

BEHAVIORAL ECONOMICS AND CYBER CRIME

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Abstract

This article deals with the problem of cybercrime. The main objective of this piece is to present a proposal of possible solutions to software piracy. To solve the problem, knowledge from the field of behavioral economics will be used, which will be presented in the second chapter of the article. The authors identify the causes of computer piracy and have subsequently concluded that in order to curb piracy, it is key that producers respect the social contract between them and the customers and that they act upon customer's moral consciousness, instead of threatening punishment.

Keywords: Behavioral economics, Computer piracy, Cybercrime, Morale

Introduction

This article deals with the problem of computer crime with a specific focus on computer piracy, including copyright infringement through illegal sharing and distribution of copyrighted content, with particular concentration on the analysis of the situation in the Czech Republic. At present, piracy is gaining in intensity (Tiganoaia2013, Nakashima and Peterson 2014) and presents severe losses to audiovisual and software industries. Its foundations date back to the past, when producers perpetrated mistakes in their practices toward customers, and thus enabled the development of software piracy in its present form.

The main objective of this paper is to present a proposal of possible solutions to software piracy. The main objective will be achieved through component goals. The first component aims to present behavioral economics, including its implications and subsequent application in solving computer piracy. The second component of this article is to identify the causes of software piracy. In the first chapter, the concept of Internet crime will be introduced, with a focus on computer piracy in both the Czech Republic and abroad. The second chapter introduces behavioral economics, which, among other things, deals with market and societal norms and errors in human decision making. For the purpose of this article it is important to present market and societal norms, including their conflict. Furthermore, the moral consciousness of a social contract as a specific form of social norms is analyzed. In the third chapter of the article are identified the causes of software piracy and, subsequently, possible solutions are suggested.

I. Cybercrime

Computer crime has accompanied modern technology since its inception. It is a fairly broad term that includes a wide range of criminal activities whose typical feature is the use of modern technology. This concept is difficult to define, it is a type of "terminus technicus" (Audal and Quincy2008, Carvajal2008, Tiganoaia 2013), similarly to economic crime, within which category belong most computer crimes. Cybercrime includes (Bell 2002) hacking into personal and corporate computers, the dissemination of viruses, theft of personal or

confidential information, the remote control of computers and their use for cyber attacks for the purpose of website termination, child pornography dissemination, or promotion and incitement of hate. In particular, this includes piracy involving violations of copyright law through illegal copying and distribution of programs, music, films and books. Illegal file sharing of copyright files causes owners considerable damage, as well as loss of tax returns.

The Council of Europe (2001) defined "Computer Related Crime" as illegal, immoral and unlawful practices, including the use of, or changes to, the data obtained through computer technology. The convention was subsequently adopted by the Parliament of the Czech Republic in 2013. The debate that took place in the Czech Republic in the nineties was inclined toward the view first published by Smejkal, Sokol, Vlcek (1995), that the term 'cyber crime' is to be understood as criminal activity in which a computer plays a particular role of aggregator of hardware and software, including data, or only some of its components, or else a larger quantity of either individual computers, or those connected to a network, as:

- The subject of this crime, with the exception of crime whose objective is movable assets;
- Or as an instrument of crime.

The term computer piracy has a very broad scope. Simply speaking, it subsumes copying, distribution and use of copyrighted software, movies, music or e-books, without permission of the owner. Currently, we speak of piracy mostly in connection with film and music and computer programs such as film, music and software piracy, while computer games also fall into the category of software piracy. This type of computer crime is gaining in importance. As stated by BSA (2014), in the year 2000 the rate of audiovisual piracy stood at 10%, and currently is climbing up to 65%. Since 1994, when the software piracy rate was 66%, the Czech Republic has managed to reduce its software piracy rate to 31%. In recent years, however, the rate of software piracy is being reduced only very slowly. In 2011, 35% of software was being used illegally in the Czech Republic. Compared to other post-communist countries, the Czech Republic has the lowest rate of software piracy. The situation is even better than in many Western European countries such as France (37%), Italy (47%) or Spain (44%). The average piracy rate in the EU is 33%, globally it is 42%. The lowest piracy rate in terms of the EU can be boasted by Luxembourg (20%), Austria (23%) and Belgium (24%). The lowest global rate of software piracy is then boasted by the United States (19%), Luxembourg (20%) and Japan (21%). According to a study by BSA and IDC, the Czech Republic is among 20 countries with the lowest rate of software piracy. It evinces the thirteenth lowest software piracy rate in the world.

