

## The Irresistible Rise of Porn: The Untold Story of a Global Industry<sup>1</sup>

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### Abstract

This article focuses on the historical roots of pornography in different media. Theoretically, it is built upon the premise that there is a substantial and persistent audience demand for sexually explicit content and that new technologies have helped to overcome traditional hindrances often associated with accessing, producing and distributing this kind of material. We aim to go beyond a simple technological deterministic approach and focus on both user and supply side. The development from early printing to the development of photography and moving pictures in the 19th century and 20th century media innovation developments will be tracked. Cases will be used to demonstrate the ways porn and adult content has been commodified from naughty pictures and stories for few into a global industry that serves mass audiences across a number of media formats. The commodification of pornographic content in mass media formats is also developing earnings logics and business models of its own. The article will draw attention to the consumers' relationship to the market and industry practices that are particular to adult content businesses. Finally, it will illuminate how attitudes, legal and moral issues in relation to the content itself have shifted; making room for development of business practices that reveal important aspects in relation to privacy, marketing strategies, monetary transactions, technological and cross media innovations in a market economy.

### Context and background

Entering the word "sex" in Google returns no less than 619 million hits. Many of these websites contain pornographic content. A search for pictures and movie clips with the image and video search website Altavista returns a somewhat less but also staggering amount of sexual oriented material: four million pictures and 760,000 movie-clips (October 2006). The material ranges from bikini babes to explicit hardcore pornography. And this is only part of the total amount available. Search engines only cover part of the Internet and don't access material stored in databases. Looking for images and movie clips with a general search engine is just window shopping – you have not by far seen all the windows and you have not been inside any shop yet.

It is inescapable that adult content, as the suppliers often call their material, is abundantly available on the Internet – business seems to be flourishing. In search of digital environment business innovations, there are in fact only few success stories with serious earnings models. What seems to be developing are the stock trading and business services to some degree; cross media hybrid combinations of traditional media

<sup>1</sup> An earlier version of this paper was presented at the *7th World Media Economics Conference*, Beijing, 15-19 May 2006.

and digital content in, for example, housing advertising; and online gambling. But by far the one content that has been in the forefront of technological development, sometimes even called a 'killer application', adult content, has been almost totally left outside any serious academic analysis of market driven innovation in new technological environments. Also the role of the user has not been granted full attention. Lately, this has been gathering growing interest, and descriptive accounts have been published in connection to the business side of the adult content (Schlosser, 2005; Andersson, 2006). It is our aim to revisit this largely ignored side of the industry in search of innovative business models while also focusing on users of this content. We thereby acknowledge that audience interest in porn is not new. New media technologies, however, made pornography more accessible for a major part of the audience. Again this is not an exclusive aspect of the Internet, we will therefore also look for the constancies in the relation between the usage of new media and the user.

Pornography until now has received serious and sustained interest in the fields of law (issues of legality), psychology (influence of the content on development), and cultural studies (representations in the content itself), but given very little consideration in studies of media business. While there is a shortage of reliable data on this overlooked area of content business, combined with moral dilemmas because of the nature of the contents itself, adult content is and has previously been such an important driver in important aspects of digital environment development such as the spreading of broadband that the business models should not be ignored but rather be studied critically, also because it could shed some light on the opportunities for and behaviour of users. We don't ignore or deny that there are in fact legal or moral problems associated with adult content itself, but we try not to engage in this discussion in this article.

As stated above, theory on the relation between business models, technology and new media use and development is scarce, McNair (2002) briefly covers the relation but focuses more on cultural aspects, while Johnston (1996) is quite complete in his description of most media developments of the last centuries but his analysis lacks empirical data on most cases and does not cover the developments of the digital area. Shortes (1998) stresses the relation between technology and new electronic media but only covers a niche market for a limited period of time. The work of Lane III (2000), however, is useful because he concentrates on the US-history of porn in the 20<sup>th</sup> century, including the first years of the Internet.

Although we focus in this article on the development of pornography in a historical setting that goes beyond digital media alone, this article would of course not been written if not for digital media. The fact that these media made more porn more available is too obvious to ignore. Many people – mostly men – are actually searching for this kind of content. But also the chance of being involuntary exposed to pornographic material is very likely. E-mail spam messages, pop-ups or banners on webpages can contain porn or links to it, looking for information or just browsing the Internet will result for many users in contact

with adult content, meaning that also minors could get in contact with porn easily. Michell, Finkelhor and Wolak (2003) found that 25% of the representative sample of US adolescents were unwillingly exposed to unwanted sexual material in the six months prior to the interview; searching for information or just surfing the net was the most mentioned moment, opening e-mail or chat messages the second.

