

# Privacy Paradox and Generation Z

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**Abstract** - As technology advances daily, so are the challenges in preserving one's privacy. Being the generation that has been born in such a highly technological environment, members of Generation Z, born between mid-to-late 1990s and the early-to-mid 2000s, have been engaging in privacy related transactions more than any generation before. The issue of privacy is becoming more pronounced, along the possibilities of individuals controlling their data, that can lead to the discrepancy between attitudes about privacy preservation and actual behavior, that has become known as the "privacy paradox". By looking at this paradox through generational attitudes toward privacy, organizational practices and related legal frameworks, as well as the contemporary context of the sharing economy, the research aims to give insight whether members of the affected generation can be classified as fundamentalists, pragmatists, or unconcerned about privacy as a classification used by Alan Westin.

**Keywords** – *privacy paradox; Generation Z; Alan Westin; privacy index; digital economy*

## I. INTRODUCTION

In today's world, where information abounds, privacy is becoming a luxury. Activities that until recently were private are now becoming a source for analyzing individuals' interests, characteristics, beliefs, worldviews, and intentions for profit. By using the numerous Internet services, individuals (un)knowingly share a great deal of data with various actors: with each other, with organizations, and with government agencies.

Although the systems of the modern, digital economy is based on the exchange of data for the benefit of all stakeholders and society as a whole, the possibilities of data misuse, such as discrimination [1][2] and manipulation, are alarming.

The issue of privacy is becoming increasingly apparent, as is the ability of individuals to control their data. Advances in information technology have made it possible to collect and use personal data invisibly. As a result, individuals rarely know exactly what information others have about them and how that information is used and with what consequences. And if these individuals do not have such information, they are likely to be uncertain about how much information to share.

As Generation Z is first generation born into technology, its members are aware of the benefits, but also the risks it brings. Level of concern about privacy can indicate if their attitudes can classify them as fundamentalists, pragmatists and unconcerned.

This paper presents the quantitative research of the Generation Z attitudes regarding the existence of privacy paradox. The following sections provide an overview about the privacy paradox and main characteristics of Generation Z. The Alana Westin's privacy indexes methodology is also emphasized.

## II. PRIVACY PARADOX

Calo [1] conceptualizes harm, or the negative consequences of privacy violations, through the categories of subjectivity and objectivity. While the subjective category of privacy damage is the perception of unwanted observation, which can cause undesirable mental states "within the individual", such as anxiety and discomfort, the objective privacy damage can occur when personal data is used to justify an adverse effect on a person, i.e. abuse data without the knowledge or consent of the individual. In both categories there is a certain insecurity of the individual regarding privacy, which can affect the behavior of individuals, as well as concern for its preservation.

Since the late 1970s, Alan Westin [2] has conducted over 30 privacy studies. For each he created a measurement instrument with one or more privacy indices to summarize his results and show privacy trends. By using broad, not context-specific questions, he segmented individuals into three groups: privacy fundamentalists, pragmatists, and privacy unconcerned. When asked directly, many individuals appear to be fundamentalists; they claim to care a lot about privacy and express particular concern about losing control over their personal data or having unauthorized access to it [3][4]. The unconcerned individuals do not care if their privacy is being violated because they look primarily at the benefits they can achieve by it, while, finally, the pragmatists, who are aware of the risks, calculate the risks and service benefits [5].

Anyway, the doubts about respondents' attitudes in predicting actual privacy behaviors have prompted numerous studies [4] and the discrepancy between individuals' attitudes and their behaviors has become known as the "privacy paradox".

The reasons for such inconsistency may be complex. A prudent concern for privacy may be a longer-term commitment that conflicts with the immediate gratification and convenience of Internet use as privacy policies are long and complicated [6]. Also, many individuals may simply be misinformed and believe that

their privacy is much better protected than it actually is [7].

There is now ample evidence of irrational cognitive biases in decision making and they can be predictable. In the privacy context, research has shown that willingness to disclose private information increases as perceived control over the disclosure of that information increases, even though it makes people more vulnerable to others accessing the information, whereas a decrease in perceived control has the opposite effect, even though more protection exists [8]. This is another paradox related to control and risk-taking behavior: the greater the perceived control, the more likely one is to take a risk. And further research [9] shows that perceived relative risk, i.e. the risk of one alternative compared to another, can have a greater impact on individual behavior in actual circumstances than differences in absolute risk. Thus, if a privacy policy is changed to lower the level of protection, it may have a greater impact on individual behavior than a policy that does not provide privacy protection in the first place.

