

DATA BASE LEGISLATION IN THE DIGITAL AGE:
BALANCING THE PUBLIC GOOD AND THE OWNERS' RIGHTS

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Abstract of the Dissertation

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This dissertation is a study of the impact of federal legislative proposals considered between 1997 and 2004 that offer protection to databases. It investigates the effect that the proposals had on the balance between the economic interests of owners and the right of the public to unfettered access to information.

This identified legislation included proposed amendments to copyright law and laws that were proposed to specifically protect databases via misappropriation or unfair trade practices. The legislative proposals originated in the U.S House of Representatives, Committee on the Judiciary and Commerce Committee.

The study identifies approaches to protection proposed by different constituent groups. For this work, witnesses testifying at Congressional hearings are categorized and associations are made between these categories and positions on the bills, views of the issue, and potential solutions are presented. The testimonies are analyzed by extracting the witnesses' descriptions of the issue, the source of the issue and recommended policy solutions. In addition, descriptions of the public good are also identified and presented.

The study concludes that the legislative proposals introduced by the Judiciary Committees, if passed into law, may have influenced the balance by increasing the protection provided by law to the commercial database industry. The legislative proposals introduced by the Commerce Committees were less restrictive and less likely to impact the balance.

The witnesses were found to represent a variety of interests, including commerce, education and research, professionals, and Congress. An alignment of views among the commercial organizations that re-compile databases and education and research organizations was identified. Producers of databases were consistently in favor of strong protection legislation. The education and research organization,

as well as the database re-compilers, consistently opposed strong protection. Evidence did not support the conventional wisdom that legislative modifications protecting databases was the purview of the information industry, and consequently, protected the interests of these organizations.

Those arguing for strong protection claimed that society benefits from a strong database market, both economically and socially. Those opposing strong protection argued for the benefits of unfettered access to information. Both claimed their position benefited the public good.

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PROBLEM STATEMENT

The electronic information age has brought debates centered on intellectual property rights into the purview of Congressional legislation and policy. Much of it has arisen around data protection. In the interest of a democratic society a new emphasis has focused on the longstanding debate between balancing the public good with owners' rights. This dissertation is concerned with that debate. Questions arose about the potential impact of federal legislative proposals that offer protection to databases and the related legislative processes that surround their consideration. Differing opinions developed about the effect the proposals would have on the balance between the rights of the public to unfettered access to information and the rights of database owners to the fruits of their labor.

During the years from 1997 to 2004 legislative proposals were introduced into Congress that may have led to an increase in the level of protection provided to owners of databases. The legislation of interest to this study included modifications to United States copyright law (referred to as copyright law in this paper) effecting intellectual property rights and other new or modified federal legislation that would directly impact access to databases. These proposals were

largely a reaction to the new computer and communications technologies that provided the public with an unprecedented ability to copy and distribute works while providing producers with a similarly powerful ability to control consumers' access to their works. While these new digital technologies may require an updating of laws to assure continued economic feasibility for the database industry, they also demanded an exercise in caution to assure that these legal changes did not stifle the sharing of information. These legal changes also have the potential to increase the ability of industries to use technology to enforce access controls that limit access¹.

Literature suggests that copyright law modifications have traditionally been the purview of the information industry, and consequently, copyright law has protected the interests of these organizations (Peterson, 1993, Litman, 1996, Litman, 2001).

¹ The impact of digitization and internet communications on copyright law was reported in the 1986 study by the Office of Technology Assessment (OTA) (U.S. Congress, 1986) and the 1995 *Report of the Working Group on Intellectual Property Rights* (United States Information Infrastructure Task Force Working Group on Intellectual Property Rights), referred to as the White Paper. The OTA study (p. 25) observes that "copyright is the area of intellectual property law that will be most affected by advances in communication and information technologies as well as being the area of the law that the creators, developers, producers, and distributors of new information technologies are looking to in their efforts to gain legislative protection for their works".

In order to determine whether this was more than conventional wisdom, the political environment in which the legislation was developed as well as the status of this traditional industry dominance needed review to determine the facts and learn whether their interests would support or limit access to information.