The amount of material available, the explicit character of the material, the ease with what it can be accessed and because people are unwillingly exposed, have caused massive public concern (Kuipers, 2006; Peters & Valkenburg, 2006). It could for the same reason also be a subject for academic interest. The main question in this article concerns the relation between emerging or 'new' media in general and the development of pornography, mostly in terms of availability. The Internet is not the only medium that is held responsible for an – alleged – rise in pornography, in the past also cable TV, VCR's, 16mm movies, and magazines have been mentioned in relation to a possible increase in pornographic material.

Media use is better explained by looking at what people actual do with media content than at the possibilities media offer (Katz, Blumler & Gurevitz, 1974; McQuail, 2005: 387-392). Users may want certain content because they seek gratifications, actual use depends also on the existing media system. In many countries pornography was (or still is) illegal or at least socially unacceptable while availability also be a problem. We ask ourselves how developments, inventions, and innovations in media have been used by both users and producers to overcome these hindrances. The differentiation between producers and users is not clear. On the Internet users also add their own texts or pictures online and thereby become producers of content. But also other media like (Polaroid) photography and video-tape offered this possibility.

### **Print**

Tracing the historical roots of porn could end writers and readers way back in time (see Lane III, 2000). The Venus of Willendorf is dated approximately 15,000 to 10,000 BC although this first European erotic find could very well be a symbol of fertility too. Quite a substantial amount of erotic art was discovered when Pompeii and Herculaneum were excavated; Greek pottery was often decorated with erotic scenes, the Kama Sutra is about nothing else than sexual behaviour while in Japan there is also a tradition of erotic painture. We will, however, concentrate on the period of 'mass' media reproduction of sexual explicit material because we are mainly interested in the relation between media developments and the growing amount of sexual material becoming available and being used by at least part of the public.

Book printing is the first 'mass' media use of adult kind of content, although the book-reading public was limited in the 16<sup>th</sup> and 17<sup>th</sup> century. Lynn Hunt's edited volume "*The Invention of Pornography*" (1993)

gives a detailed account of the development of the concepts of pornography and obscenity between 1500 and 1800; it is of course, mostly a history of the regulation and prosecution of books with alleged obscene content. Johnston (1996) goes even further back as he states that written books like Boccaccio's Decamerone (1350-1353) and Chaucers' Canterbury Tales (1387) were already popular because of their 'explicit' content and helped to spread the vernacular in Italy and Britain. Both works were of course printed when this new medium became available. Arentino's Postures (1524), printed sonnets illustrated with gravures depicting different ways of sexual intercourse (I Modi by the Italian artist Raimondi) were circulated in impressive numbers (Laqueur, 2003: 308-09). Although erotic literature has since then always been available (Loth 1961; Hyde, 1964; Kraakman, 1997; Laqueur, 2003), new forms do not seem to have developed until the 20<sup>th</sup> century. But certainly works like Fanny Hill (1748-1749), Marquise de Sade's The 120 Days of Sodom (1784) and Justine (1789), The Pearl (1897), Josefine Mutzenbacher (1906), Lady Chatterley's Lover (1928) and many others, have stirred public attention and the interest of lawmakers and prosecutors. In 1857 the Obscene Publications Act was introduced in the UK, mainly to protect minors (especially young middle class women) against the dangers of 'romantic novels' (Williams, 1989: 12).

What changed was the way of distributing adult content. Distribution by mail developed in the 19<sup>th</sup> century as the most efficient way to surpass customs and police. The Comstock Act (1873) in the US was aimed at preventing the sending of contraceptives and obscene material by mail. The law lasted way into the 20<sup>th</sup> century.

The sixties and seventies of the last century, however, showed a social and moral anti-censorship change and later also changes in law making and law enforcement. This again resulted in a rise in pornographic material and subsequently in reactions from governments. In both the US and the UK investigations by government commissions were extensively reported. Apart from a focus on possible harmful effects, the amount of material and the way of distribution were dealt with in these reports.

