

# E-document, or the human factor in the security of electronic storage of personal documents

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*Abstract: In today's hectic world, we can often feel that a little help would be nice. The proliferation of smartphones and the invasion of online space into more and more areas of our lives has changed the way we live. There are pros and cons, opportunities and threats. In this article we explore the possibilities of whether an app that stores our personal documents could help us in our daily lives. In this context, we present the present and future possibilities of electronic personal identifiers. We will also carry out a short questionnaire to assess whether our respondents would trust and use a phone app to replace their personal documents. We will also examine the security issues of this use.*

*Keywords: eID, Safetyconsciousness, Smart devices*

## 1 Introduction

The development of portable IT devices in the 2000s brought with it the development of the information society. Almost 15 years after the first iPhone and the first Android phones, smartphones have become part of our lives at a societal level.

In 2018, Huawei conducted a large sample survey of nearly 6,000 users to find out what the company's customers use their devices for. They wanted to know how much respondents use their phones in a day. They were also asked, among other things, what impact the use of these devices has on their social lives and their networking.

We can choose from a wide range of apps for almost every part of our lives. We can find everything from simple calendar apps to complex banking solutions for managing our entire personal finances, to software that can connect to a corporate management information system and support almost full-fledged work.

It's no wonder that 93% of survey respondents said they find their smartphone helpful (Márton, 2018).

A large sample representative survey conducted by Budapest Bank in October 2018 showed that 40% of respondents use some kind of banking application. Surprisingly, usage patterns showed no correlation with age, only with education, financial situation and place of residence (hvg, 2018).

## 2 Primary research

The aim of the research was to ask young people (mainly Generation Z) about their opinion of storing their ID-s, driving licences and other documents in an application.

The first question of the questionnaire asked whether the respondent, in his/her own opinion, is open to technological development? Almost 100% of respondents said yes to this question, with only 15 people saying no. This question is also important for our topic because in order to store our identities electronically, we need technologies that have not been used or are not used yet.

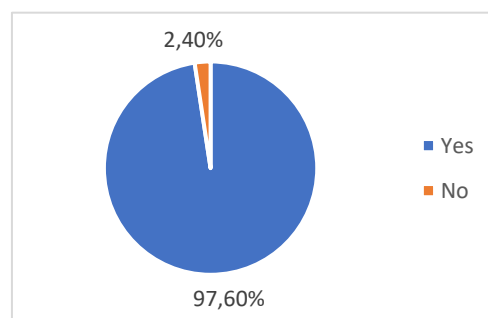


Figure 1

Are you open to new technologies?

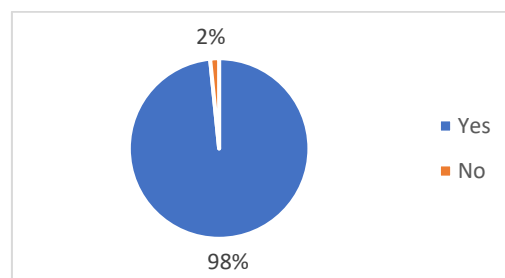


Figure 2

Do you have a smartphone?

The second question in the survey is related to the first question at some level. In 2016, Kantar TNS, commissioned by Google, produced a report based on data from 40 countries, which found that people no longer see their smartphone as a secondary device, but are increasingly using it for personal business (TNS, 2017). The results of this survey supports this. 680 responses showed that 98.4% of people have a smartphone, while only 1.6% do not. In addition, they may use a phone and then this percentage would be even lower, but as there are laggards in the development of technology, there are also laggards in mobile phone use. You may have a phone that you use only for voice calls or texting and not be classified as a smartphone, or it may simply not have the screen and features that a smartphone should have. Since this research is based on a phone application, this data supports the assumption and favours the assumptions.