The process of discussing, modifying and finalizing the proposed bills demanded systematic perusal to better understand the intention of the legislation and the influences brought to bear on the language of the bills. The question remained: Is the information industry dominance evident and has it had an impact on the balance between the rights of these owners and the public interest in a free-flow of information?

The literature informs us that traditionally national information policy was directed by the information industry (Peterson, 1993, Litman, 1996, Litman, 2001). Litman and Peterson find that the United States has moved from an era of iron triangles, where corporate money was a primary influence in legislation, to an era where interest groups, representing more popular and public interests, have had a significant impact on policy making. The early 20th century, Peterson suggests, was an era when Congress, the

administration and strong business interests combined to establish national policy, a political environment referred to as "Iron Triangles" (Peterson, 1993). These triangles represented a closed system, a political environment that channeled public comment through its members.

More recently, the political process has become more representative with a growth in participation by a broader range of organizations (Cigler and Lewis, 1998, Gais, 1984, Peterson, 1993). These political iron triangles began to weaken as a result of Congressional reforms beginning in the 1970's. These reforms included requiring the election of committee chairpersons, setting term limits for committee leadership, establishing standing sub-committees with their own budgets and staff, implementing sunshine laws requiring open committee meetings, and campaign reform with accompanying emergence of Political Action Committees (Loomis & Cigler, 1998, Peterson, 1993).

But there is little evidence indicating whether the group of witnesses called to testify before Congressional Committees on database protection issues was information industry dominated or if the debate was more representative. Literature also suggests that if

industry is aligned in its efforts to accomplish policy change, the chance of success is greater than if there is no alignment (Marin, 1991). As a result, an examination of the witness lists and the position of witnesses within categories is part of determining if there was alignment of interests within witness categories or among categories.

Another group offering information on this topic was members of congressional committee staff and interest group staff. Data gathered from them would help to clarify the process of selecting those who testified on behalf of, or in opposition to, each bill presented. It would also aid in understanding the influence the testimonies had on the development of the legislation. Again a dearth of data captured from these two groups was encountered. No accurate picture can be drawn about the potential impact of legislative proposals unless this information is collected and analyzed as part of a systematic study of legislation and the effect it could have on the balance between the rights of database owners and the rights of the public.

LIMITATIONS OF STUDY

This paper was limited to consideration of copyright law and misappropriation legislative proposals, proposed between 1997 and 2004, that directly and specifically provide, or propose to provide, protection for databases. This is not a general study of copyright law, but is limited to these database protection proposals. Proposal HR 2652: Collections of Information Antipiracy Act, introduced in 1997, was selected as a starting point for review of legislation because it is the first bill that was not part of developing legislation to conform to the European Directive on Databases, and it was not a part of the Digital Millennium Copyright Act. This proposal represents a starting point of independent consideration of database protection in the United States. The Digital Millennium Copyright Act (DMCA), designed to update copyright law to address the digital environment, was passed in October of 1998, but the provisions specifically related to database protection were excluded.

Protection for databases exists on the federal level under the broader umbrella of several other laws; none are a part of this study. They are part of the environment under which the specific database bills were introduced, but are not the attempt at policy change that is

of interest in this paper. Some examples include: copyright law, especially with the Digital Millennium Copyright Act of 1998 amendment, the Computer Fraud and Abuse Act, rules of the Federal Trade Commission and the Federal Commerce Commission. Proposals for a Uniform Computer Information Transaction Act would have provided protection for database owners, but the model law was never accepted.

There have been many revisions of copyright law during the period of this study that are not specifically related to database protection, and are therefore not considered in this study. The agendas of the Congressional Record for the years between 1997 and 2007 lists 155 proposals to amend copyright and related laws in the time. The categories of these copyright legislation proposals included: Databases, Comprehensive (coverage or protection for all works), Entertainment, Enforcement, Security Devices, Royalties, Licensing, Jurisdiction (State or Federal), Orphaned Works, Fair Use, Satellites, Education, International, and Miscellaneous.

Patent and trade secret laws are part of the intellectual property laws that protect ideas, as does copyright law. However these laws are only indirectly related to database protection and no revisions have

been proposed. Therefore, this study does not include trade secrets or patent law proposals.

