INTERGENERATIONAL ATTITUDES AND SOCIAL PERCEPTIONS OF E-HEALTH SERVICES

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ABSTRACT

Health care is important and necessary for all humankind on all generations, so, it is of most importance to understand the situation and possibilities. This is where understanding consumer attitudes and perceptions can help to improve for equal possibilities to all generations and social groups. Consumer attitudes and social perceptions give us the information to help advance processes and detect problems that are not obvious and are often mistaken as too insignificant for attention. Since 2007, e-health has been introduced in Latvia as a big change towards digitalization, simplicity and more efficient health care all over the country. Officially, doctors and patients are using the e-health system to store and receive information related to a person's health care since the year 2018. The topic of the research is of great importance, and it aims to ensure those people who do not have access to a computer or who cannot work with it are able to receive the same level of health care as those who are active and can easily navigate and use platforms such as e-health in the e-environment. The key questions of the research are as follows: what are the attitudes of consumers from different generations on e-health, what are the social perceptions of consumers from different generations on e-health, are there statistically significant differences in consumer attitudes of different generations are there statistically significant differences in the social perceptions of consumers of different generations about e-health, are there statistically significant relations between different generations of consumers on consumer attitudes and social perceptions about e-health? Methods used in the study are two surveys created by authors on social attitudes towards e-health services, and social perceptions towards e-health services. The results of e-health services that are related to its integration do not reflect promises of dwindling waiting lines and state-paid services. The results also show that older users are more interested in e-health, as they face health problems more frequently than younger consumers daily, but their possibilities are limited by the technology that has created a very long bridge between patients, and the possibility to interact in the newly integrated e-health system. Younger potential users of e-health have important modernity where the older e-health users are viewing this differently, for which modernity is not current. Social perceptions that affect awareness and emotion are linked and do not differ significantly between generations, which show's that if consumers had a chance to improve their social expectations about e-health, it would affect users and potential users alike, creating positive emotions and would improve attitudes on e-health, in general.

Keywords: *social attitudes, social perceptions, e-health*

INTRODUCTION

As digitalization takes over industries, communication technologies are improving our experience, and this could result in much efficient health care now more than ever. However, according to a recent study by the Latvian research center SKDS, the majority of Latvia's population — 87% — assess the availability of health services as mediocre or poor [1]. The information published in the Latvian Public Media Platform on the results of the survey of the research center SKDS shows that only 15% of medics are positive about the reform of the health system [2]. Since 2007, e-health has been introduced in Latvia by the National Health Service of Latvia. The main idea of E-health is that it uses information and communication technologies to improve the quality and efficiency of health care. Psychology professor, Saul McLeod in his study papers has shared all known structure of the attitudes as the attitude's ABC. The structure consists of three parts: emotional, behavioural, and cognitive. The emotional component includes human emotions about an object's attitudes. The behaviour component is the way for us to influence our actions and behaviour. The cognitive component is the information and knowledge that influences our attitude about things and objects [3]. Traders and service providers should understand consumer's attitudes in different circumstances and develop means to reinforce this attitude to make consumers more positive about the products or services they offer [4]. Consumers who expect to address similar situations in the future is likely to start forming attitudes in preparation for these events. According to S. J. Blatt, two people may have an attitude toward an object for quite various reasons. Thus, it can be helpful if a marketer of a service provider knows why attitude is held before trying to change it [5]. Attitudes can also work as a protective mechanism if the person has negative feelings and weak knowledge. Attitudes remain long-term as the factors affecting them continue to affect the person [3]. According to T. Allison, "Social perception is the initial stage of evaluating intentions and psychological dispositions of others by analysis of gaze direction, body movement, and other types of biological motion [6]. Social perception as such is usually divided into two categories: facial and vocal [7]. As vocal perception involves the capability of distinguishing and recognizing the acoustic properties of speech at the same time it is decoding essential information from other's facial expressions. Both categories include emotional awareness, and the ability to read other people. There has been a survey in Great Britain that found out that "individuals are overwhelmed by the power and potential of the changes new technologies bring" [8],[9],10].In social sciences, the term "person perception" points to the various subconscious processes that we practice developing impressions of other characters. This includes how we structure these impressions, however the various conclusions we make about others are dependent on our impressions about them [11], [12]. As the RM Stolier and JB Freeman have mentioned in their journal that often people make impressions of others rather quickly just from minimal information they have gathered in a brief period of time. We usually tend to base