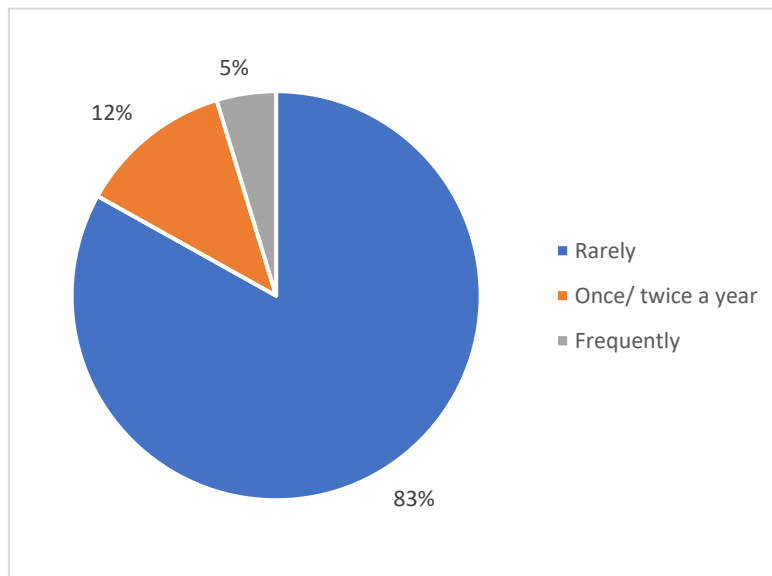


Figure 3

Do you often lose your documents?

For the third question, I assess how well people look after their documents, how often they leave them. If you don't have a separate document holder, even if your wallet is stolen with it, the cost of replacing your documents can be higher than the amount of money stolen, as you can pay up to 20,000 for them, depending on the document. The replacement of these documents, which have been destroyed or lost, is possible at the document offices in the cities. The cost of these documents at the time of the survey was as follows: identity card: 1500 (or 3000), address card: 1000, registration card: 4000 (or 8000), driving licence: 4000, tax card: 2200, tax card: 2200. The fee is covered by a 2200 HUF stamp. The county health insurance fund also had to pay HUF 2200 for issuing a lost or damaged tax card (BEOL, 2007).

But those who lose their documents do not only have to face financial costs. In big cities, queues run out by mid-morning, so they can wait hours to get in line and submit their claim. This is why many people go to smaller towns to do their business there, at even greater expense. 83.1% of the respondents to my questionnaire rarely leave their files, 12.2% once or twice a year and 4.7% often. This suggests that a large proportion of people have already gone through the lengthy process of applying for a new document, and have lost considerable amounts of money and time in the process, instead of doing other more useful activities. So, with my app, most people would save time, money and energy, both for themselves and for the staff at the document offices.

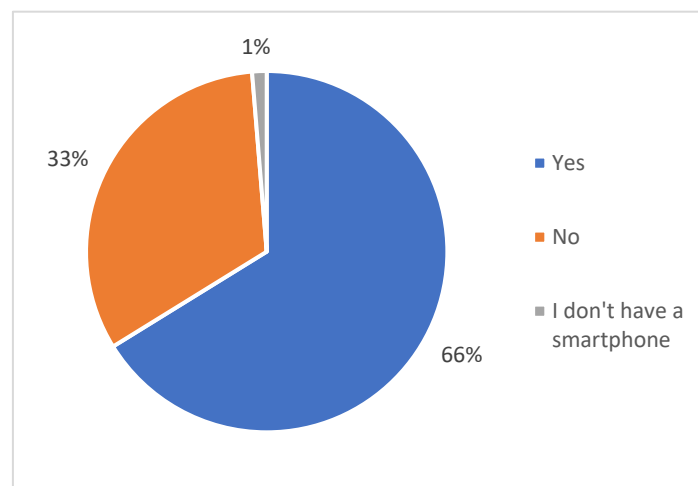


Figure 4  
Do you use an online bank on your smartphone?

