian and Russian version), *Draugiem* (Latvian national brands).

## 2. Consumer behaviour: theoretical background and generations

There are two basic meanings related to consumers: consumer behaviour and buying behaviour described in the theory of marketing. Both meanings are very close and important for business, as we presume that the consumer is the target of every action done by the company in the market. The authors would like to analyze these meanings and show common and different aspects of them.

There are a lot of definitions about consumer behaviour. A lot of them are very close in meanings. Therefore, the authors collected some of definitions and analyzed them.

The American Marketing Association defines consumer behaviour as: „*The dynamic interaction of affect and cognition, behaviour, and environmental events by which human beings conduct the Exchange aspects of their life*” [3]. Consumer behaviour involves interactions between affect (emotions, specific feelings, moods and overall evolutions) and cognitions (interpretation of the environment to create meanings which guide behaviour), behaviour, and environmental events.

After the deepened analysis of the definitions the authors concluded that all definitions generally describe responses to products, mental, emotional or physical process, action and thoughts, feelings and experience. These definitions are oriented on buying and consuming process and describe psycho-emotional process. At the same time Post Soviet countries, who became independent just more than 15 years ago (Latvia become independent country on 1991), are very good example for description of consumer behaviour not just from buying perspective.

In today's turbulent everyday activities we sometimes forgot to pay attention on diversity of our customers. Generations are changing, habits are changing, but some companies are still applying the same methods for the motivation of consumers. What is suitable for one target group doesn't work for other. In the classical marketing and management literature consumers usually are described according to the age, gender, social and economical status etc. At the same time there are lack of information about different attitudes of age groups and genders to the market and marketing activities.

The authors also would like to emphasize that electronic market becomes more and more popular for many activities – information search, banking, shopping, mailing, etc. From the all of population the most active part in the electronic environment is new generation. They are familiar with technologies, used to use the internet, computers etc. New terminology has arisen for description of generations.

For example, the term N-Gen was first used to describe this wave of youth in an article by **Don Tapscott** [4] in *Advertising Age*. At that time there was a lot of debate about whether or not the Internet was an effective place to advertise. Don's conclusions were affirmative, but cautionary. On the Net, one has to advertise differently. N-Generations using new media have a new

set of expectations. This generation is different from the previous generations with different characteristics and features. Commonly held views of the current generation are that they are greedy, self centered and concerned only about their personal possessions and financial success [4]. At the same time there are wide field for researches and investigations, because entrepreneurs should know their customers by hart.

After spending the better part of a year talking to hundreds of N-Geners, the research team has come to a different set of conclusions. Many have observed that the young are still very obsessed with material values, more than their parents before them. It appears that the more affluent, better educated youth are, the more optimistic they are about the future. While N-Geners today are a savvy, confident generation, they are confronted with very different prospects than their boomer parents. An uncertain future looms ahead, and they cannot pride themselves with the material security which seemed to be the trait of the baby boomer age. Prized possessions become a material fortress against economic insecurity - material goods are not a vice, they are a refuge. Young people are navigators. They have set their ship out onto the Net and have returned home safely, carrying riches. They also know that their future cannot be trusted to anyone else, no government or corporation will ensure their future [4].

This generation is analyzed in different researches done all around the world, but the authors would like to emphasize following most important criteria what characterizes this generation:

- They are courageous, self confident and skilled in technologies;
- They value highly individual freedom and rights;
- They are globally oriented and multilingual;
- They value is time saving and conveniences.

For e-business it is a challenge to inveigle this type of consumer into the business as consumer. According to Philip Kotler our future is holistic marketing. This new paradigm combines the best of traditional marketing with new digital capabilities to build long-term, mutually satisfying relationships and co-prosperity among all key stakeholders [9].

Today society is on the way to the holistic marketing and using classic traditional models

and methods in the electronic environment. Smith and Chaffey [15 name it as e-marketing. According to them, simply put, e-marketing involves marketing online whether via web sites, banner ads, opt-in e-mail, interactive kiosks, interactive TV, mobiles or m-commerce – the e-tools [15]. It involves to getting close to customers, understanding them better and maintaining a dialogue with them. It is boarder than e-commerce since it is not limited to transactions between an organization and its stakeholders, but includes all processes related to the marketing concept [9].