In the US the *Report of the Commission on Obscenity and Pornography* (1970) and the *Technical Report of the Commission on Obscenity and Pornography. Vol IV; the Marketplace: Empirical Studies* (1971) are examples of such investigations (see also Cline, 1974) while in the UK *Pornography: The Longford Report* (1970) was published. Both reports still mention magazine mail orders and book clubs as an important way of distributing 'obscene' material. New media forms that developed before the seventies were cheap 'adults only' paperbacks and 'sex pulp' (comic) books in the 1920s and 1930s, these so-called *Tijuana Bibles* (printed in the US) contained sex parodies of regular comics. Also magazines (confession, romance, barbershop and 'sophisticates' like *Playboy*) were introduced before the sexual revolution of the seventies, *Playboy* started in 1953 and became a success almost overnight (Lane III, 2000). Not much is known about the market outside the US or the UK, but Vermeersch (1987) estimates that the market of adult magazines

in a small country like Belgium was at least 200,000 copies a month in 1985. Pulp pocket books were produced at a massive scale in Italy, from 1965 on. More than 30 different series are known, many of them with sometimes more than 200 or 300 different titles. Each series had its own theme, like westerns, vampire, gangster, secret agent, Nazi, inter-racial, middle ages, science fiction etc. Translations were published in Spain, France, the Netherlands and Poland.

### **Photography and film**

Photography and film were used from their infancy on for adult content. Early photography (Daguerreotypes) was often pornographic (Johnston, 1996; Lane III, 2000) while also movies with adult content found their way to the public quite early (O'Connor, 2000; Griffiths, 2000). Private viewing machines like the Mutoscopes and the Kinetoscopes dated from the end of the 19<sup>th</sup> century. From the beginning, 'girlie' movies were available, famous in this respect was "*What the butler saw*", a short movie with a woman partly undressing. When new formats were developed, for instance stereo photography, adult pictures were soon made available. The new 'home-friendly' formats like 16 and 8mm, were helped significantly by adult content. Williams (1989) describes the Kinsey collection of so-called stag films, the total collection counts 1200 films, the earliest dating from ±1910. Most of them consist of one single reel black and white film, with no sound and no longer than 10 to 15 minutes (Lane III: 46-48).

Williams (1989) sees the transition from stag movies to the full-length feature films of the seventies through three sub-genres. The first is the cheap soft-core exploitation movie from the 1950s and 1960s, Russ Meyer's works may serve as an example. The second is the emerging beaver-movies that were first shown in peep-show arcades and sold by mail-order but later moved to larger public screens. These movies showed female genitalia but no penetration of any sort and were shown in public. The third genre is the 'educational' documentary, with 'social importance'. These genres tested the legal system and cleared the way for feature films. The public of these new forms was considerably bigger than that of the under-the-counter stag movies. The first documentaries mentioned here were about Denmark, a country where in the seventies a full grown adult content movie industry developed after legalizing pornography, with feature films (Jensen, 2006) but also including 16 and 8mm films and viewmaster stereo pictures.

In the US and Europe arcades movie booths (successors of Edison's Kinetoscope) operated until the seventies, viewers were shown a short clip of a woman undressing and had to insert a new coin for every scene, after 10 to 12 scenes the whole movie was completed. In San Francisco it was estimated that yearly revenues of \$24 million were realized by these operators (*Technical Report of the Commission on Obscenity and Pornography. Vol IV; the Marketplace: Empirical Studies* 1971). The size of the UK-market, were film

reels and slides formed a substantial share of the total adult industry, was estimated to be "several hundreds million pounds" (*Pornography: The Longford Report* 1972: 34).

Feature-length adult content films emerged quickly in the seventies, the most striking example being *Deep Throat* (1972), a movie made for \$25,000 that realized revenues of at least \$100 million (Williams, 1989; Baudry, 1997; Lane III, 2000). *Deep Throat* clearly is the beginning of a new era in the history of pornography. It more-or-less moved porn into the "entertainment mainstream" (Williams, 1989: 120). More than thirty years later the adult movie industry is still an important sector with their own conventions, trade magazines, and prizes, although much of the content seems to have shifted to DVD, the Internet and digital (pay) TV-channels.