Behavioral economics

Although it may seem so at first, economics is not the science of numbers, charts and forecasts. It is the science of man, because behind every economic process is man. But what influences a man's actions? Is it sufficient for an authority to issue rules, regulations, and laws for man to simply follow them? The essence of human behavior is far more complex and cannot be encompassed within a collection of laws or pigeonholed into theories. Nevertheless, it is important to understand and predict human behavior to a certain extent. This is where behavioral economics lends a helping hand, as it sees behind every process man as he is, not as he should be. It admits that one may, with one's decisions, make mistakes and act irrationally, and it examines the causes of these errors and motives. It utilizes the knowledge of human psychology in its exploration of human behavior. Unlike mainstream economics, which describes fact, behavioral economics seeks to identify the causes and motives of human behavior (Heukelom 2014).

Behavioral economics is one of the economic discourses which calls into question the rationality of participants, and deals with the problem of errors in human decision-making and conflict of market and societal norms. In its essence it examines the kinds of mistakes

people make, how often and what leads them to make these decisions. Behavioral biases (Sussman 1997 Heukelom 2014) and the Dunning-Kruger effect (Dunning and Kruger 1999) devote themselves to these errors more specifically. The issue of mistakes in human decision making will not be discussed further in the article, since it is not relevant to it. The second, and for this article a substantial, issue is addressed which involves the role played by market and social norms in human behavior. Everyone lives in two worlds (Altman 2006). The first is the nice and pleasant world of social norms, where people treat each other well, where help is always available without the requirement of payment. The second world of market norms, on the other hand, is strict and cold. It is a world where one cannot expect anything for free, and where clear rules apply, whose breach is immediately sanctioned. But it has its positives.

The rules are clearly specified, so that the possibility of violation is much smaller. Market rules promote independence and competition that breeds innovation, thereby pushing us forward. A specific area of market norms are also legal standards, which take the form of contracts and laws. These standards interact with each other and sometimes come into conflict. Behavioral economics subsequently examines how this conflict takes place and which party wins in which situation.

Conflict of market and social norms

Social norms have accompanied all forms of social life from the beginning of their formation (Hayek, 1979, Altman 2006). Each group has its own internal organization. This arrangement determines when and who will eat, who will keep watch, who will hunt and many other aspects that help maintain a group and survive. The violation of these norms on the part of an individual may, in some forms of higher-level creatures, lead to expulsion from the group. Social norms are a legacy that we carry with us from the past, and are an integral part of our being. They developed in unison with humans and are a powerful force that can change an entire order. Man attempts to gain these norms under his control with the help of market norms and their specific forms, legal norms. This, however, leads to conflict between them. In history we can find many examples where people, driven by general consensus about the correctness of their actions, overthrow political regimes based on legal standards. We are involved in a system of social norms throughout our lives which are determined by cultural identity and the environment within which we grow and develop. This creates within us a certain sense of the natural order of things, which determines how we act, and determines how we evaluate the actions of others. This sense, created during the course of life, is an integral part of human identity and moral awareness and an effort to go against this sense raises a number of market failures.