Some other researches also have been done. The majority of today's Net Generation is actively personalizing their digital experiences and sampling niche content and video with increasing frequency. That was the key finding in our first annual *Avenue A | Razorfish Digital* In July 2007, *Avenue A | Razorfish Digital* surveyed 475 U.S. consumers across all demographics and geographies to understand their desires, frustrations and digital consumption habits. Our design research team was most concerned with digital behaviour rather than demographics. They wanted to know [13]:

- How the broad populaces of „connected consumers“ discover things?
- How quickly do consumers adopt emerging technologies and user interface conventions (tag clouds, social media, etc.)?
- What drives consumers' desire to purchase (or not) online?
- How has video changed the digital landscape in recent years?
- Are mobile services being widely used (or not)?

The answer, they have found, is that the majority of Net Generation are increasingly personalizing their digital experiences and sampling a wide range of digital niche content. From recommendation engines, to blogs, to customize start pages, today's *connected consumer* navigate a personal landscape that is much more niche than we ever expected. Survey confirmed that personalization has hit the mainstream.

Most tellingly, 91% of consumers rely on the Web to get current news or information, vastly eclipsing more traditional outlets such as television. No wonder why broadcasters and newspaper publishers are struggling to adapt in today's digital realm [13]. According to the results of these surveys the authors would con-

clude that for net generation time saving and overall conveniences is a core value. They are loyal and faithful to electronic media and most important motives for adoption of any e-tool could be voluntariness of use, image, compatibility and opinion of the peer group.

Generation „Y”, sometimes referred to Generation „Why”? This cohort ranges in age 19 to 29 years, encompassing those still in high school to new graduates establishing themselves in the work force. Generation Y keep their options open rather than commit to career, marriage or having children. However options come with the downside of greater expectations and feelings of the need to achieve quickly. Generation Y are the children of the Baby Boomers, often described as over parented, over indulged and ‘me’ centered (McRae et. al., 2006). Generation Y have been described as street smart, mature, resilient, practical, optimistic, ambitious, confident and manipulative (Sheahan, 2005; Huntley, 2006). They are an aware generation, culturally, socially, environmentally and emotionally in an age of uncertainty (Sheahan, 2005). As a result they are lifestyle centered in search of meaningful experiences, motivated by more than money, are materialistic, success driven and image conscious (Sheahan, 2005). In addition they are the most educated generation in history, the most entertained and materially endowed, and the first generation of digital natives (McCrindle Research, 2007). As a result this is also the first post literate generation where visual stimulus and interaction is valued more than written word (Grose, 2005; McCrindle, 2008c) [7].

Generation X are 29-44 years old and they want a portable career and need feedback, but hesitate to ask for it. They want balance now, not when they are 65. They are attracted by the visual, musical and dynamic, work on multiple levels at once, holistic – very aware of the entire

operating environment of the product and companies involved etc.

The Baby Boomer cohort was a result of increased births following World War II. This generation, born 1946-1964, is currently between 44 and 62 years of age (McCrindle Research, 2008). This generation’s social markers included the advent of television, rock and roll music, the Cold War, the threat of nuclear war and introduction of decimal currency (McCrindle, 2008d). To Boomers life is sequential, moving from one level to the next, having experienced a mostly linear lifestyle – from childhood, to secondary education, moving onto work or tertiary education (and then work), marrying, having a family and are now moving toward retirement (Salt, 2006). Baby Boomers are ‘idealists’, always striving for a better way of living, being the first generation in an era of almost seamless prosperity and economic growth. In the workplace, Boomers ‘live to work’, and created the 60 hour working week (McKay, 1997). As a result many are workaholics with an overwhelming need to succeed at any cost, sacrificing personal life for professional goals (McKay, 1997). Boomers have a strong work ethic, are optimistic, loyal and committed employees.

Traditionalists (Silent Generation) identify with building a legacy at work and believe that no news is good news when it comes to their performance. They understand that „now” they can build a balance between work and home and are planning for retirement, they enjoy reading, don’t think of themselves as aging, believe in winning, they value security and longevity, value their grandchildren and will invest in the future.

Each generational cohort spans about 20 years. Each generation may have a number of smaller sub-generations. The last five generations of the Twentieth Century, and those which make up most of the current Latvian population, can be seen in table 1, below.