Revenues in general seem to have risen sharply in the sixties and seventies, estimates from \$500 million a year to 2.5 billion (Hyde, 1964; Loth, 1961; *Report of the Commission on Obscenity and Pornography*, 1972) are often found, although it is difficult to get reliable sources for these data. Cline (1974) estimated that \$60 million to \$70m a year was made from 'sexploitation' movies, \$70 million to \$90 million in publishing, and \$12 million to \$14 million in mail order in the first half of the seventies. In Europe the adult industry around 1970 was estimated to be between \$30m and \$270m (*Technical Report of the Commission on Obscenity and Pornography. Vol IV; the Marketplace: Empirical Studies*, 1971). These figures indicate that estimates were based on very uncertain and perhaps even dubious sources, although the fact that huge revenues were realized, is somehow inescapable.

### **Video, DVD and satellite TV**

The best known example of the influence of adult content on media technology use before the Internet is probably the introduction of VHS and the failure of Betamax. Although this example is very often mentioned, reliable empirical documentation is still pretty hard to find. The VHS format developed by JVC in 1976, probably took the lead over Betamax (1975 by Sony) because of the longer playing time although the image quality was in fact inferior. Betamax could only contain one hour of video because its main use was time shifting of TV-programs according to Sony. For this reason (adult) film producers favoured the VHS format, which caused this format being preferred by the public. Also an anti-porn policy by Sony prevented the development of adult content on Betamax tapes (Johnston, 1996; Griffiths, 2000; Arlidge, 2002; McNair, 2002; Schwartz, 2004; Shortes, 1998). Video also opened up the entrepreneur and amateur market because production costs of making movies dropped significantly, particularly with the introduction of Sony's camcorder in 1983 (Lane III, 2000).

When video was complemented and partly replaced by CD-roms and DVD, adult content went along. Digital formats had great advantages because skipping, finding and repeating scenes was easier while individual use on a computer is also likely to be preferred by most users. According to Berkowitz (2005), 11,000 new adult DVD titles are published each year, the new format Blue-ray is preferred by big companies, because of the extra possibilities (Johnson, 1996; Griffith, 2000).

The relation between the development of cable and satellite TV and paid models within these areas is also often mentioned (Arlidge, 2002). In France for instance, the fact that Canal+ began to broadcast weekly X-films much added to their subscription base (Baudry, 1997) while cable TV in the US used adult content (HBO in 1979) for marketing (Johnston, 1996). McPherson (1999) states that satellite TV with 'adult content' was among the first programs to enter this market in the UK. When transmission was possible in one country, it was difficult (but not impossible) to ban broadcasting in other EU-countries. The first UK-channel was the Manchester based Red Hot Dutch (1992). The British government banned five programs in the 1990ties but this resulted often in launching under a different name, and having viewers buy new subscriptions. During the 1990s at least twelve different channels were active in the UK. Subscription base is said to be between 12,000 and 40,000 for individual channels. Access was either through a special decoder or by using a card for a general decoder. The development of interactive TV and text-TV services are very much linked to adult content (Arlidge, 2002). In some western European countries like the Netherlands, Germany and Italy, 'soft' adult content was used by new commercial broadcasters to gain a substantial audience share in the beginning.

Although adult content seems to be very much 'visual', also audio services developed. Premium paid phone lines and audio-text services like 0898 chat-lines in the UK, 1-900 USA numbers and 900 phone numbers in the Netherlands were for a substantial part filled with adult content (Sutherland, 1995; Johnson, 1996; Lane III, 2000; Wenckebach, 2005).

Before turning to the Internet, a curious example of pre-Internet illustrates the strong relation between technology and porn. The French Minitel was introduced in the seventies – a text-based information system over traditional phone lines with a small monitor and a keyboard for each user. Two unexpected uses developed: the *messagerie conviviale* allowed users themselves to place information on the system while sex based services called *messagerie rose* strongly developed, 5000 people were soon employed by these services, while it added considerably to the revenues of France Telecom (Sutherland, 1995; Kessler, 1995; Johnson, 1996; Rheingold, 1998).