The judicial process and case law are not included. While these can be significant influences on the balance by providing interpretation of legislation, two factors have indicated the exclusion of a case law review at this time. First, there are currently major legislative proposals that may change the approach to legal protection for databases still under consideration and a judicial review analysis may be premature. Second, a study of the case law with regard to database protection since the *Feist* decision in 1991 was completed in 1999 (Warwick, 1999). In her study of federal case law decided after the *Feist* decision and before January 1, 1998, Warwick finds that of 74 decisions regarding compilations, 34 of which were factual compilations, only 5 were found where it "could be conclusively stated that the work in question received less protection under copyright than it would have prior to the *Feist* decision, with a lesser degree of protection a possibility in 6 additional cases."(Warwick, 1999, p. iii). This Warwick study indicated that in the years from 1992 through 1998, case law did not support a need for additional legal protection for databases.

This dissertation does examine the legislative process for four years beyond the Warwick study, but in this time frame no additional database protection laws were passed. While there were no new database protection laws enacted, case law continued to develop. This study includes a discussion of the major cases through 2004 in order to provide a description of the legal environment. However, none of these cases considers new database legislation, as there was none, and therefore, case law is not being considered as a part of this research.

Additionally, this study examined only national debates. Certainly, any information policies of the United States are not isolationist; the nation is participating in international treaties defining the treatment of intellectual property, and database products are being distributed in an international market place. Clearly the World Intellectual Property Organization (WIPO) treaties, the Trade Related Aspects of Intellectual Property Treaty (TRIPS), the General Agreement on Tariffs and Trade (GATT), the Berne Convention, and associated debates are important. However, that the United States has rejected the European Union's approach to database protection justifies exclusion of testimonies regarding the European Directive on Database Protection at this time.

This study is not an examination of the impact of technology on society, or even generally on the law. It does not consider the potential or real social, economic, ethnic, religious, or other implications of technology in general, but only the potential or real impact of the specific technologies used in accessing or distributing databases on the desired balance between owners' interests and public access to databases.

The protection studied in this paper does not extend to issues of privacy, national security, or other issues that may be related to the nature of the information contained in a database. This study examines legal and technological protections for databases and the limits on those protections that would be required to assure a continued free-flow of information.

DEFINITIONS

Defining the Database Concept:

A database initially appears to be an easy concept to define; one pictures a table of numeric or alphabetic data items, arranged in some tabular format, and having an index. A database may be thought of as a "comprehensive collection of related data organized for convenient access, generally in a computer" (Webster's Encyclopedic Unabridged Dictionary, 1996). However, in the digital world, where songs and visual images can be sampled and stored as files of data items, or where literary works, once digitized become files of data items, a database becomes a more sophisticated entity, and defining it a more difficult problem.

Some recent definitions include describing databases as "literary, artistic, musical or other collections of works or collections of other material such as texts, sounds, images, numbers, facts, and data or other materials which are systematically or methodically arranged and can be individually accessed" (European Union Database Directive, 17).

In defining databases in legislative proposal, the definition of the U.S. House Judiciary Committee has chosen to use the term "collection of information" rather than database, and has defined a collection to be:

Information that has been collected and has been organized for the purpose of bringing discrete items of information together in one place or through one source so that users may access them. The term does not include an individual work which, taken as a whole, is a work of narrative literary prose, but may include a collection of such works (H.R. 354: Collections of Information Antipiracy Act, § 1401).

This same legislative proposal defines information as:

"...facts, data, works of authorship, or any other intangible material capable of being collected and organized in a systematic way" (H.R. 354: Collections of Information Antipiracy Act, § 1401).

This digital world definition recognizes that a database could be a collection of literary or artistic works as well as scientific, business or other information items. A database may be an organized, digitized collection of songs, paintings, stories, or, more traditionally, names and addresses, consumer buying data, airline flight listings, or theatre listings.