**Table. 1. Demographics by Generation in Latvia [1, 2, 5, 10, 15]**

Generation	Year of Birth	Age	Number of inhabitants	%
The Silent Generation	... - 1944	65- older	390 788	17
The Baby boomers	1945-1965	44-64	576 365	25
Generation X	1965-1980	29-44	474 709	21
Generation Y	1980-1990	19-29	349 209	15
Net Generation	1990- ...	0-19	479 823	21

According to the information in table No. 1, major part of Latvians is in generation „The Baby Boomers” or in the age 44-64. At the same time

if we compare these data with information about their habits and different activities, for example, internet usage, one can observe that most active

internet users are „Generation X“, „Generation Y“ and „Net Generation“. From the other hand „the Baby Boomers“ are economically active inhabitants and generates most of the GDP (according to the statistics).

According to Jodi Rudic Baby Boomer generation is also very complicated from the marketing standpoint. This generation representatives believe that they know better than anyone else, therefore it is rather difficult to convince them. They're not interested in products endorsed by people from other generations, or in products that are really geared for other generation. They distrust authority – so communicate benefits in honest, straightforward ways. They are very busy - want more, faster, convenient - don't mind paying. Product needs to appeal to conspicuous consumption (e.g. brand labels on the outside) - they want to be seen to be buying class and quality, they value people with values etc. At the same time “Generation X” is completely different in marketing, behaving, etc.

Of course, there is always the question – can we apply international experience to the local market, because there are a lot of national particularities. At the same time there are no researches on generations done in Latvia, therefore it is logical to adopt the existing theories to the local market.

### 3. Survey on consuming habits of Net Generation in Latvia

With an aim to analyze differences in consumer behaving motives in real market and electronic environment, the authors organized survey in the age group 18-25. This age group was chosen because according to the statistical data in 2006 96% of inhabitants in the age between 16 and 25 were using the internet. Also this age group is called the Net generation in the scientific literature. The period of survey is November-December, 2008, the total number of respondents was 201, both sexes. The questionnaire contained 6 question groups all oriented on range of parameters. The resume of the survey is described below.

According to the survey the target group uses the internet tools for:

1. E-mailing (99%);
2. Information search (89%);
3. Social Portals, Peer Group activities (74%);
4. Online banking (68%);
5. Skyping (66%);

### 6. E-shopping (43%).

According to the results of this research and researches done before by other companies, e-mail is a leading e-commerce tool what is used by 99% of all internet users. These results clearly show interests of this target audience and simultaneously pay attention to e-shopping as upcoming activity. Therefore it is valuable to forecast how e-shopping could develop in the nearest future and what are motives, pros and cons for e-shopping in this target group.

This survey prescribes that benefits of the internet usage and e-commerce for the target group are:

- Speed (95%);
- Saves time (92%);
- Rational (help to facilitate many processes) (87%);
- Possibility to find more information at the same time (84%);
- Accessibility (can use everywhere)(76%);
- All around the clock (65%);
- Easy to use (63%);
- Always updated (actual) information (59%);
- Overall conveniences (56%);
- Possibility easy to compare products and prices (54%);
- Punctuality and accurateness (49%);
- All kinds of goods in one place (45%);
- Special (just online) offers (48%);
- Possibility to follow the execution of the order (34%);
- No paper what should be filled (26%);
- Environment friendly (no paper used, no sales materials, brochures etc.)(25%);
- Possibility to cancel order (19%).

From the results of the survey the authors can conclude that values for the target group are speed and time saving, conveniences, updated information, etc.

According to the authors point of view the results of the survey confirm that consumer behaviour is changing under the impact of new technologies and especially under the impact of the internet and e-commerce. The values of Net Generation are independence, speed of actions, independence, conveniences, economy of resources.

By analyzing comparing prices in the internet it is obvious that 55% of respondents always compare prices in the internet, but in the retail

stores just 45%. It can be explained by specific features of the internet and consuming behaviour (see Fig. 1.).

How often are you comparing prices ?