The fourth question is also related to the second one, as only people who already have a smartphone and have downloaded the netbank app could answer yes to this question. (Magyar Nemzeti Bank, 2014) The netbanks have roughly the same functions, they can be used for general operations: transfers, deposits, bank card operations, investments (securities), group direct debit orders, all kinds of information retrieval, search from different aspects, etc... 66.2% of the respondents to my questionnaire trust the banks' applications and provide the data they need to manage their money. However, 32.5% of respondents do not use a netbank, so it can be assumed that they either do not have a bank card at all or are simply reluctant to entrust their data and money to an app or bank. To protect their applications, banks are constantly improving their services and building multi-layered protection systems, a basic requirement for electronic payment security. They also provide their customers with a range of advice to keep their data secure. It is worth following these tips to avoid phishing, viruses and data copying. My application also takes its cue from the e-banking security system for data protection, storage and

management. My assumption is that anyone who does not entrust their personal data or money to the e-banking system will not entrust it to my application either, because there they will have to decide not only about sharing their account data, but also about the information and data needed to store their personal documents. Of course, this does not exclude the possibility that they will still try my application to make their lives easier and faster and to prevent damage, but I would give them a lower probability compared to those who have already entrusted their data to the e-banking system.

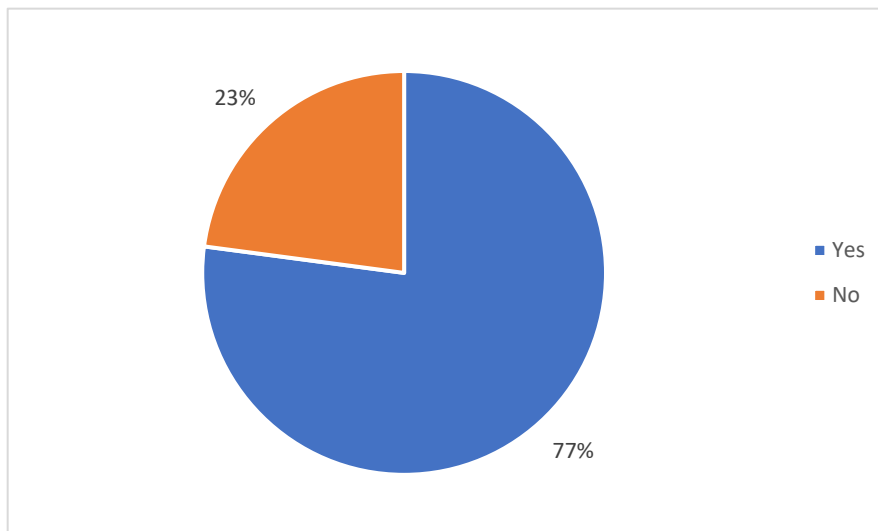


Figure 5

Would you be willing to trust an app that stores your personal documents?

The fifth question of my questionnaire is related to the fourth question, as I mentioned above that a small percentage of users do not trust their e-banking system with their data. My fifth question shows, however, that a higher percentage of respondents would entrust their personal data to an application than to their e-banking system. 77.1% of my respondents would trust an application to store their personal documents, which goes back to my third question, as it also suggests that they would rather entrust their data to an application for ease of use and loss prevention than lose it, followed by a long wait and financial loss. A negative answer of 22.9% is the expected result. As technology evolves, with the advent of online applications, we must expect a layer of people who will be left behind and will not follow the innovations. For them, the traditional physical filing system will be the most reliable, as many of them, and I am thinking here of the older generation, cannot imagine that an app can take care of their personal documents as securely as they themselves have kept them over the years. All in all, the (rounded) 77-23 ratio is very favourable for the creation of a new app and shows that there is a demand

for it, that it would be worth investing money in an innovation that is the first in the world to be able to store and keep safe the personal documents and data of downloaders and users.