The Commerce Committee of the House of Representatives has adopted a similar view of a database in drafting of H.R. the Consumer Access to Information Act of 1998, Title 1: Commerce in Duplicated

Databases Prohibited. In this proposed legislation, a database is defined as:

"a collection of a large number of discrete data items that have been collected and organized in a single place, or in such a way as to be accessible through a single source, through investment of substantial monetary or other resources, for the purpose of providing access to those discrete items of information by users of the database. However, a discrete section of a database that contains multiple discrete items of information may also be treated as a database." (H.R. 1858: Consumer and Investor Access to Information Act, §101).

This same legislation defines information as:

" facts, data, or any other intangible material capable of being collected and organized in a systematic way, with the exception of works of authorship within the meaning of section 102 of title 17, United States Code." (H.R. 1858, §101).

This exclusion of works of authorship would make a protected database more consistent with the more traditional view of a database as a collection of discrete items. Under this Commerce Committee legislation, a protected database could consist of a directory of consumer information or a collection of chemicals products for agriculture, but not a collection of songs, paintings, or stories. Songs, stories and paintings are works of authorship. For this study a database is considered a collection of information and follows the two similar federal definitions.

Defining the Database Industry:

In the commercial world, databases are valuable both in an internal, business operations sense, as well as in an external, marketable sense. Internally, databases are essential resources used to monitor costs and income, investigate potential markets, and develop products. For example, companies collect information about customer purchasing patterns, a collection process that we commonly participate in by completing an application for and using club cards at stores. Organization and analysis of this purchasing data provides valuable information for sales and marketing as well as production and delivery of products. For example, Intuit provides a system called QuickBase which allows a company to collect data from the web and integrate it with data gathered internally, then use its integrated analysis tools to provide sales and marketing support for the users (Quickbase.intuit.com). Similarly, census data, which is a database that includes items like family income, education levels, ethnicity, age and gender, can be combined with company historical purchasing data to establish the probability of success of a certain type of store in a given location.

The databases industry produces and markets database products for commercial application as well as for popular consumer use. In this study, the organizations that develop and market databases for

use primarily by commercial organizations and referred to as database producers. Businesses also create databases that are commonly used by consumers, frequently these products are derived from other similar products available to the public; the producers of this type of product are referred to in this study as re-compilers. For example, commercial directories are marketed and distributed by many companies; some of the more common include *Lawyers Diary and Manual*, published by Skinder-Strauss Associates, a directory of courts, judges, government agencies and lawyers. The Thomas Corporation publishes *POISINDEX*, a comprehensive listing of toxicological information, and the popular *Register of American Manufacturers*, a directory of companies categorized by product and services. The *Physician Masterfile*, produced by the American Medical Association, consists of physician demographic information (H. R. 2652, testimony of Paul Warren). Other databases include the *Doane Agricultural Almanac*, providing climate, soil, chemical data; *Television and Cable Fact Book*, produced by Warren Publishing, profiling US Cable, broadcast and related businesses (H. R. 2652, testimony of Paul Warren).

A well-known database, used primarily by lawyers and scholars, is the *Lexis-Nexis* database, which provides information on law and

news (Lexisnexis.com). The legal database contains annotated texts of federal statutes, the Constitution, administrative regulations; law journal articles, and other reports designed to facilitate legal research. The news section of this database provides access to newspaper articles organized by a wide variety of topics. *West Law* contains information for use in legal research that is very similar to the *Lexis* product (Westlaw.com).

There are databases that are in the public domain², products that are not copyright protected and may be used by either the general public or commercial firms. For example, scientists and educators commonly share research findings via databases, making them freely available to the public. Also, databases created by the government, or by institutions with government funding, are also generally free to the public. Examples provided in the testimonies analyzed in this study include *PubMed*, a medical information index database designed for general public use, *GenBank*, a human genome database, and the *AIDSDRUG*, information of drugs being tested for use against HIV, or the *Mechanical Engineering Handbook* (H. R. 2652, 1997, testimony of Robert Ledley).

² The public domain includes works that are not covered by Copyright, including those for which the copyright term has expired, all facts, government works, etc.