### **The Internet**

The medium nowadays mostly associated with porn is no doubt the Internet. Here also, the size of the market, the supply of services and the amount of people using these services are often only the result of educated guesswork. In either way, figures seem to be substantial. Aho Williamson (2000) estimated the size of the online adult US market between \$175 million and \$1 billion a year, Schwartz (2004) mentions \$2 billion revenues for 2003, the same figure is mentioned in Wood (2005). Lane III (2000) states that the whole adult industry has a yearly turnover of \$10 billion at least with websites contributing \$1 to \$2 billion to that. Arlidge (2002) states that UK online profits were \$1.86 million in 2001. Wenckebach (2005) values the total (worldwide) online adult content on \$12 billion a year.

For individual businesses, these figures mean in general that selling adult content on the Internet is a real possibility for making money. Bakker (2006) states that the only profitable webcasters in the Netherlands are B2B webcasters and adult content providers, while ISP's have very much profited from the rising demand for online adult content.

The size of the online adult content market (websites and other services like IRC chat channels, newsgroups, games, MUD's, etc.) is also a mystery. There were 260 million commercial porn sites in 2003 against 14 million in 1998 according to a Dutch study (Meerkerk, Lalan, & Van den Eijnden, 2003). The Online Computer Library Centre counted 80,000 UK adult websites in 2001, while Bodelier (2005) estimates that there is a daily increase of 20,000 Internet pages with adult content worldwide; the sources for these figures are however not clear at all. Also it is not clear what should be accounted, there is also sexual explicit material in e-mails and message systems (Michell, Finkelhor & Wolak, 2003; Hagman, 2005). Another often-neglected issue is the use of peer-to-peer networks for adult content. Although the majority of the files available consist of music, most bandwidth is used for pornographic movies. Clips are put online by owners of web pages that are devoted to adult content to attract more visitors (Bakker, 2005).

Although much of the adult content on the Internet is new produced, with digital techniques and global travel increasingly lowering productions costs, other content moved from traditional, mostly printed, media to the digital format. Telling example is Playboy magazine, now with a word-wide circulation of 4.5 million, but having a circulation of more than 7 million in 1972. After the seventies circulation declined, not only because of other titles entering the market but also because of other media formats. As a reaction Playboy also entered other markets like video/DVD, pay-TV, Internet and mobile phone, in the last market by licensing pictures and movie clips from its huge database.

Chow-White (2006: 886) describes how sex-tourism moved from the printed to the digital world: "While images of sex workers have primarily been disseminated through informal networks of mail-order travel guides, magazines and videotapes, the internet has become an increasingly important tool for the global



diffusion of information. Since the mid 1990s, websites have popped up in the internet galaxy as key sites of commercial and information exchange in the development of the sex tourism industry."

Arlidge (2002) mentions that 'sex' and 'porn' were the most used search terms on the Internet, and other data collaborate these observations. According to Fitzgerald (2004), Nielsen Netratings data reveals that 70% of Internet surfing young men visit adult websites at least once a month. Meerkerk, Lalan and Van den Eijnden (2003) state that one in ten Dutch Internet users (690,000) has paid for online sex. In Britain 23% of the Internet users that move to broadband do that because of the availability of adult online content according to a research by British IPS Homecall (Orlowski 2004). A survey on 745 Dutch adolescents (13-18), revealed that 71% of the male and 40% of the female adolescents have been exposed to some kind of sexual explicit material in the last six months. Fast broadband Internet connection users have been significantly more exposed (Peter & Valkenburg, 2006).

Billing is done by credit card, Paypal, check or mobile phone. This last possibility at least suggest a certain level of anonymity for the user. In the Netherlands and other European countries users dial a number with a mobile phone, and submit the received code on the website with the desired content, which is showed as long as the mobile phone line is open, a model that looks very much like the one used in movie arcades in the seventies.

A crucial question when it comes to adult online business models, is whether the market is dominated by corporations like *Playboy* and facilitated by cable operators, ISP's, and credit card companies or whether mid-sized and even smaller entrepreneurs have a substantial share of the digital porn-pie. Again, there is hardly any reliable data on this subject, also because most firm prefer to fly under the radar and don't participate in industry-wide page-count projects. Also it is not clear where services are based, IP-addresses might be located in South Sea Islands, Eastern Europe or Latin America while the owners are in the US or western Europe. From the work of Lane III (2000), however, it can be detected that there is at least a major part of mid-size firms active in this area. There is no sign of any monopoly while also smaller firms or even private persons operate websites with adult content.