Another illustration of such irrationality is the status quo bias and default settings, as consumers are much less likely to change default privacy settings, even when the settings do not reflect their actual preferences. That is specially emphasized when consumers encounter new technologies, such as the Internet of things smart devices [10].

#### A. *Privacy as an economic calculation*

Thus, the decision about privacy is the result of a rational "calculation" of costs and benefits [11], but also social norms, feelings, and heuristics. And each of these factors can influence behavior differently.

In the age of the digital economy, individuals are constantly engaged in private transactions, even if the privacy tradeoffs are intangible or the exchange of personal information is not visible or a major component of the transaction. For example, a search query on an Internet search engine has the same value as selling personal information (preferences, interests) in exchange for a service (search results). Although individuals sometimes give up personal information for various benefits or discounts, in other cases they voluntarily incur significant costs to protect their privacy. On the other hand, the desire for interaction, socialization, discovery, and recognition (or fame) is a powerful human motive, no less fundamental than the need for privacy.

Today's electronic media offer unprecedented opportunities to satisfy these motives. Through social media, disclosures can build social capital, increase self-esteem [12] and fulfill ego needs [13]. The report of the European Union Horizon 2020 research project [14] on privacy protection on the so-called sharing economy platforms shows that, despite relatively high privacy concerns, users on both sides (providers and users) believe that the benefits they derive from participating in the platforms outweigh the privacy risks. In addition, the majority of service providers express some concern about misuse of their data and loss of control over their online presence due to negative reviews or comments from other

users. The whole concept of so-called impression management, the strategic sharing of personal data in order to create a more advantageous online presence, causes anxiety among users. Moreover, privacy concerns are contextual and can take forms ranging from extreme concern to apathy. That is, everyone is a stakeholder in one of Westin's defined groups, depending on time and place [7].

### III. GENERATION Z

The date and age range of Generation Z are defined differently by different researchers, but it consists of people born between the mid-1990s and mid-2000s who are the first generation to be unaware of the world without electronic devices.

Digital is thus the most important characteristic that is almost always associated with Generation Z [15].

Members of this generation are very open-minded, accepting of diversity and promoting it [16]. And with the availability of information, proactivity in learning has developed, but at the expense of less developed social skills and a sense of isolation [17]. Some of the characteristics that distinguish them from other generations are realism and pragmatism—they want business stability and look to the future, and they want to know what is happening around them and be in control [18].

Social networks play a big role in the lives of Generation Z. Various trends are constantly evolving on social networks that are spreading very rapidly globally. This generation uses social networks to express themselves and their opinions, exchange information, communicate, comment and rate various products and brands, share content [19]. This is also reflected in the generation's consumption habits, as its members use the information available on the Internet to make the best possible purchase - by researching different products and then making a choice [17]. In addition, they place a high value on convenience in their purchasing decisions - saving time, ease of purchase, delivery methods, ease of use, and timely information about products [20]. As a result, members of this generation are aware of threats online - they recognize identity theft, virtual abuse and scams where the attacker impersonates someone else [21].

### IV. RESEARCH METHODOLOGY

#### A. *Research design*

This analysis draws on Westin's research measuring attitudes and concerns about privacy and provides data on how those attitudes and concerns change over time. It is designed to examine the original issues, but in the context of today's age, audience and topics.

In regards to scaling the results, research methodology focuses primarily on Westin's earliest privacy index, the General Privacy Concern Index, which was developed as part of the 1990 study of 1,255 adult respondents from the U.S. public conducted for Equifax Inc. [22]. Designed as a Likert scale, the study questions target concerns about

current threats to privacy, claims that companies are asking for too much personal information, claims that the government is monitoring citizens, and claims that consumers have lost control over the sharing of their information. Responses to these questions were used to assign each respondent to a group concerned about privacy, resulting in a kind of nominal scale: a) high concern - three or four responses that leaned toward concerned, b) medium concern - two responses concerned about privacy, and c) low concern - one or no concerned response. This led to a division into fundamentalists, pragmatists, and unconcerned. Index is used as a basis for this study to establish continuity in monitoring privacy paradox throughout time. Questions in these research were adapted to reflect the contemporary context, such as the digital economy, as Westin also examined the public's general level of concern about privacy and also examined attitudes toward specific privacy-related issues, such as trust in organizations that handle personal information, acceptance of a national identification system, and even the use of medical records for research [23].