our opinions and impressions on generally accepted social norms in society [13]. The generational theory explains that the era in which a person is born influences their belief in the development of the world. Our value systems are forming in the first decade of our lives in our families, friends, communities, remarkable events, and era in general in which we are born [14]. The reality to recollect is that innovation is ordinarily first embraced by the most youthful age and afterwards is slowly received by the older generation [15]. Right now, there are four generations: The Silent Generation, the Baby Boomers, Generation X, and Millennials. Two generations speak for to the individuals who are right now parents of small kids: Those born somewhere in the range of 1982 and 2000 (usually called Millennials or Generation Y) and those born somewhere in the range of 1966 and 1981 (generally named as Generation X). These generations grew up encountering distinctive natural and life occasions and, understandably, their weight-related qualities and points of view are different. For example, Generation X witnessed the changes in communication tools and digitalization therefore Millennials grew up already using the now day technology and the Internet from a young age[14].

METHODOLOGY

The study aimed to explore Generations Y and X attitudes and social perceptions, therefore existing and potential e-health users. The key questions of the research are as follows: what are the attitudes and social perceptions of consumers from generations X and Y on e-health, are there statistically significant differences in consumer attitudes and social perceptions of generations X and Y, are there statistically significant relations between generations X and Y consumers on consumer attitudes and social perceptions about e-health? Methods used in the study: Authors created two surveys: first on social attitudes towards e-health services and second survey on social perceptions towards e-health services. The survey of attitudes consists of three scales of attitudes - emotion, knowledge, behaviour. The survey on social perceptions consists of six scales: modernity, time-saving, confidentiality, control, medical practitioners, and convenience. The survey data were collected via an online survey publisher and services provider. Survey respondents were divided into 2 groups (X and Y generation). Respondents to the study survey were potential and existing e-health users who more likely will need to interact and use it for doctor appointments for themselves or their children's as well as parents or see what kind of prescription they have to buy or if the doctor has written it in the system for patient or caretaker what to get from the pharmacy. Altogether, there were 271 women and 154 men. A total of 425 respondents were surveyed, with 48% (202 respondents) representing a younger generation of gen. Y, who experienced events such as the introduction and promotion of the Internet and MTV, as well as the independence of Latvia, while 52% (223 respondents) belong to gen. X, a more experienced generation who experienced events such as the landing of a Russian aircraft on the moon and the revolution of Martin Luther King. Mathematical statistics were used for data

analysis: Pearson correlation coefficient, the study of differences - t-test and nonparametric method Mann-Whitney U test.

Data analysis

The results of both author's surveys were analyzed to determine whether consumers from different generations had developed their attitudes and social perceptions in the same way. According to the data below the results of the attitude of generations X and Y are close to each other, showing the same trend, however, there are differences in all scales. From the results, we can see that X generation has more trouble with the e-health system. Overall emotions are quite negative. Only the knowledge is with high value shoving that consumers in both generations have appreciated the information that is available about the e-health but still it needs the improvements.

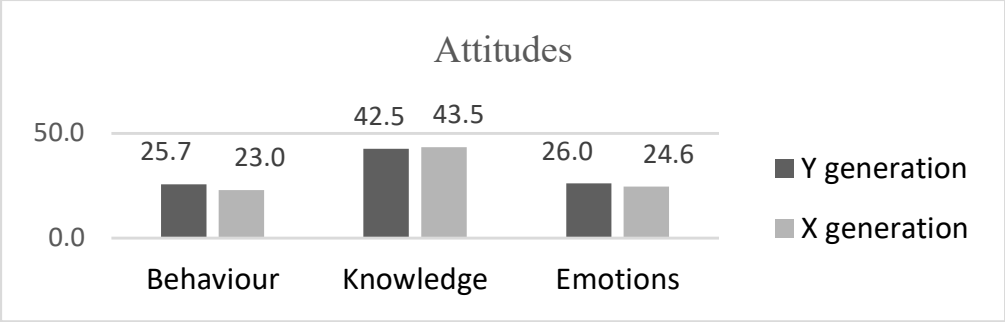

Figure 1.Average response value of X and Y consumers Attitudes towards e-health according to authors survey data.

In the second figure, we can see the same trend. However, consumer's perceptions in terms of convenience, time economy and confidentiality are the most negative towards e-health.

