

THE SHARING OF DIGITAL CONTENT AS PART OF A SHARING ECONOMY BY CZECH PUPILS

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Abstract

The paper discusses the topic of sharing of digital content as part of a sharing economy in the segment of secondary school pupils (students) and the final years of primary school pupils. The aim of this paper is to confirm the hypothesis, that most pupils from secondary schools share (probably illegal) digital content. A questionnaire survey was conducted of secondary school pupils (secondary vocational schools, grammar schools) and of those in their final years of primary school (age group 13 to 18). The reasons for this focus were as follows: (1) this target group has a high level of ICT knowledge in this field; (2) the target group does not have sufficient funds for purchases of digital content; (3) the school environment is excellent for spreading knowledge among schoolmates - learning from each other (collective approach); (4) this target group will be the one to continue using these services in the future. Overall, relevant data from 1,069 primary and secondary school pupils were collected. The hypothesis was confirmed and interesting information on the behaviour and attitudes of pupils was found. At the end of this paper, there is a discussion about potential measures to reduce the sharing of illegal digital content.

Key words: Sharing Economy, Digital Content, Pupils Behaviour

JEL Code: O35, I29, K24

Introduction

A new phenomenon in the modern economy are the terms “sharing” or “sharing economy”. Although the principles of sharing have been known to humanity since time immemorial, they are now being given more attention. Increased attention is also being paid to the sharing digital of content nowadays. The increase of a "sharing economy" and the sharing of digital content is on the rise (Huang & Yu, 2018).

We can describe three conditions for sharing (Švecová & Veber, 2017): (1) the existence of a sharing product (goods or service); (2) readiness of the owner to release his product to

another person for use; (3) the existence of some person and his readiness to use this product (for a fee or free of charge).

The sharing of digital content can be divided into two levels. The first is that the author of the content shares its content with others. This phenomenon and its origins are described, for example, by Hargittai & Walejko (2008). The second is that the digital content is shared by someone other than the author of the work. This digital content is usually purchased or downloaded elsewhere.

The authors of this paper suppose that most pupils from secondary schools in the Czech Republic share (sometimes-illegal) digital content. Illegal sharing of digital content is characterized by the fact that productions (movies, books, music etc.) are shared without the agreement of their copyright owner/holder. A survey between pupils was realized as part of the “Study of selected service providers in the Czech Republic within Society 4.0” (Švecová et al., 2018) for Technology Agency of the Czech Republic.

1 Methodology of research

1.1 Structure of respondents

To confirm the hypothesis we chose a questionnaire survey that was conducted on secondary school pupils (secondary vocational schools, grammar schools) and of those in their final years of primary schools (age group 13 to 18). The reasons for this focus were as follows:

- (1) This target group has a high level of ICT knowledge and skills in this field, especially in the area of Internet search (Rambousek, Stipek & Wildova, 2015). Changes in their skills are well described in Bombelli, Jirkovska, Sawyer et al. (2016).
- (2) This target group does not have sufficient funds for purchases of digital content.
- (3) The school environment is excellent for spreading knowledge among schoolmates - learning from each other (collective approach). There is an interesting connection between offline and online communities; how it defines these communities Vaskelainen & Piscicelli (2018).
- (4) This target group will be the one to continue using these services in the future.

Overall, relevant data from 1,069 primary and secondary school pupils were collected during June 2018. Overall, 730 boys and 330 girls participated in the survey; nine pupils did not fill in the gender. Obviously, the structure does not correspond to the demographic structure. Twice the number of boys than girls is due to the greater willingness of industry school directors to engage in research. If secondary school pupils were not counted, then the proportion of girls

in the remaining sample is 54% and boys 46%. Despite the above, a different demographic structure is not a problem; characteristics can be described separately due to the large number of respondents.

The majority of secondary industrial schools are focus on electrical engineering, which makes pupils more aware of sharing economy services. In total, more than 84% of pupils were between 14 and 17 years old. The total number of high school students' answers was 596; the answers of pupils in the eighth and ninth classes of primary school (or adequate classes of grammar schools) was 473.

1.2 Structure of the questionnaire

The questionnaire has only four questions (except for demographic information). For every question, it was possible to check more answers and for every answer, it was necessary to specify a frequency of use:

1. Check which of the following public cloud storage services you know of or use to store or/and share data, and how often.
2. Check which of the following services you know of or use to access music, movies, e-books, etc. on the Internet, and how often.
3. Check which social networks you use to store and share data, and how often.
4. Check which of the following non-media content providers (such as e-books) you know of or use, and how often.

1.3 Structure of providers of information society services

With regard to understanding the results, it is necessary to describe the providers of information society services. The subjects could be divided into the following categories based on analysis of selected services of information society:

(1) **Hosting services with content search by the public** – these providers allow you to share digital content, but they are not responsible for the content. These, it is possible to find content copyrighted for downloading. The responsibility for honouring the copyright of digital content is up to the uploader of the content.