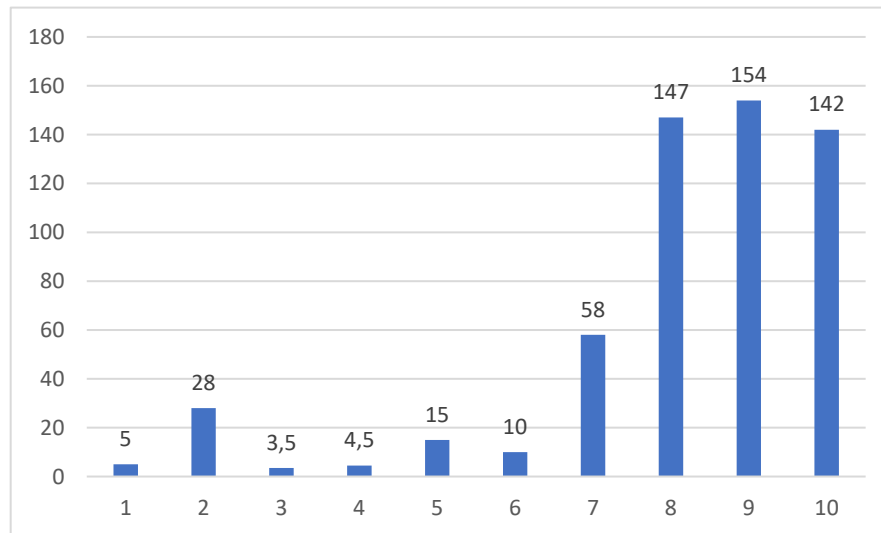


Figure 6

On a scale of 1 to 10, how likely would you be to download the app from a trusted, government-controlled site?

With the sixth question of my questionnaire, I specifically ask about people's willingness to download the app, but only if it is under continuous control on a platform under continuous control by the government (in Hungary: magyarorszag.hu). In today's modern world, many people have a client portal and do their business (for example: their tax returns) through it. Nowadays, this is not only available from a computer, but an application called OkmányApp (magyarorszag.hu, 2014) has been developed, which can be downloaded to your Android or IOS phone. This application has not yet gained popularity, but more and more people are using it for administrative purposes. It can also be downloaded from a platform constantly monitored by the government (magyarorszag.hu).

In the results of my questionnaire, I have only shown separately on the chart the numbers that appear under the outlier charts, as the primary downloaders would be these customers. On a scale of 10, the number of 7,8,9,10 scorers rose above the other scattered results. 58 out of 669 completions gave a score of 7. This data indicates to me that they will be the ones who will wait for others to try the app and if they hear good reviews about it, they will be willing to download and use it. But it's also possible that they might not like it and find it more complicated, so they might not be sure to download it. Out of 669 completions, a further 147 respondents gave 8 points. This number gives a high probability that they would download the

app if they liked its use. A score of 9 was given by 154 respondents, which is the highest score in the last question of the questionnaire. These prospective users are open to change and would be willing to trust and use such an application. 142 out of 669 gave a score of 10, which is also not a small number, and they are the ones who see the greatest value in the app, being 100% sure that they would download and use it. They are confident in technology and new developments, they already have a number of apps that have given them a positive experience, so it is easier for them to imagine adding one of these apps to their list to make their everyday life even easier. As with any product, there are those who are positive about it and those who are either wary of it or, based on previous negative experiences, are afraid to take the plunge again, no longer trusting the developments in IT software protection. It may be a negative experience for Hungarians, as they have lost their valuables many times in our history, so it is obvious that they feel safest if they store their personal documents and therefore their data themselves, rather than an application. The Invalid Response Chart columns usually contain completions where not only a number was written in the fill-in box, but also text, and so the program could not sort them into the same column as the other results. Such texts were for example: ten, seven, not sure, would download etc.