But what is this conflict between market and social norms? A distinguished economist working at MIT, Dan Ariely, took up this issue with his colleague James Heyman when they conducted an experiment on students of the university (Heyman and Ariely 2004) Their task was a simple activity. Within a time-frame of five minutes, they had to move a circle into a square displayed on a computer monitor with the help of a mouse. After each successful move the circle disappeared and appeared again at the original location. The task of the participants was to move as many circles as possible. The students were divided into three groups. The first group was rewarded for the activity with five dollars, the second group was given fifty cents as a reward and to the third group of participants, this activity was presented as a friendly request. The first two groups, therefore, were to act according to market norms, as this constituted a paid job. It turned out that both groups modified their efforts according to market rules. The financially better rated group held an average of 159 movements, while the second group, on average, made only 101 movements. Thus the third group was to move less than the others, as the reward was zero, i.e. the lowest of all. However, this group did not act according to market norms, but rather according to societal norms, and therefore did not

compare its performance with money. This group had an average of 168 movements! Social norms were thus revealed as better motivation for job performance than financial rewards.

The authors extended the original experiment further. Instead of financial rewards, they decided to offer gifts of the same value as the original financial award. So the first group was given a gift worth five dollars, specifically an expensive Swiss chocolate and the other group was given as a reward a candy bar from the vending machine for the amount of fifty cents. Participants in the third group were again asked to perform the task as a friendly favor. After evaluation, the first group reached an average of 169 movements, the second 162 and third 167 movements.

That was not all, as the authors carried out a third series of experiments, where the participants were told they would receive chocolates worth five dollars and a candy bar worth fifty cents. In this third series, the individual groups reached similar results as in the first case. What conclusion are we to come to? A small gift can have the same motivational ability as an expensive gift, as they are both interpreted in the context of social norms. Additionally, as the presents were assigned prices, the participants began thinking in terms of market norms and adapted their performance accordingly. So when it comes to motivation to perform, with the help of social norms, it is possible to achieve better performance for lower cost, but when money enters into consideration, people move from areas of social norms to market norms.

Social norms thus play an important role in human society and failure to reflect them may be the cause of various market failures. Although these rules are unwritten, based on an internal sense of the natural order of things, we anticipate what relationships between individuals, but also groups, should look like. At present, however, there is no distortion of the social norms and their replacement by market standards which, admittedly, do not have the ability to create a well-functioning system. No regulations or legal norms will be followed if they are not accepted by the people, if they are not taken as their own. Imagine that you tell a group of your friends that you have downloaded a new film. It is probable that they will ask what movie you downloaded and will download it as well. But if you boast to the same group of friends that you stole your old neighbor's cell phone and wallet, you will receive a negative response. Even though both cases involve an illegal activity, piracy is accepted by society and no one is socially excluded for downloading a film. The relevant authorities are obviously trying to fight against Internet piracy, but without rejection of this activity on the part of society, their efforts will come up empty.

Social norms can take the form of social contracts. These contracts take on an implied form based on an internal sense of the natural order of things. We will analyze one specific example. At present, the Czech Republic is fighting tax evasion. Politicians propose a variety of legislative solutions, which are the subject of inter-party disputes. Over the last twenty years, political parties have come up with many solutions; nevertheless none was particularly effective because it disrupted the social contract between the state and companies. In addition to legal norms, there is also a social contract between state and citizens. This contract can be characterized as follows:

A producer will conduct business according to the law to produce profitable goods, create jobs and pay a part of the profits in the form of taxes to the state. The state, in turn, will allow the producer to seamlessly conduct business and ensure his safety, and apply the money collected in taxes to the performance of its respective functions. This contract is not written, but we all suspect, on the basis of an internal sense of the natural order, that this is the way things should be. The state, unfortunately, does not fulfill its part of the social agreement. The high tax burden means bankruptcy for a number of businesses. Due to the bloated bureaucracy, the lack of transparency of the legal system and far too frequent amendments, the producers are constantly threatened by legal problems. Law enforcement is very poor, so honest businesses do not have sufficient protection. At the end, instead of being

used for the purposes of state functions, the money is siphoned from the system with the help of corruption under the conduct of groups who base their actions on mutual protection and violations of generally applicable principles (Valenčík, Buda et al 2011). Yet the state continues to require performance on the part of the producers/entrepreneurs, who feel a sense of injustice and who try to eliminate this injustice through tax optimization and tax evasion. The State responds by tightening sanctions and regulations which further perpetuates the feelings of injustice on the part of producers and creates additional barriers for smooth operation, which hampers economic growth and causes additional reductions in tax revenue. This is an unfortunate phenomenon of the modern day. Economic growth is achieved, in particular, through innovation, which causes an increase of the production capacity of production factors. Yet this constitutes a very serious situation, which unnecessarily reduces the level of potential output in the country and, in the future, may bring serious problems.

