A Review Note of Piracy and Intellectual Property Theft in the Internet Era

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INTRODUCTION

Stealing ideas is not something new, but stealing and transporting ideas in a massive amount has become possible in the era of the Internet, in which this group of incidents emerged rapidly. As Internet offers a wide array of functions, ranging from information distribution, communications, financial and business management, to entertainments, it has quickly become an essential part of contemporary society across country borders. Also, the Internet has evidenced itself as a unique medium with the fastest speed of diffusion in human history. With hundreds of thousand miles of optical fiber that connect servers and mega-storing devices together globally, several terabytes of digital information, as huge as those stored in the U.S. Congress Library, can be easily transferred from one end of the world to the other within minutes (Britz, 2009). In conjunction with widely available Wi-Fi, 3G, and LTE in many areas of the world, it is never this easy for an average user to transmit valuable information in digital format via mobile devices.

The information technology advances with incremental innovation, but business is the instrument that facilitates the widespread of the technology. The mechanism of business determines when to release certain technology, and the nature of business makes it user friendly for the purpose of obtaining a larger market share and a higher level of profit (Felson and Clarke, 1997). While legitimate opportunities are created in the process, some offenders may take advantage. Like many innovations that have a tendency to crime (Merton, 1968), the growing capacity of Internet probably is too good to be true, as it has created new forms of intellectual property (IP). Before further discussing IP and elaborating the victimization of piracy, background of some theoretical frameworks of crime is necessary.

BACKGROUND

Basic Elements of Crime and Socio-Technical Gap

In their theory of crime, Cohen and Felson (1979) point out three elements of a crime incident: a suitable target, a motivated offender, and the absence of capable guardians. A suitable target is something valuable to potential offenders, and the target must be easy enough to be removed. Although crime rate is the highest among young males, motivated offenders can be anybody in the population, if an adequate opportunity is present. The guardians against crime do not necessarily refer to law enforcement. Instead, the owner of the targeted property, friends and neighbors of the property owners serve better roles of capable guardians that discourage potential offenders. In the scenario of burglary, potential perpetrators probably would less likely to choose houses that the owners are present or their friends/neighbors pay attention to. In the business settings, for another example, an office suite's receptionists who watch people entering the office can serve as the role of guardian. In sum, for a crime to occur, the above three elements have to emerge first.

There is little doubt that industry has incentives to make their products lighter, more portable, more convenient, and more added functions and values, but this tendency naturally leads to some unwanted consequences of the products, such as suitable targets to theft. However, the social system (e.g., laws, justice agencies) usually simply reacts to the consequences of technological advancements pushed by industry and business. That is, technology proactively runs at the front, and the social system passively chases behind and (hopefully) fixes problems and challenges. In the era of Internet, the discrepancy between fast-growing

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Internet and information technology and the slow-reacting social system in the virtual space has created a cybergap in which crimes emerged (Huang and Wang, 2009). Explicitly, many more new digital IP are valuable targets with little to no meaningful guardians that trigger motivation of potential offenders in the cyberspace. The following section provides a description of IP theft and piracy. The discussion of IP and piracy in the present article is focused within the arena of those using digital technology, with an intention to chain several major dots of incidents.

IP, IP Theft, and Piracy

The discussion of IP traditionally revolves copyrights, patents, trademarks, and trade secrets. Piracy has been generally defined as "the unauthorized use or reproduction of another's work," and it encompasses any individual or corporation that utilizes intellectual property in a digital form without the authorization of the originator (Filby, 2007). The nature of such behaviors is perceived as illegitimate, with some noticeable variation across different cultures. For example, in some Asian societies, scholarly works are traditionally viewed as public goods contributing to the advancement of the entire society, and the scholars are informally "rewarded" with socially-recognized reputations and their social status. On the other hand, in the United States and many European countries, where the right of tangible or intangible personal property are better defined and protected by laws, such kind of theft has been criminalized.

Properties can be generally divided into tangible and intangible items, and the age-old theft usually involves tangible goods that perpetrators have to physically move away and turn into financial gains. IP theft is different from stealing of physical property in many ways: IP theft implies depriving people of their ideas, inventions, or creative expressions, and thereby this type of asset is intangible. Nevertheless, it is not saying that there is no overlapping between tangible and intangible properties, as IP also requires some kind of medium to load on, to store, or to distribute. For instance, the physical piracy of music – the production and/or distribution of illegally made copies of sound recordings without the consent of the rights proprietor – needs cassettes, discs, USB, hard drives, or other storing media. Within the past two decades, the significant improvement of personal computing devices equipped with large storage capacity inflamed the popularity of digital IP. In addition, the expanding capacity of broadband and wireless technology in conjunction with growing Internet users increases the movement of digitalization. Collectively, the advancement of information technology has dramatically increased the amount of IP in digital format.

Based on the contents, there are two broad camps of highlighted IP: entertainment (music[1], movies, games, TV programming, etc.) and instrumental software, although 'Internet piracy' and 'digital piracy' are the terms used more often in varied news media and public reports. Internet piracy is a somehow broadly used term which generally means that the Internet is employed to distribute unauthorized creative content amongst users[2], and this term is used to generalize any use of creative content on the Internet that infringe on copyright laws (Higgins, 2011). It had been a common myth to some that customers who purchase a legal copy of a music CD or USB believe that they own the music because they bought it in the format of optical disc or portable storage. In fact, the ownership of the recorded music, as a form of IP protected by the copyright laws, belongs to the writers. Consequently, if the purchasers massively multiply the disc/USB or upload the content to computers and share with others via the Internet, they would be committing so-called 'Internet piracy.' In a similar vein, piracy offenders may use the Internet for advertising, offering, acquiring, or distributing of other copyright protected contents.

Naturally, IP theft and piracy are business-threatening issues to the corporations of the ownership, and they can be issues to individuals as well. Intuitively, the pirated copies, which may appear to be legitimate ones, hurt the profit of the producing industry. Counterfeits sound recordings are produced without the required permission of the proprietor and then packaged to bear a resemblance to the original. Another noticeable type of piracy, bootlegs, consist of recording live or broadcast concerts without the consent of the proprietor that are replicated and re-sold. Similar violation may include other forms of performance and artworks. These actions are taken to mislead customers into believing that they are buying an original (and legal) version and supporting the creations.

The other substantial IP subject to today's piracy is instrumental software. Software piracy is commissioned by unlawfully multiplying or distributing of