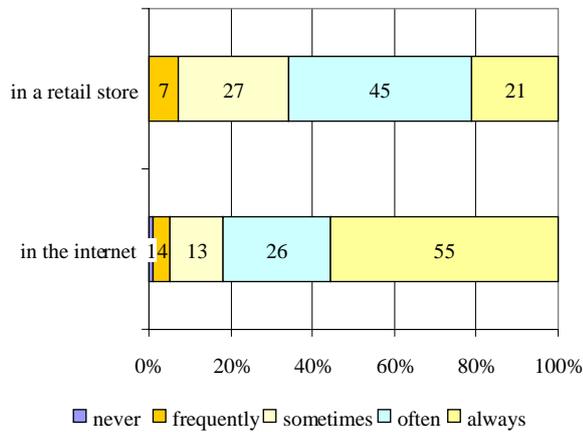


Fig. 1. Regularity of price comparing

One of the most important questions was oriented on price comparing. It is well known that the internet allows compare price (it is called price transparency) very quickly. It is also mentioned in many researches as a priority of the internet shopping. According to results of the research 25% of respondents compare prices always, 39% - often, 24% sometimes (see Fig. 2.). By more detailed analysis of this trend it is obvious that older respondents compare prices more seldom than younger respondents. There are two explanations – first of all level of incomes (for younger respondents in this generation it could be lower) and secondly, older respondents from this generation has more experience and they already know (or at least think that they know) price and quality relations, price level and meaning of brand value.

Are you comparing prices in the retail store and in the internet?

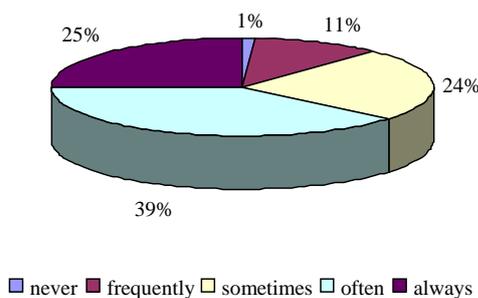


Fig. 2. Comparing prices in the retail and internet shops

By analyzing the choice of customer to purchase goods in retail store or in the internet shop and their habits to do it repeatedly, we can observe that there are the same trends. Consumers are shopping in those shops what they used to do of like more that others (see Fig. 3.).

Are you purchasing at the same e-shops all the time?

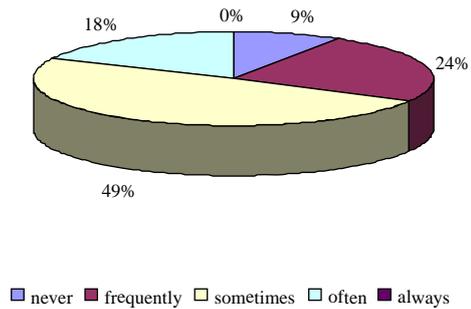


Fig. 3. Repeated shopping in internet shops

During the research the question about products purchased in last 12 months in the internet and retail store were asked. In the internet most often were bought movies, computer games, and tickets (airplanes, cinema, theatre, and concert) as well as electronic devices and equipment. Form all respondents 65% were females, 35% were males; from all respondents 56% had higher education.

Research results were compeered with researches done in Germany and United Kingdom. There were no large differences in results. Therefore the authors conclude that Latvian consumer are behaving as average European consumer but with displacement in time, what can be explained with development of national economy and historical particulates.

Changes in consumer purchasing behaviour caused a lot of alterations. The path of decision making from the problem to results under the influence of IT has become shorter in terms of time, nevertheless some new problems have arisen – the lack of social contact, safety measures in e-commerce, logistics etc. Most important benefits of the shopping process at traditional buying process are buying process, contact with equal and for e-shopping money saving, time saving, conveniences and all around a clock.

According to the research results the authors conclude that:

- Average size of purchase in traditional shopping still is larger than in the internet shopping;
- For information search about products the main source is friends and the internet. But we can expect changes towards the internet as a main source in the nearest future;
- There is no special time or day for more active purchasing, but often it is done in afternoon;
- Shopping habits are changing but not very fast.

### Conclusions

According to the research results the authors conclude that:

- It is obvious that consumer and buying behaviour is changing under the impact of information and telecommunication technologies.
- At present, due to decrease of financial inflow, there is a rapid decline of private consumption and investment, therefore consumers would like to buy cheaper. For information search about products and prices the main source is the internet. Consumers switch from traditional market to the internet.
- Average size of purchase in traditional shopping still is larger than in the internet shopping, but in the next 10 till 15 years we can expect changes in buying habits of Latvians.
- The path of decision making from the problem to results under the influence of IT has become shorter in terms of time.
- There are at least 5 different generations described in theory and possible to observe also in praxis.
- The international experience in analysis of generations can be applied to Latvia and the Baltic States. For each generation it is possible to allocate different motives, demand and behaving in the market.
- In spite of age of Latvians, number of internet users increasing simultaneously with developing computer, and internet literacy of "the Baby Boomers" generation is developing.
- Time span of decision making is closely related to the involvement level and the higher the involvement level the more

time is to be spent on decision making and thus along with the IT development we arrive at the possibility to reduce the time spent in many activities and very often also save the financial resources.