The state should respond as follows:

1. Reduce taxes so that savings from tax evasion become unappealing. People will always be willing to evade taxes if costs, understood as fines or term of imprisonment, are lower than the revenue from their activity.

2. Simplify the system, as for an honest entrepreneur, an unintelligible system signals hidden dangers, and the dishonest will use this complexity to its circumvention.

It is necessary to realize that there will always be those who will try to circumvent the system, even when penalties are greater than any revenue, but taking into account social norms will minimize this behavior.

Moral consciousness

Computer piracy is not only illegal, but also immoral. It constitutes a theft of intellectual property, or of immaterial goods. It is the same as stealing material goods. Yet when sharing a movie or music, people do not feel they are doing something morally wrong. How this phenomenon developed is discussed in the third chapter, but if we want to change this fact, it is necessary to act upon the moral conscience of people. Moral consciousness determines the criteria by which people evaluate their actions. Human morality can be divided into three groups (Heidbring 1997):

1. Morale determined by punishment and obedience: This is the basic level of morality when an individual refrains from engaging in activities that will be punished. This kind of morality is not only particular to mankind, but it is also present in some animal species, such as wolves and primates. In their groups there exists such a thing as, for example, the order in which individual members eat, and if an individual wanted to eat outside this order, he would be punished by the rest of the group.
2. Morality based on hedonism: This is the second level of moral awareness when an individual is motivated in his behavior by reward. For example, obtaining a particular benefit, as well as recognition or praise.
3. Morale based on personal awareness: This is the highest level of morality that is inherent only in some people. An individual who has morale of such a level is able to assess based on his own awareness what is right or wrong, and to act on that basis, regardless of external pressures. This places high demands on intelligence and personal maturity of the individual, so this level cannot be reached by everyone.

To be able to better understand these various levels, we can analyze them through the use of the example of the Nuremberg Laws, which were the persecutory laws aimed against the Jewish minority in Germany and later also in the occupied territories, such as the Protectorate of Bohemia and Moravia. An individual with morality built on the basis of punishment and obedience acted in accordance with these laws, as violations created a threat of severe punishment. An individual with the morality of hedonism did not only comply with

these laws, but also facilitated their enforcement to gain an advantage, or to please the occupying power. This morality is associated particularly with collaborators. Those with the third level of morality violated the laws and hid members of the Jewish population, or helped otherwise, even though they risked punishment, or would receive considerable benefit for turning the Jews in. However, they would abide by other laws. Such people are able to determine for themselves what is right or wrong, and act accordingly. However, this determination must be based on their own moral consciousness, not from external dogma, such as religious rules.

Let us look at one more example. One of the 10 commandments states “you shall not commit adultery”. This rule can be upheld by all three kinds of morality, but the reasons will be different. An individual with the first level of morality will not commit adultery because the revelation of his act would bring him punishment in the form of divorce and moral condemnation from his peer group and in the form of the wrath of God. An individual with the second level of morality will not commit adultery in order to secure the favor of God and a better status in the afterlife. While those with the third level of morality will not commit adultery in order not to hurt his partner and family. As you can see, the same conduct may have different causes. It can be argued then that it makes no difference on what moral principle actions are based, but we must remember that punishment does not necessarily follow whenever we act unlawfully, as we have seen in the above example. Or if people act on the basis of rewards, changing the reward will also change behavior, which makes people more easily impressionable in a covert way. Examples include various charitable organizations, environmental movements, or other generally beneficial organizations, or even political movements. The great majority of its members are members primarily for hedonistic motives and real solutions to problems are suppressed by populist actions aiming to only receive gratitude, not provide solutions to problems. Sometimes there is a deliberate maintenance of problems.