### **Portable video devices**

Within 20 days after the launch of the video iPod on October 12, 2005, manufacturing firm Apple announced that it sold more than 1 million music videos and TV shows at \$1.99 each. Apart from these videos, also free audio and video shows (so-called podcasts) can be played on the new video iPod and with iTunes software on any computer. Podcasts are sometimes of a 'explicit' nature like Ms. Kitka's weekly video podcast "featuring sex news and sexy interviews" or Open Source Sex by 'sex-educator' Violet Blue.

Both podcasts can be subscribed to for free in the iTunes Music Store and were in the top 20 downloads within a month. Podcasts, however, can also be subscribed to and downloaded from any other website. One of the most successful ventures in this area is the Suicidegirls website (suicidegirls.com) which offers a weekly 'adult' movie clip. Within 24 hours and with a minimal of marketing (but a maximum of free publicity) 500,000 clips were downloaded from the website, after three days a million downloads were recorded, thereby dwarfing Apple's million paid movies in 20 days (Kahney, 2005). Suicide Girls is by no means the only 'explicit content' provider. Services like Freepornforpods, Povpod.com and search engine Guba became active within a few weeks after the launch of the video iPod.

Also the PlayStation Portable (PSP) by Sony introduced in 2004, was game for the adult content industry. Within six months after its introduction there were already twice as many films as games available for the PSP, with adult content leading the way. Sony announced that it found these developments 'utterly undesirable' but also said that it could do nothing to prevent it because UMD was open for any producer to use it (Gamespot.co, 2005; NforceHQ, 2005; Regan, 2005). The attraction of the portable devices for adult content probably has to do with the level of privacy and anonymity, the availability of free content, the usability of the device and because downloading is easy (Morford, 2005). Sexually oriented computer games, however, were already introduced in 1982 for the Atari computer, and since then there has been a steady developing industry (Lane III, 2000: 54-62).

The new generation 3G phones are expected to generate huge revenues because of adult content. Because of high-resolution screens, video playback capabilities, and the fact that users are already used to paying for mobile services, these services are expected to attract users. Firms like VirginXtras (part of the Virgin mobile phone group), Private Media Group, PocketJoy, Porn Bible, WAP Sex and Erotico are expecting substantial revenues from mobile adult content (Arligde 2002; Ward 2005; Taylor 2003). Estimates for this market differ but are substantial in any way (Regan, 2005; Chosun.com, 2005; Wood, 2005; *Mobile Adult Content* 2005 – 2009, 2005; Taylor, 2003).

### ***Innovation***

Christensen distinguishes two different types of innovations (1997; Christensen et al. 2001). Sustainable innovations improve the performance of existing, established products and services for mainstream valued customers. This innovation is most typical of large, well established businesses. They are technological superior and often also more expensive but they usually don't expand the customer base. Disruptive innovations, however, involve new products and services without an established customer base. These innovations do not perform as well, or are not as valued in the mainstream markets but have other features customers might value. Disruptive innovations are often inferior in quality, but also less expensive or easier

to access for users, thereby in fact expanding the customer base. This innovation is more likely to be developed in small firms that drive for hungry earnings models in developing technological markets. In our reading, adult content business models have indeed employed business models of disruptive innovation nature. Pulp paperbacks are from a qualitative point of view inferior to hard cover books but cheaper and 'good enough' for many users; 8mm film is technological inferior to feature films but opened up a new market; porn on a tiny cell phone screen is inferior compared to PC screens but accessible almost everywhere, thereby expanding customer base.

### ***Use, distribution & production***

In the dialectical relation between the persistent and substantial demand for sexual explicit material and the hindrances to produce, distribute and use this material, we identify eight different although related hindrances. Overcoming or circumventing these hindrances have shaped the way in which pornography has become available and in fact is used, produced and distributed.