### **Conclusions**

In summary, the data contributors see a rationale for creating such an application. The young people of Generation Z are born into the continuous technological development and are willing to use further innovations that make their lives easier and faster. 98.3% of respondents have a smartphone, which they see as more than a secondary device, and more and more of them use it for personal transactions. The majority of my respondents rarely or twice a year leave their documents behind, resulting in long waits and financial loss. 66.6% of my respondents trust banks' apps, entrusting them with their data and money. The 77-23 ratio shows that there would be a demand, they would trust an application that stores their personal documents and data, preventing loss of time and money. Out of the 669 respondents, 501 gave a 7,8,9,10 on a probability scale of 1-10 that they would download the application if it was available for download from a platform controlled by the government (e.g.: magyarorszag.hu).

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## References

- [1] <https://www.beol.hu/bekes/kozelet-bekes/mennyibe-kerul-ha-elhagyjuk-az-iratainkat-98865/>
- [2] Dr. Makó, K. (2016. 07 21). webüggyvéd. Forrás: <https://webugyved.com/>: <https://webugyved.com/igazoltatas-jogszeruen/>
- [3] hvg Aki 170 ezer forintnál többet keres, nagyobb eséllyel bankol a telefonján [https://hvg.hu/tudomany/20181001\\_mobilbankolas\\_budapest\\_bank\\_felmeres\\_internetbank\\_felhasznaloi\\_szokasok](https://hvg.hu/tudomany/20181001_mobilbankolas_budapest_bank_felmeres_internetbank_felhasznaloi_szokasok)
- [4] Magyar Nemzeti Bank. (2014). mnb. Forrás: <https://mnb.hu/>: [https://mnb.hu/archivum/Felugyelet/root/fooldal/fogyasztoknak/bankszamlak/e\\_banking/biztonsag](https://mnb.hu/archivum/Felugyelet/root/fooldal/fogyasztoknak/bankszamlak/e_banking/biztonsag)
- [5] magyarorszag.hu. (2014. 11 24). Ügyintézés Kormányzati Portál. Forrás: <https://magyarorszag.hu/>: [https://regi.ugyintezes.magyarorszag.hu/szolgaltatasok/okmanyapp\\_kekkh.html](https://regi.ugyintezes.magyarorszag.hu/szolgaltatasok/okmanyapp_kekkh.html)
- [6] Márton, A. (2018. 02 06). FEMINA. Forrás: <https://femina.hu/>: <https://femina.hu/terasz/okostelefon-hasznalat-statisztika/>
- [7] Nemzeti Egészségbiztosítási Alapkezelő. (2020. 03 02). Forrás: <http://www.neak.gov.hu/>: [http://www.neak.gov.hu/felso\\_menu/lakossagnak/ellatas\\_magyarorszagon/jogosultsag\\_az\\_ellatasra/ellatasra\\_jogosultsag\\_igazolasa/taj\\_kartya/taj\\_kartya\\_iganyes\\_kaidas.html#Milyen%20dokumentumok%20sz%C3%BCks%C3%A9gesek%20a%20TAJ%20k%C3%A1rtya%20ig%C3%A9nyl%C3](http://www.neak.gov.hu/felso_menu/lakossagnak/ellatas_magyarorszagon/jogosultsag_az_ellatasra/ellatasra_jogosultsag_igazolasa/taj_kartya/taj_kartya_iganyes_kaidas.html#Milyen%20dokumentumok%20sz%C3%BCks%C3%A9gesek%20a%20TAJ%20k%C3%A1rtya%20ig%C3%A9nyl%C3)
- [8] TNS, K. (2017. 03 02). hws. Forrás: <https://www.hws.hu/>: <https://www.hws.hu/hirek/56909/google-kantar-felmeres-statisztika-internethasznalat-okostelefon.html>
- [9] Wolters Kluwer Hungary Kft. (folyamatosan frissülő). Wolters Kluwer. Forrás: <https://net.jogtar.hu/>: <https://net.jogtar.hu/>