Behavioral economics and computer piracy

As described in the first chapter, piracy presents a significant problem and combating it is very difficult. Computer piracy causes damage on several levels. First of all, it causes harm to the copyright owners, who participated in the creation of the product and bore the costs associated with it. Furthermore, this includes a loss to the state, which loses tax revenue from the amount of unsold products. If piracy did not exist, the sale of multimedia entertainment would be more extensive, and the state could then expect significantly higher tax revenue from the sale of these goods. And lastly consumers themselves are harmed, as piracy reduces producers’ revenue, thereby limiting their production; as producers are less willing to venture into riskier projects, both the scope and quality of production is reduced. Although computer-piracy is fought by a number of organizations in addition to the state, such an example in the Czech Republic would be the Czech Anti-piracy Union or the Stop Piracy project, or international organizations such as Business Software Alliance (BSA), its share continues to grow.

Why is downloading a movie tolerated and accepted by society, but stealing a wallet or cell phone is not? If we find the cause of this phenomenon, we can provide an effective solution. The authors of this article believe that the cause can be found with the aid of behavioral economics. The primary cause can be found in the breach of the social contract between the producer and the customer, specifically on the part of the producers. The term producer encompasses the entire distribution chain. For the purposes of our investigation, it is not important to know which segment of the distribution chain has the greatest share of blame for this phenomenon. It is the perceptions on the part of the customer, not the assignment of

guilt within the distribution chain. The social contract that applies to all distributors and customers can be characterized as follows:

"The customer provides payment and receives in return a product of proportionate quality."

With regards to the sale of DVDs, CDs and computer games, this agreement was violated by the producers. Let us remember when, during the second half of the nineties, the first DVDs became available on the market, their price was unacceptably high. Nowadays movies in the Czech Republic are sold on average for 250 CZK, while at the beginning their price reached up to 1,500 CZK. Unlike videotapes, DVDs did not include Czech dubbing. Let us shy away from the debate whether a movie is better when dubbed, or in its original version; this can be decided by everyone individually. However, the customer should have a choice. The introduction of new technology always bears with it a cost, but even so the prices were vastly inflated, because the way was already paved by CD players. At present, producers think of ever-more crafty marketing practices, undermining the confidence of customers. For example, they first release a cinema-adapted version of a film that customers can buy, but in time they release a new, extended version of the film which the customer must then either re-buy at full price, or come to terms with the fact that he does not have the latest, best version of his favorite movie.

Foreign TV shows have been making their way to this country for several years now. For example, it took four years for the Game of Thrones to be broadcast on Czech television. Music CDs were also very expensive, and the customer had no choice but to buy the entire album, even though he only liked a few songs. As for computer games, customers also often receive poor-quality products. Games are often without localization, without availability of local language, certain collector versions are available only on certain markets and many fans must then suffer a range of difficulties to obtain them. As part of the fight against Internet piracy, further measures are introduced that make use difficult for paying customers, such as the need for a continuous Internet connection, or the requirement to register a product on the manufacturer's page. One can also find unfair marketing practices here. Some companies use their dominant position to push back the release date by several years, or dividing a game that was previously released in its entirety into several parts.