- In consumer behaviour the electronic environment is mostly driven by the lack of time and additional conveniences and the changes in decision making process generally are connected with time span. But there is some exclusion which is connected with the extended decision making process when the customers are comparing prices and goods in the electronic environment, but for purchasing they have to ensure themselves about the quality of the product in the traditional shops.
- The path of decision making from the problem to results under the influence of IT has become shorter in terms of time, nevertheless some new problems have arisen – the lack of social contact, safety measures in e-commerce, logistics etc.
- IT changes the decision making process and depending on the field of the purchase decision making and its direction, in general the path from the problem to the result is shorter; if it is longer then consumer is more satisfied with the quality and price relations – the longer the path, the more satisfied the consumer in terms of the result.

However, the field of research is very wide and this study presents just an insight into the large scope of different questions, which have to be tackled in the consumer behaviour research and particularly for generations.

### Reference

1. Ajzen, I. *The Theory of Planned Behavior, Organizational Behavior and Human Decision Processes*, 199, pp. 179-211
2. Davis, F.D. *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*, MIS Quarterly 13 (3), 1989, pp. 319-340
3. Dictionary of Marketing Terms. American Marketing Association [Electronic resource] – Read 25 October 2007, <http://www.marketingpower.com/mg-dictionary-view738.php>
4. Topscott, D. *The Rise of the Net Generation: growing up digital*, 2009, [Electronic resource] – Read 10 April 2009, <http://www.growingupdigital.com/>

5. Economic development of Latvia. Report /Ministry of Economics Republic of Latvia, December, 2008, p. 9
6. Kardes, F. *Consumer behaviour and managerial decision making*. Pearson PrenticeHall, 2002, 457 p.
7. Zaana, H. *Life in the baby boomer library world: a survival guide*, 2008, [Electronic resource]- Read 20.May 2009 [www.scribd.com/.../Life-in-the-Baby-Boomer-library-world-a-survival-guide](http://www.scribd.com/.../Life-in-the-Baby-Boomer-library-world-a-survival-guide)
8. Informācijas tehnoloģijas / LR Centrālā statistikas pārvalde [Electronic resource] - Read 13.01.2009, <http://www.csb.gov.lv/csp/content/?cat=2092>
9. Kotler, Ph. *Marketing Management*. The Millenium Edition – Prentce hall International, Inc., 2000, 728 p.
10. Latvijas statistikas gadagramata Latvijas Republikas Centrālā statistikas pārvalde, 2008, 567 lpp
11. Moore, G. , Benbasat, I. *Development of an Instrument to Measure the Perceptions of Adopting an Information*, 1991
12. Neal, C. *Consumer behaviour: implications for marketing strategy*, Enhances 4<sup>th</sup> ed, McGraaw-Hill Irwin, 2006, 668 p.
13. Razorfish *Results of Avenue A/ Razorfish survey „Digital Consumer Behaviour Study”, July 2007* [Electronic resource] – Read 15 April 2009 [www.razorfish.com/reports/DigConsStudy.pdf](http://www.razorfish.com/reports/DigConsStudy.pdf)
14. Rice, C. *Understanding customers, Second edition*, Butterworth Heinemann, 1997, pp.121-129
15. Smith, P.R., Chaffey D. *E-Marketing Excellence. The Heart of e-Business.*, Elsevier Butterworth Heinemann, 2002, 340 p.
16. Solomon M. R. *Consumer behaviour: buying, selling and being*, 7<sup>th</sup> ed. Pearson PrenticeHall, 2006, 654 p.
17. TNS LATVIA *jaunakaa Interneta auditorijas petijuma Nacionalais Mediju Petijums: Internets*, Pavasaris 2008 rezultati.[Electronic resource] – Read 05.08.2008, <http://www.tns.lv/?lang=lv&fullartcle=true&category=showuid&id=2807>
18. Venkatesh V, Morris M, Davis G, Davis F „*User Acceptance of Information Technology: Toward a Unified View*”, 2003, MIS Quarterly, 27 (3), pp. 425-478
19. Jones, V., Jo, J., Martin, P. *Future Schools and How Technology can be used to support Millennial and Generation-Z Students* [Electronic resource]-Read 15 June 2009 [www.phmartin.info/webKB/doc/papers/.../icut07\\_JonesJoMartin.pdf](http://www.phmartin.info/webKB/doc/papers/.../icut07_JonesJoMartin.pdf)