### B. Research sample

The research was conducted in first half of September 2021. with a survey questionnaire that was disseminated through social networks LinkedIn and Facebook. On the LinkedIn network, the link to the anonymous survey was published on the personal profile of second author, a member of Z generation, while on Facebook the link to survey was published in various groups where there is a younger population, and these were mostly different groups intended for students. Ethical standards of anonymity and confidentiality were respected. The total number of respondents is 474 and survey completion time was approximately 5 minutes.

The distribution of respondents by gender is unequal, i.e. there are almost 3 times more female respondents than men. From total number of respondents, 75.6% are female, while 23.8% of them are male. Also, the significant age prevalence is within respondents born in 2002., that corresponds with education level, as 62,9% of respondents have declared high school as a completed level of education. Quarter of respondents (25,5%) have completed undergraduate studies and rest of the respondents, born in mid-1990s have graduated from university.

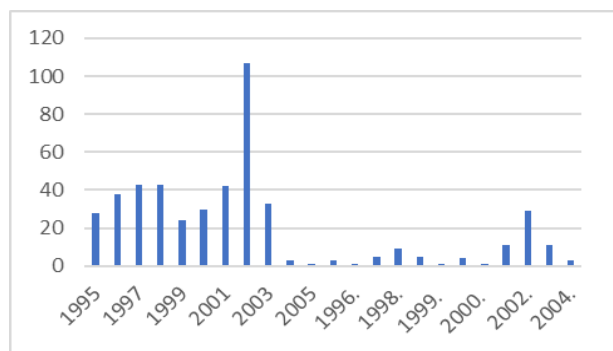


Figure 1 Respondents' distribution in age

The majority of respondents is born in between years 1995 and 2003, with most of them born in 2002, shown in Figure 1.

## V. ANALYSIS AND RESULTS

### A. Privacy paradox trends

According to the results, shown in Table 1, almost all respondents claim that protecting the privacy of personal data is important to them (85% believe that it is completely important, and 14% that it is mostly important to them). Also, a large proportion of respondents are concerned about threats to their privacy (30% are completely concerned and 42% are mostly concerned).

In relation to organizational practices majority of respondents agree that today's companies ask for too much personal information (42% strongly agree and 39% mostly agree) and that consumers have lost all control over the circulation and use of personal information by organizations (31% strongly agree and 35% mostly agree), as they show more disagreement (28% mostly disagree) with the statement that organizations handle data collected from users in an appropriate and discreet manner than 25% of respondents that mostly agree to this statement.

TABLE 1 ATTITUDES TOWARDS PRIVACY

	Strongly agree	Mostly agree	Mostly disagree	Strongly disagree	Not sure
Protection of the personal data is important	85%	14%	0	1%	0
I am concerned about threats to the privacy of my data	30%	42%	20%	4%	4%

Respondents find tracking practice resulting with targeted ads too invasive as 48% respondents strongly agree with this statement, and 37% mostly agree, as one third (33%) of respondents finds that privacy policies do not necessarily fully reflect the real data management practices within organizations. One fourth (25%) of respondent is not sure of their attitude towards these transparency mechanisms.

Following the results on organizational practices, prevalent number of respondents (35% mostly disagree and 13% strongly disagree) that their privacy rights are adequately protected even by the law as they disagree (39% mostly disagree and 17% strongly disagree) that existing laws and organizational practices provide a sufficient level of consumer privacy protection.

Results in Table 2 show respondents' opinions in relation to organizational practices.

As research was conducted in echoes of Covid-19 pandemic respondents were asked to assess privacy and security measures regarding respected medical records. The prevalent majority of them (27 strongly agree and 25% mostly agree) found that measures in such circumstances were decreased.

TABLE 2 OPINIONS IN RELATION TO ORGANIZATIONAL PRIVACY PRACTICES

	Strongly agree	Mostly agree	Mostly disagree	Strongly disagree	Not sure
Modern organizations ask for too much personal information	42%	39%	12%	2%	6%
Consumers have lost all control over the circulation and use of personal information by organizations	31%	35%	20%	3%	11%
Organizations handle data collected from users in an appropriate and discreet manner	15%	25%	28%	12%	19%
I believe that privacy policy documents do not necessarily fully reflect the real data management practices within organizations	17%	33%	19%	5%	25%
Tracking my movements on the Internet and displaying targeted ads based on the places I visit is too invasive	48%	37%	11%	2%	2%

Table 3 shows respondents' opinions in relation to privacy regulations.