There is little wonder then that the customer feels a sense of injustice. The customer expects high quality products and service for his money. The absence of choice between dubbing and the original version, the inability to buy individual songs, having to wait for years for overseas TV shows to enter the European market, lack of localization of games. Furthermore, unfair marketing practices that the producers have the legal right to use, and do use as the customer does not have an option to substitute their products, gives the customer an understandable right to feel wronged. A breach of the social contract can occur in any industry, but the audio-visual and gaming industry is specific in two ways. First of all, it is specific in that the violation of the social contract occurred throughout the entire industry. In other sectors, the customer has the option to cross over to the competitor, or use a substitute, but in this case, the breach of the social contract, at least in the Czech Republic, concerned all parties. There was no one offering the latest movies at a reasonable price and in a Czech version, or individual songs for a few crowns. Music and movies are part of the socio-cultural life of the people and life without them now is hardly imaginable, that is why customers were willing to buy overpriced products. Secondly, the specificity is provided in the nature of the product, which is noncompetitive and can be, with minimal cost, reproduced and shared. Other goods cannot be so easily reproduced or copied. If a person likes a particular piece of clothing in a window display, he cannot search for it on the internet and download it within an hour from the comfort of home. Modern technology has given customers the opportunity to circumvent distributors who did not treat them according to expectation.

As such, at a time when producers had the dominant position, they created for themselves through their actions a number of dissatisfied customers and themselves laid the foundations for the expansion of computer piracy, which is perceived as the heroic fight of Robin Hood against this victimless crime. For the fight against computer piracy to be effective, it is necessary to restore the social contract between producers and customers. Producers should realize that they must respect the expectations of the customer, not just in terms of content, but also in terms of the method of distribution and provision of business conditions. The fact that the United States has the lowest share of piracy, where certain errors have been eliminated by the distributors, such as time delay, localization and failure of entry into the market, suffices as evidence. In order to restore the social contract, it is necessary to take several steps (the suggestions concern mainly the Czech Republic, however, in our view, they are also applicable elsewhere):

Firstly, and most importantly, it is essential to provide customers with a good quality product within a reasonable time for a reasonable price, so that the customer does not feel cheated, or worse, blackmailed. A common counter-argument is that the localization of games or the acquisition of dubbing is too costly for a small market. However, what is then striking is that what is claimed to be too costly for a multinational company with a turnover of billions of dollars is easily handled by an enthusiast himself, at home within a month. And when this localization is released for free use, thereby supporting the sale of a given game, legal action is taken against the perpetrator. Similarly, this is also the case with TV series, where fans only take a few hours after the airing of the show in the USA to provide subtitles and make the shows available on their servers. It is necessary to note that, over time, the behavior of distributors toward customers is improving, however, it is still not at the ideal stage allowed by modern technology. Distributors are still a step behind those engaging in piracy in the offer of services. For example, the perpetrators of piracy are able to offer shows for viewing within a few hours after they are aired in the USA, while via legal means, it takes years. Today's customer is not willing to wait so long, and thanks to technology he does not have to. The case is similar with movies, which the customer must go and buy at a store, even though pirates now allow its download from the comfort of home. Unless producers respond to this fact, they will never be able to compete with pirates. If it were possible to stream an episode of a TV series on the internet at the time when it is aired on television in the USA, in HD quality with Czech dubbing, customers would be willing to pay the appropriate price. Distributors can then make money on the monthly fees and money from advertising. As for computer games, it is relatively expensive to create localization, as every company provides this feature on its own, which carries significant costs. Currently, partial localization is employed by some companies, especially in games where it is important to understand a certain text, so we can conclude that the creation of localization is not causal for bankruptcy, and so companies only use this to increase their profit. Here, companies can take advantage of outsourcing, or the work of enthusiasts and the resulting localization labeled as unprofessional localization.

The second step is an appeal to the moral consciousness of customers (see Box 2.2) and attempts to establish an empathic connection through marketing campaigns. In the Czech Republic, such a campaign had taken place in the past. It was organized by the Czech Anti-piracy Union. Unfortunately it was ineffective, as violations of the social contract on the part of the distributors continued. Another problem was the form in which this campaign was presented. It had an adversarial character that could be labeled threatening. ("Stealing is illegal!", "Piracy is a crime!") People already know this, and yet piracy continues. This campaign was built to appeal to the first level of moral consciousness; the morale of punishment and obedience. For an appeal to this kind of morality to be effective, it is necessary for an imminent threat of punishment to exist, which in this case seems odd, as no

one will be punished for downloading movies; a jail would have to exist for the entire young generation. The campaign should be conducted in a calm, non-confrontational spirit, as if to act as an attempt at conciliation. Showing piracy not as illegal, but as wrong and immoral. Stop threatening with punishment, and instead show the consequences. Appeal to the morale of self consciousness. People have experience with the theft of material items, but do not come into close contact with the theft of intellectual property, and so they cannot imagine it. It is essential to point out the efforts of those who create movies and TV shows, or of those developing computer games, to point out that due to piracy, some projects are never realized and thus the customers are being cheated of the experience.