First of all, a substantial part of adult content is or was *illegal*. Possession can lead to prosecution. Laws and regulations on obscenity and decency vary over time and between countries (Sutter, 2000; Lane III, 2000), but in every country there were and are restrictions on the kind of adult material that can be produced, distributed or possessed. From the beginning of printing, 'obscene' materials were prosecuted (Hunt, 1993; Laqueur, 2003). Lawmaking and prosecution became more strict in the course of the 19<sup>th</sup> century. The introduction of cheaper and faster printing techniques, the mail order 'industry' and the expansion of the reading public were no doubt contributing factors – Lane III (2000:11-18) sees an emerging "pornography industry" in the middle of the 19<sup>th</sup> century and an parallel development in stricter lawmaking. It should be noted however, that not everything prosecuted was pornography in a strict sense, also material concerning birth control fell within this category. After World War II the legal system in some countries seemed to relax, if not in actual lawmaking, at least in what was prosecuted (Williams, 1989) - the Supreme Court's decision in 1957 in *Roth v. United States* for instance opened up the legal market for adult material (Lane III, 2000). An important landmark in Europe was reached when Denmark made pornography legal in 1969, subsequently other countries, first in western Europe, followed suit. In Denmark this resulted in changes in the adult content 'industry': "First, small previously illicit producers of pornography moved production and distribution aboveground and were able to secure mainstream theatrical releases" (Jensen, 2006: 17). In the digital area there seems to be a reversal of this trend, mainly in the US, although some attempts – like the Communications Decency Act – never made it into legislation (Li, 2000). According to Kuipers (2006) cyberporn is very regulated compared to other internet content. Child pornography is banned everywhere – according to US law it involves anyone under 18 - while

homosexual pornography (sodomy), bestiality, or sexual behaviour involving violent behaviour (bondage, rape scenes) are illegal in many countries; in the US laws may even vary from state to state. Prosecution, however, except in cases of child pornography, is not very likely in the digital age, while the international character of the Internet also makes law enforcement difficult. A common reaction to rising regulation is self-censorship, self-regulation (age checks) and the introduction of blocking or filtering software (Kuipers, 2006). Law is not the only issue. Many European countries for instance (first Italy, later in France, Spain, the Netherlands, Poland) saw a flood of cheap, very sexual-oriented pulp comic books, beginning already in the sixties when there were no signs of changing laws anywhere.

Related are moral and social issues. Even if material is legal, possession and use may be viewed with suspicion (Jensen, 2006). Social and moral objections may prevent people from buying, accessing or using adult content, even if it is available and legal. Moral changes tend to precede legal ones. Jensen (2006) points out how in Denmark, before the actual change of the law in 1969, the opposition against censorship was massive which led to an increase in production of movies with sexual themes. These moral objections, however, often prevented the same people that opposed censorship from visiting theatres where this material was shown.

Both legal and moral hindrances affect users and producers, legal issues would certainly prevent major firms from entering this market. In the digital era, however, things are more complex. Although producing is considered 'not done' by most major firms, without the actual cooperation of credit card companies and banks, hardware and software suppliers, ISP's, cable and phone companies, the whole trade would be impossible. Although these firms are in most cases not actively involved in producing porn, they certainly make money by distributing it or making production possible (Lane III, 2000).

A third problem is that it could be difficult to actually get hold of adult content. Particularly before the Internet-era, practical problems concerning physical possession could be quite substantial. Supermarkets and bookshops normally did not stock adult material. At least until the seventies adult content was only available in certain quarters in metropolitan areas or could be acquired through mail order. After legalizing pornography in western Europe, erotic shops begun their businesses also in major shopping areas whereas magazine racks in bookshops, supermarkets or petrol stations also contain a substantial amount of adult-oriented material.

Related is the problem of distribution. Until the digital era, in areas where pornography was still illegal, the only way to circumvent official censors was mail order. Distribution via satellite or cable channel (pay TV) was a major step because physical distribution was made redundant. The Internet, however, changed distribution dramatically. Porn is now only a few mouse clicks away.

For filmmakers, photographers, writers and printers, production involved many dangers in the pre-digital area. Producing porn involved third parties, the risk of getting caught was quite substantial. Digital techniques have changed the industry dramatically. Third parties (printers, studio's, developing services) could be avoided, also because digital techniques resulted in lower production costs, and thirdly because digitalization made reproduction easy, content could be used endlessly. Lastly, as been stated above, the distinction between producers and users is beginning to fade in the digital age although there were also earlier signs of this development.

Disruptive innovation does not result in superior but in 'good enough' products, produced at lower *costs* for a new audience. Porn is a textbook example in this respect. The emerging low-cost printing facilities in the first half of the 20<sup>th</sup> century made cheap pulp paperback printing possible; VCR's made movies available at relatively low prices while the Internet opened up a free porn market.