However, when the question related to algorithms was put in the context of transparency, the respondents expressed an equal difference in their attitudes - 40% of the respondents feel discomfort due to the non-transparent segmentation of users, and 40% of the respondents do not feel this discomfort, as shown in Table 4.

TABLE 4 OPINIONS IN RELATION TO ORGANIZATIONAL PRIVACY PRACTICES

	Strongly agree	Mostly agree	Mostly disagree	Strongly disagree	Not sure
I feel uncomfortable knowing that the platforms collect my data and process it using algorithms whose principle of operation is not explained	38%	32%	2%	8%	2%
I believe that sharing economy platforms do more harm than good	9%	13%	32%	27%	20%
I feel uneasy because of non-transparent algorithms of user segmentation of the sharing economy platforms	15%	25%	28%	12%	19%

### Privacy paradox in sharing economy context

As privacy paradox can be more conspicuous in the environment of sharing economy services, where the functioning of the algorithms of such platforms is mostly untransparent to end users, consequent statements were focused to examine respondents' attitudes towards it, as well as the "calculation" of costs and benefits in such cases.

The majority of respondents (38% fully agree, and 32% mostly agree) expressed that they feel uncomfortable knowing that platforms collect their data and process it using algorithms whose working principles are unknown to them. Also, most respondents (32% mostly disagree and 27% strongly disagree) believe that sharing economy platforms do not bring more harm than good.

TABLE 3 OPINIONS IN RELATION TO PRIVACY REGULATIONS

	Strongly agree	Mostly agree	Mostly disagree	Strongly disagree	Not sure
My privacy rights as a consumer are adequately protected by law and business practices	7%	31%	35%	13%	14%
I believe that regulatory bodies should control the work of organizations and the use of collected data	56%	32%	6%	2%	4%
Existing laws and organizational practices provide a sufficient level of consumer privacy protection	6%	20%	39%	17%	18%
Institutional bodies should be able to monitor citizens' private messages in justified cases of crime prevention	12%	24%	17%	29%	18%

## VI. DISCUSSION

Overall, looking at the answers to all the questions, it can be concluded that sampled members of Generation Z find that privacy protection important and that they are concerned about the collection of personal data. Their concern can be classified as high in terms of organizational practices (extent of data collection, lack of control over data, targeted advertisement and trust in privacy policies), although they agree and disagree in equal proportion whether organizations handle data collected from users in an appropriate and discreet manner. Although they advocate privacy rights regulation, they distrust the existing system, showing concern in law and business practices. Also, they do not support threats to privacy by various authorities for the purpose of “greater good”, as they also find circumstances within Covid-19 crisis unmanaged and intrusive of their privacy.

Finally, in context of digital economy members of subject generation show strong consensus about algorithmic collection and use of data, while they show no concern about the (un)transparency of such practices. They are also trustful of sharing economy platforms, finding them useful.

Discussing results in relation to Westin’s groups, the prevalent results suggest high concern about privacy that can classify members of survey generation as fundamentalist about organizational and regulatory practices as Westin classified fundamentalists as generally distrustful of organizations asking for their personal information and worried about the accuracy of computerized information and additional uses made of it. They are also in favor of laws and regulatory actions in forcing their privacy rights.

But paradox can be stipulated in relation to modern economy and platforms as respondents show coherent pragmatism towards contemporary practices of organizations, finding them discrete, appropriate and useful as they calculate the benefits to them. By Westin this group estimate various consumer opportunities and services, protections of public safety or enforcement of personal morality against the degree of intrusiveness of personal information sought and the increase in government power involved, ie. risks [23].

Moreover, from another perspective, results show high rates of “not sure” answers that can relate to unconcerned group classification. These results can be indicative and should be taken in consideration, as they are significant in relation to organizational practices, as well as regulatory ones, but also in terms of digital economy environment.

## VII. CONCLUSION AND FUTURE WORK

Considering the brevity of the study, as one of its limitations, it is not possible to determine the dominant group into which the members of Generation Z, i.e. the sample under study, could be classified.

However, the results of the study can serve as a guide for further development of the privacy indexes in the modern environment through future research.

A contribution of research at the application level can be recognized as a useful insight in generation Z practices for experts in the field of privacy protection.

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