It is also important to create the feeling that the customer and producer are on the same side, against perpetrators of piracy. According to research by the Texas neuroscientist David Eagleman, employed at Baylor College of Medicine in Texas, the classification of individuals into groups increases empathy between members of the group and reduces empathy for members of counter-groups. People tend to perceive others in terms of "us" and "them." The assessment of the group "we" is associated with the use of the part of the brain responsible for empathy, while in the assessment of the group "they", this part of the brain is not used. Thus, the human brain is programmed to care for members of one's group, while being indifferent to members of other groups. This is enhanced when the other group stands in opposition. This phenomenon has been used in the past as propaganda, whose aim was to dehumanize a particular group. This explains how ordinary people can collectively commit very brutal crimes, such as the persecution of Jews during World War II, or the genocide in Rwanda. Another observation was brought made by Dr. Tania Singer in her article, where, based on her experiment, she found that the neural response can be influenced by a person's opinion of another. In the experiment, people play a simple game together, where the individual under observation encounters opponents who either cheat or play fair. When the opponents are then subjected to electric shocks, the emotional reaction of the individual under observation to the pain of others varies depending on whether the opponent cheated or played fair. This can be applied to the issue of software piracy. If people feel that they are not treated fairly by distributors, they feel less empathy with their losses due to piracy and are generally more willing to engage in computer piracy.

Conclusion

This article dealt with the issue of cybercrime, with a focus on computer piracy especially in the Czech Republic, which is becoming a serious problem for copyright owners. The article presented the impact of software piracy and quantified its extent. Subsequently, the term behavioral economics was defined, and the conflict between market and social norms was discussed, including the experiment by Daniela Ariely and James Heyman, which proves the existence of social norms and their ability to motivate people to improved work performance, and the impact of the subsequent conflict with market norms. The notion of the social contract is then defined as a specific example of societal norms.

The aim of the first component, the introduction of behavioral economics, was achieved in the second chapter of the article. The achievement of this aim provided the theoretical foundation for the fulfillment of the main objective of this piece. The second component of the article was to identify the causes of computer piracy. The main cause is deemed to be a breach of the social contract by distributors, who abused their dominant position and created within the customers a sense of injustice, which subsequently led to a breach of the social contract on the part of customers and lowered their empathy with the distributors' losses, caused by computer piracy. Technological developments enabled the expansion of computer piracy, which took advantage of customer dissatisfaction, and helped them bypass distributors. This behavior, as a result, was not perceived by society as immoral,

which differentiates this kind of behavior from petty theft. These findings were then used to fulfill the main objective of the piece, the proposal of possible solutions to the problems of computer piracy. This solution was divided into two steps. The first proposed step is to restore the adherence with the social contract on the part of distributors by means of the delivery of quality products on time and at a reasonable price. The second step is an appeal to the moral awareness of customers through marketing campaigns, which should result in the renewal of the social contract on the part of customers. This campaign should take into account efforts to remedy the issue, therefore it must not be presented offensively; attempt to evoke a sense of empathy with the distributors' losses, as could be seen in the study by Dr. David Eagleman and Dr. Tania Singer. By examining the neuroscience behind responses of the human brain, they have shown that people feel more empathy with members of their own group and those persons acting fairly.

In conclusion, it must be mentioned that the proposed solution will not eradicate piracy altogether, as it is already too widespread and deeply embedded, but it will help reduce and mainly prevent further growth. If distributors follow the recommended procedures, it will lead to a rise in their profits and an improvement in customer service.

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