The last two issues deal with anonymity and privacy. *Anonymity* refers to the fact whether users can be traced when purchasing or using porn. Users of adult content will probably try to maintain a high level of anonymity. Even when there are no legal problems, moral and social issues will be important enough. Buying adult content in shops or through mail order is potential visible and traceable, the same goes for movie or theatre visits. Anonymity is at least suggested when using new media like cable TV, videotapes and the Internet.

Privacy is related to actual use. Privacy could be a problem when users visit movie theatres or sex-shops. Adult content, when purchased, can be consumed in the privacy of the home although there still may be problems because of storing the material. The advance of 'private' media like the Internet and mobile carriers can therefore be seen as the removal of yet another hindrance.

In the digital area many hindrances have been removed or are not felt as problems. Even if laws still forbid some kinds of pornography, prosecution is not very likely because of the international character of the Internet. The problem of possession and distribution almost seemed to have vanished in the digital area. Adult content is freely and abundantly available on almost any platform, easy to find and even hard to avoid - distribution is easy, fast and cheap (or free). Possession (storing) sexual content is easy but certainly not carefree, there are many examples of people being prosecuted or shamed because their discarded or damaged computers contained porn. When a Dutch firm bought several hundreds used hard drives it found out that 70% still contained porn. Customs officers, mainly in the US, have a reputation of inspecting hard drives of laptops, searching for (child) pornography. Usage and producing is easier and less inexpensive in the digital area, also making do-it-yourself products possible. Porn is not expensive on the Internet, in many instances it is free.

Anonymity and privacy present us with a more complex problem. Many users experience the Internet as a medium with high levels of anonymity and privacy, and probably also act as if anonymity and privacy are secured – in that respect Lane III (2000: xvi) speaks about “potential privacy”. But in fact users can be traced by their IP number, pictures and movies stay on hard drives caches, while downloading content can result in placing spy ware on a computer. What has happened in the digital age, is that many hindrances are at least not felt as being there, although some of them are still working, sometimes even stronger than before, the privacy issue is probably the best example of this paradox. Social and moral issues, however, could be an exception, even if porn is legal and has entered the mainstream media environment, actual usage could still be considered as socially unacceptable.

### **Conclusion**

On an empirical level, the notion that adult content is present in many media and from an early stage on, that it sometimes contributes to the adaptation of new media forms and that it now forms a substantial market, is inescapable. Also, this content has succeeded in creating its own niches or channels. Each media innovation created more possibilities to use this content although some media forms, mainly printed forms (magazines), seem to have shrunk in size.

On a more theoretical level, adult content business models are in many – but not all - cases a good example of a ‘disruptive technology’ (Christiansen, 1997), that is not driving on developing a market but rather seeking to take advantage of new technological breakthroughs and emergence of new markets for converging content. Business models in adult content combine and utilise low production costs, high media convergence, intrusive marketing methods, and developing new markets when they are still in early stages of development. There is no evidence of adult content being media specific or developing technologies of its own for sustaining development of a market. Rather, it finds low end technological and business opportunities, particularly in situations when market-breaking new technologies are arriving. There are two dominant business models in adult content merge. Both of these have historical roots. Adult content business models follow a nomadic fashion moving to new developing technologies and markets, leaving more developed markets to other content and media format business models. This business model is evident in digital, Internet and mobile technology developments but can also be seen as a historical pattern. In this paper, we have outlined numerous examples of business models in merging new technological innovations that have only recently developed and are under much innovative activity. However, this pattern seems to be recurring in our historical review of adult content business models. In fact, it seems a particular feature of adult content.

Another well established adult content business strategy is to develop very low cost business models that survive fading technologies market place. This can be seen particularly in the premium phone line markets where the technology is slowly moving to the past, and most other forms of content have moved elsewhere. The adult contents aggressive pricing models in dying or recessive markets prevents content development because of its cost. In such markets content is provided with very little cost or no cost, for example, providing just a platform for customers own content production.

From a users perspective, new media developments did make porn cheaper, easier to get hold on, more mobile, more private and easier to store. From a producers perspective new digital and portable techniques that bypassed third parties made production easier while also more user-produced content became available. Some issues, especially privacy and anonymity still remain puzzling. New media in fact suggest privacy and anonymity and thereby stimulate use, but in fact offer less privacy and anonymity than older media forms.

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