(2) **Audio-visual services providers based on request and e-book sellers and online libraries** – these providers usually purchase the rights to digital content and their business is based on reselling the digital content.

(3) **Web portals** – these portals are brokerage servers that are signposted and typically refer to multiple digital content servers. Some are completely free; others allow you to purchase credit,

which is then used to purchase services on the servers (mostly from group 1). Usually, their earnings are through click-through ads.

(4) **Hosting services without content search by the public** – this category includes storages that are not primarily aimed at sharing digital content (such as movies or music) between anonymous persons, but for sharing private content between registered persons.

(5) **Web portals for digital content obtained through BitTorrent** –BitTorrent providers are basically tracker servers that offers torrent files. The service works by providing files to multiple users, and the client then downloads small parts from multiple sources. At the same time, the download is already offered to other users at the time of downloading.

(6) **Social networks** – they can be used to share digital content too; social networks are either specialized or generic.

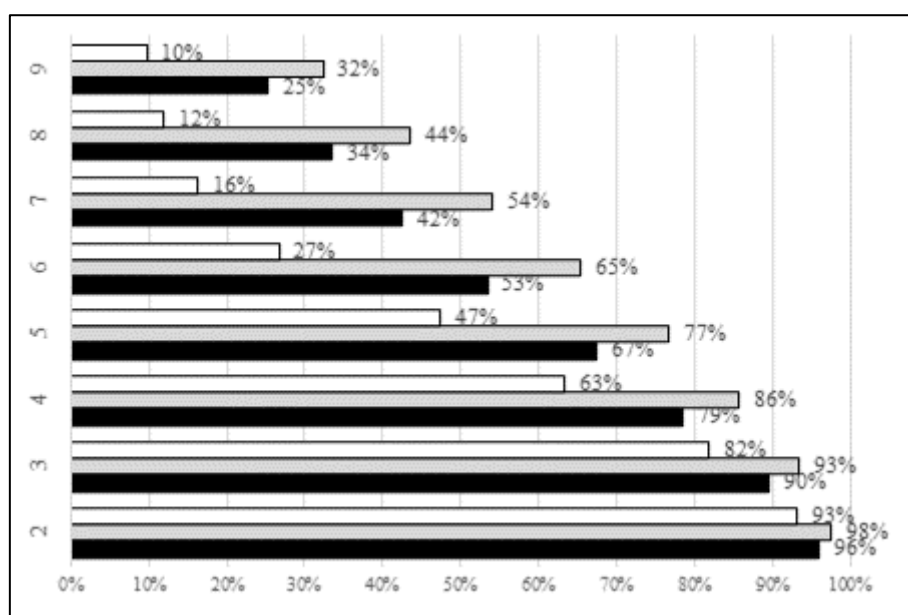
2 Results of research

2.1 Question 1 – an awareness of providers (storage services)

The results showed that the server *uloz.to* (from category 1), which 98% of all respondents know and which is used by almost 60%, has a dominant position¹. The high percentage of a of awareness of other servers (from categories 1, 2, 3 and 4) is quite surprising, in the order of acquaintance (*GoogleDrive, OneDrive, iCloud, Dropbox, Hellspy, Mega.cz, Hellshare* and *Leteckaposta*). However, awareness does not determine usage. The server *Mega.cz* achieves surprising results, even though only 44% of respondents know it, most of them use it (36%). Generally, it became clear that social groups determine the awareness of providers. It is the same (similar) for pupils from the same school, respective of class. The results are different for boys and girls (see Fig. 1, the white row shows girls, the grey row shows boys, and the black row shows all). Boys know and use more providers, girls usually "are more loyal" to one. The possible causes of this fact may be in the structure of the respondents or the lower orientation of the girls with the technology and their reliance on verified sources.

¹ This conclusion about the dominance of the server *uloz.to* in the Czech Republic resulted from other research carried out by the research team. It has approximately 90% market share.

Fig. 1: Percentage of pupils and their awareness of providers



Source: authors

2.2 Question 2 – an awareness and usage of providers for access to multi-media digital content (movies, music etc.)

The server *uloz.to* has a dominant position and 97% of all pupils know about its access to multimedia, and its usage is over 66%. Other significant services are *Spotify* and *GooglePlay* (from category 2, which are responsible for the providing of digital content), which are known by around 90% of pupils and has about 50% usage. It is quite surprising that a high percentage of other servers (from categories 1, 2, 3 and 4) are known as well (*Netflix*, *iTunes*, *SoundCloud*, *HellSpy*, *HellShare*, *Amazon Music*).