Databases are increasingly seen to have an emerging public market value-- a marketable commodity in the general consumer marketplace (1995 *Report of the Working Group on Intellectual Property Rights*, United States Information Infrastructure Task Force Working Group on Intellectual Property Rights). Whether one uses on-line directories, collections of health, hobby, travel, or weather information, or a variety of other available products, the public has come to use and expect free access to database products. While the public is currently enjoying access to many databases without cost, the producers of these database products recognize this growing private use, and are increasingly seeing this use as a new market. Many database producers are already implementing schemes that provide a basic, no cost product with additional information made available at a cost. Examples include the *Wall Street Journal* (www.wsj.com) and the *New York Times* (www.nytimes.com); both have a brief information service available for free, but require a paid subscription for the comprehensive editions of their products.

Defining the Concept of Protection:

The protection of databases that is addressed in this study is defined as the protection of the investment, either effort or financial, made in developing, maintaining, and distributing a database. This

protection can be preventative, provided by technology; or this protection can be prohibitive and punitive, provided by law.

Prevention of access, copying or extraction of information from a database can be controlled by a variety of computer security tools available today, most commonly by software systems called Digital Rights Management systems. Protection provided by law prohibits some forms of copying or extraction, and imposes penalties for violations or infringement.

Defining the Owners and the Owner's Interests:

Ownership is not a simple concept and ownership of databases is further complicated by the flexible or temporary nature of databases as the contents are updated or changed, as well as by the complex structure of databases. A database generally includes computer software to facilitate access and organization of the elements of the collection, software that protects the collection from unauthorized use or modification, and facts as integral elements. These three separate elements of a database product may have separate owners, and the ownership of the compound product may not be easily determined.

Computer software in databases provides the searching, organizing and displaying, and more recently, the contract management functions of the database product. These programs, which may be protected by copyright law, are frequently created and owned by individuals other than those who developed the database product as a whole. Also, facts are essential, fundamental elements in a database; but facts generally belong to the public and do not represent any private financial interest. The database product is a result of the collection and organization of the facts, and design and incorporation of the software into that collection. The database owner may then be the "aggregator" of the elements. Alternatively, a database may have several "stakeholders", or individuals who have a financial interest in the product. For the purposes of this study, the owner of a database will refer to the entity or entities that have the contractual rights to the database product as a whole.

LITERATURE REVIEW: INFORMATION ACCESS

Databases are arrangements of information—the basic elements of knowledge and the right of the public to unfettered access to information is a fundamental principle of our democratic society. Since databases are collections of information that are organized in unique and varying ways, protection of databases is an important element in maintenance of the open access to information. Laws and policies that impact this access are important parts of a national information policy. While the traditional legal protection for databases is provided by copyright law, national policies that supplement law are important parts of the issue of information access. The concept of universal access and the evolving digital divide are significant elements in our information policy, which tries to protect open, equal access to information—contained in databases or otherwise.

Variations in levels of information attainment and use are referred to as information gaps, and the information gap in the digitally connected world between the information rich and the information poor is commonly referred to as the “Digital Divide” (Muir and Oppenheimer, 2001). In reviewing literature regarding access to

information, the benefits and difficulties of achieving the concept of universal access are discussed.

Universal access had focused on providing physical access to communication services without restraint due to geographic location or economic situation. Historically, telecommunications policy in the United States emphasized the importance of providing communication facilities to all citizens, regardless of geographic location, financial resources or disabilities. The goal of such a policy, as set forth in the Telecommunications Act of 1996, is:

"to make available, so far as possible, to all the people of the United States without discrimination on the basis of race, color, religion, national origin, or sex a rapid, efficient, nationwide, and worldwide wire and radio communication service with adequate facilities at reasonable charges." (Telecommunications Act of 1996, Pub. LA. No. 104-104, 110 Stat. 56 (1996).

Discussions of universal access acknowledge the importance of content as well as physical accessibility. Universal access is concerned with an environment where all people, regardless of their economic status have the same quality and quantity of information available to them (Muir, 2002).