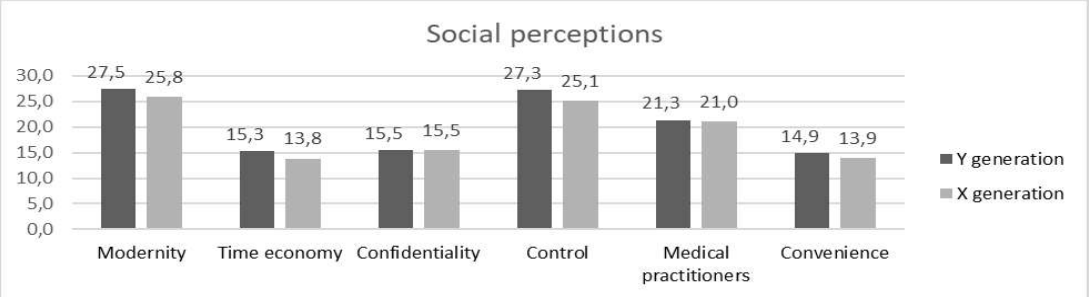

Figure 2.Average response value of X and Y consumers social perceptions towards e-health according to authors survey data.

For the calculation of the scale "Behaviour", the calculation of the Mann-Whitney U criteria was used as a method of non-parametric statistics, since the results of the "Behaviour" scale did not show any relevance to the normal distribution in either Generation Y or X. Based on the results of the authors surveys about consumer attitudes and other about social perceptions on e-health, there are statistically significant differences in scale behaviour where Y in a generation has higher results than in Generation X(sig. = 0,000).

Table 1. Mann-Whitney U test for statistically significant scale "Behaviour" between generations

	Behaviour
Mann-Whitney U	15321,000
Asp. Sig. (2-tailed)	0,000
X generation (M)	22,9910
Y generation (M)	25,7129

Note. N=425

A t criterion was carried out to determine differences between generations. On the "Knowledge" and "Emotions" scales, the results were calculated using the parametric statistical method - t criterion, as there is a correlation with the normal distribution in both Y and X generation. Criterion t, based on the results of a bilateral level calculation, indicates a trend towards differences in the "Emotions" scale because the bilateral value is higher than 0.5 but lower at 0.07, indicating that emotions are signified for Generation Y.

Table 2. The results of the calculation using t criterion, differences on attitudes scales: "Knowledge" and "Emotions"

	t	Sig. (2-tailed)	X generation (M)	Y generation (M)
Knowledge	-,549	,583	43,4664	42,5396
Emotions	1,904	,058	24,5650	25,9554

Note. N=425

The parametric statistics method was used to calculate criterion t to determine differences in the results of the scale "Time-saving", "Control" and "Convenience", as all these scales corresponds to the normal distribution in both samples. There are statistically significant differences in all positions as bilateral (Sig. < 0,05). Higher results are on all the above-mentioned scales for Generation Y.

Table 3. The results of the calculation using t criterion, differences on social perceptions scales: "Time-economy"; "Control" and "Convenience"

	t	Sig. (2-tailed)	X generation (M)	Y generation (M)
Time-economy	3,405	,001	13,8296	15,2772
Control	2,984	,003	25,1480	27,2970
Convenience	2,201	,028	13,9327	14,8515

Note. N=425

There are statistically significant differences of the "Modernity" scale, with no statistically significant results on the other scales.

Table 4. Mann-Whitney U test, differences on social perception scales "Modernity","Confidentiality", "Convenience" between generations

	Modernity	Confidentiality	Convenience
Mann-Whitney U	19456,500	22361,500	21923,500
Asymp. Sig. (2-tailed)	,015	,898	,634
X generation (M)	25,8296	15,5067	13,9327
Y generation (M)	27,4604	15,4554	14,8515

Note. N=425

The results of the correlation test, in group Y and X, indicate there is a statistically significant links between multiple survey scales since their bilateral (Sig. < 0,05). In the results of the Pearson correlation for generation Y shows that among younger consumers, there are statistically significant correlations between social perception scales with attitudes — knowledge, and emotion. People with a positive experience and social perceptions tend to influence themselves and others to act more positively towards understanding e-health if the perceptions about the e-health improve their emotions and motivate to learn about it.

Table 5. The results of the calculation of the Pearson correlation for generation Y.