Tab. 1: Percentage of pupils and their awareness and usage of providers for access to multi-media digital content

	Known (all)	Used (all)	Known (boys)	Used (boys)	Known (girls)	Used (girls)
Uloz.to	97%	66%	97%	60%	97%	81%
Spotify	91%	53%	92%	56%	90%	47%
GooglePlay	90%	45%	91%	45%	91%	45%
Netflix	80%	26%	82%	25%	75%	26%
iTunes	80%	21%	83%	21%	72%	23%
SoundCloud	60%	20%	69%	25%	49%	9%
HellSpy	52%	9%	61%	10%	34%	8%
Amazon Music	50%	3%	58%	3%	33%	3%
HellShare	46%	3%	54%	4%	22%	1%

Source: authors

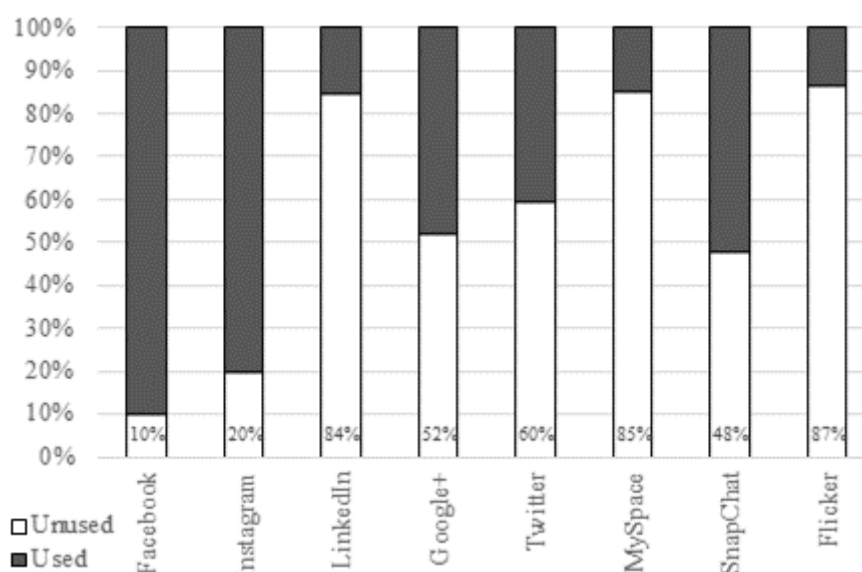
The same information as in the previous question was found. Girls have less knowledge of servers, but if they know them, they use them more. The percentage of pupils and their awareness and usage of providers for access to multi-media digital content described in table 1.

2.3 Question 3 – an awareness and usage of social networks for access to digital content

The survey concluded that *Facebook* has a dominant position, which is used by 90% of all pupils to its access and store of data (see Fig. 2); 57% of pupils use it every day. An important social network in this area is *Instagram*, which is used by around 80% of pupils and most of them daily. The usage of professional social networks, such as *Flicker* or *LinkedIn*, is logically low in this age category. Conclusions on girls' and boys' approaches are analogous as the previous questions. Girls have more use of one dominant social network (*Facebook*), boys have a wider scope.

The domination of *Facebook* is not surprising and Facebook's position, as the most important influencer, is the same around the world (Bene, 2017; Vromen et al., 2016; Fardouly et al., 2015) expect in territories where Facebook is forbidden.

Fig. 2: Percentage of pupils and their usage of social networks for access to digital content



Source: authors

2.4 Question 4 – an awareness and usage of non-media content providers

The research shows that these services are unknown to most pupils. The utilization rate never exceeds 10%. The most popular for downloading electronic books is the server *uloz.to* (from category 1), other official providers and sellers of e-books are not important for pupils in the survey.

Conclusion

The survey among pupils in secondary and primary schools showed that all (>99%) know and use different digital content providers. The fact that 98% of pupils know and >60% admitted to using the server *uloz.to*, which is the dominant player from the category *Hosting services with content search by the public*, has interesting consequences. In this category are providers that allow you to share digital content, but they are not responsible for the content. There it is possible to find copyrighted content for downloading. The responsibility for honouring the copyright of the digital content is up to the uploader of the content. The providers do not check the digital content, they only respond to external stimuli.

The issue of dubious legality of some services is common in a sharing economy. An example is the case of Airbnb as a provider of accommodation services without a guaranteed tax and city tax payment. Another example is Uber, whose drivers are not authorized to operate a taxi, but is essentially a typical taxi service. In addition, the issue of sharing of digital content carries a risk of copyright infringement. A possible way to prevent this is the example of the music industry, where songwriters themselves record their work on servers and clients pay for them at an acceptable monthly fee. Of course, this has changed the business models of the music industry, where most of the artist's income is now generated from concert revenues, not from the sale of music CDs. Nevertheless, the film industry is defending the old model, and so the official offer is limited and it leads to the use of digital content-sharing servers that do not always ensure legality.

It is clear that a number of legal and moral dilemmas will go hand in hand with the development of this sector. Some issues, that have not yet been solved, will have to trigger regulatory or legal measures, as is already being discussed in the implementation of the new Commission recommendation² in Czech laws.

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² The Commission recommendation (EU) 2018/334 of 1 March 2018 on measures to effectively tackle illegal content online sets out new possible obligations in the area of providing hosting services for storage of information provided by various recipients of the service.

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