		Knowledge	Emotions
Modernity	Pearson Correlation	,264**	,636**
	Sig. (2-tailed)	0,00	0,00
Time saving	Pearson Correlation	,233**	,587**
	Sig. (2-tailed)	0,001	0
Convenience	Pearson Correlation	,363**	,612**
	Sig. (2-tailed)	0,00	0,00

Note. N=202

Result analysis show that the Pearson correlation coefficient for scales: "Modernity" between "Knowledge" and "Emotions" is: (r = 0.264) and (p = 0.00); (r = 0.636) and (p = 0.00). From this it can be concluded: Y consumers prefer modern solutions and opportunities, as well as knowledge, is required for them to have positive emotions, which correlate much stronger for the Y generation, showing that positive emotions are needed to be able to express a positive attitude about e-health. Pearson correlation coefficient for scales, "Time-saving" between "Knowledge", "Emotions" is: (r = 0.233) and (p = 0.001) and (r = 0.587) and (p = 0.00). From this it can be concluded: If the Y generation knew they could save time using e-health, then the feelings would be more positive and the attitude toward e-health would improve. Pearson correlation coefficient for scales,

"Convenience" and "Knowledge", "Emotions" Pearson are (r = 0.363) and (p = 0.00) and (r = 0.612) and (p = 0.00). From the above, it can be concluded that if Y generation consumers knew that e-health is convenient and easy to use, their feelings would be more positive about e-health.

Table 6. The results of the calculation of the Pearson correlation coefficient for generation X.

		Behaviour	Knowledge	Emotions
Modernity	Pearson Correlation	0,103	,256**	,703**
	Sig. (2-tailed)	0,125	0,00	0,00
Time saving	Pearson Correlation	,153*	,165*	,692**
	Sig. (2-tailed)	0,022	0,014	0,00
Control	Pearson Correlation	,144*	,217**	,602**
	Sig. (2-tailed)	0,031	0,001	0,00
Convenience	Pearson Correlation	,209**	,352**	,733**
	Sig. (2-tailed)	0,002	0,00	0,00

Note. N=223

Pearson correlation coefficient for scales, "Modernity" between "Knowledge", "Emotions" is: (r = 0.256); (p = 0.00) and (r = 0.703); (p = 0.00). From this it can be concluded: X consumers are all about modernity even more than younger people as the new e-health system has given the hope that have created these positive emotions, as well as knowledge that impact the attitude.Pearson correlation coefficient for scales, "Time saving" between "Behaviour" and "Knowledge" is: (r = 0.153); (p = 0.022) between (r = 0.165); (p = 0.014) and (r = 0.692); (p = 0.00). The hope of saving time, using e-health and knowledge of it, gives positive emotions about e-health for the X generation.Pearson correlation coefficient for scales, "Control" between "Behaviour", "Knowledge", "Emotions" is: (r = 0.144); (p = 0.031) and (r = 0.217); (p = 0.001) and (r = 0.602); (p = 0.00). As before, the positive emotions and knowledge regarding possibilities of control using e-health system are leading to involvement, as the X generation is ready to use this system for them to have full control and view of their health care daily.Pearson correlation coefficient for scales, "Easy" and "Behaviour", "Knowledge", "Emotions" is: (r = 0.209); (p = 0.002) and (r = 0.352); (p = 0.00) and (r = 0.733); (p = 0.00). The X generation have also higher correlation result on convenience and knowledge, as well as their emotions are impacted more than Y generation due to the current importance of health care.

CONCLUSION

The results show that consumer attitudes and social perceptions are with similar results in both generations and yet there are also differences, mainly in behaviour where consumers of the older generation are most likely to experience negative experiences using e-health because they face more serious health problems at their age than younger e-health users and are less active in e-

environment. During the research period, the authors of the survey concluded that many, both younger and older consumers were not aware that e-health was something they could use themselves. Among those surveyed, the idea has emerged that e-health is intended for medical establishments and pharmacies. For several respondents, completing the survey provided new information, some respondents were interested in learning more about e-health. The survey shows that nearly half of those who have experienced e-health daily are not satisfied with its complexity and technical problems. The social perceptions of consumers in both generations have shown that e-health is uncomfortable for use. Its users, who are both providers of services and beneficiaries, have faced technical problems. In most cases, beneficiaries expect a medical practitioner to use e-health daily and manage it without a problem. There are statistically significant differences in consumer attitudes between generations where younger users can learn e-health more easily and more quickly, because of their skills and generation characteristics, and older users are more interested in e-health because they face health problems more frequently in their daily lives, but they cannot use it because of unavailability, lack of information, computer skills, and because of complexity. There are statistically significant links to consumer attitudes: social perceptions affecting awareness and emotion are linked between generations that demonstrate that if consumers improve their social perceptions of e-health, it would affect society equally, creating positive feelings and information that would improve attitudes on e-health in general. There are statistically significant differences for younger, e-health potential users that have important modernity, and older e-health users are once again with different priorities.

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