Among the champions of universal access to information is the American Library Association, which, in its discussions of how to serve

the public interest, declares its commitment to providing "equal, ready and equitable access to information, in all formats, to all people" (Finks, 1989). Similar ideals are expressed in regulating radio licensing. The FCC's goal is to regulate in the "public interest, convenience and necessity". Toward this end the FCC has published a "Public Interest Standard" that establishes criteria for licensing only stations that would provide a benefit to the public and that are necessary to the public interest (Krasnow & Goodman, 1998). These criteria show a concern for universal access. For example, the 1960 Programming and Policy Statement of the FCC includes items such as: programs for children, religious programs, public affairs programs, political, agricultural, news, weather, market, and sports programs, service to minorities, entertainment programs (Krasnow & Goodman, 1998).

Generally the digital connection is through the Internet, or Information and Communications Technologies (ICT), and studies find that the digital divide is related not only to ownership of ICT, but also to the ability to effectively use the technology (Wei & Hindman, 2011). Scholars argue that the diffusion of the information technologies will not necessarily solve the inequity of information access and use. The technology is of value only if people have enough knowledge to take

advantage of the information provided, if the information being provided is consistent with the information needs of the group, and if that information and the associated technology are appropriately presented (Mitchell, 2002, Cawkel, 2001, Jung et al, 2001).

Sewlyn (2006), recognizing that having access to information technology does not imply use of that technology, investigates who is excluded from computer use and why this is occurring. Sewlyn concludes that the use or non-use of information technology varies with individual social environments and that it will continue to vary as society changes.

The digital divide is found to be related to income or wealth—both on international and national levels. Scholars have identified some factors that affect the level of information access attained by people, concluding that higher educational, economic, and social achievement have resulted in increased information attainment (Hindman, 2000; Perkins and Neumayer, 2011). Studies of the information divide have found the divide to exist along income levels (Attewell, 2001), locale (Lenhart, et al, 2003), age (Loges et al, 2001), and race (Attewell, 2001). The existence of a digital divide between

the young and old has also been documented (Loges et al., 2001; Hindman, 2000).

As reported in the *Wall Street Journal* in 2002, a Casey Foundation study indicated a persistent and wide gap in access to information technology among households in the United States. Where household incomes are at least \$75,000, 95% have access to computers and 63% have access to the Internet. Households with income up to \$15,000 have computer access in only 33% of the homes and Internet access in only 14%. Significantly lower percentages of access for blacks and Hispanic groups as compared to white groups were found, and among suburban, rural and urban households (*Wall Street Journal*, 5 July, 2002).

Studies by the Pew Research group of internet use between 1995 and 2011 confirm that differences in information access exist relative to age, education level and household income (Goldfarb, 2008; Zichuhr, 2012). And, in a Pew Institute study of the demographics of American adult Internet Users in 2012, differences in use were identified in age, race/ethnicity, household income, and education level (Pew Internet Summer Tracking Survey (pewinternet.org/static-pages/trend-data-adults)).

The degree of development of a nation is also an indicator of inequality in computer use (Gulati & Yates, 2012). There is evidence of a digital divide between industrialized and developing countries and a fear of a widening of this divide as technology continues its uneven and rapid diffusion (Campbell, 2001; Cawkell, 2001; Skuse, 2000).

Literature disagrees on the status of information gaps and the digital divide. Commentators cited by Gunkel (2003) claim that the divide has disappeared; these are primarily newspaper editorials claiming that the divide is a myth, political hyperbole, bunk or just non-existent (Gunkel, 2003, p. 500). Strover (2003) discusses the change in national policy "where the phase 'digital divide' is now on the sidelines" (Strover, 2003, p. 275). Strover summarizes a series of government and business funding programs for technology that have expanded access, but that, she claims, have helped to change the problem from simply one of access to information to one of effective use of information and technology. Strover also identifies a change in national policy approach from one emphasizing social inequality to one emphasizing marketplace reasoning (Strover, p. 275).

The possibility of reducing the information gaps is an incentive to emphasize continued protection of universal access. Copyright law, in its general protection of works and its fair use provisions, has traditionally sought to protect the free and open access to information and plays an integral part in protecting the public good expressed in the concept of universal access (Bitton, 2006, Osenga, 2009). Support for equal access to information is also found in the Telecommunications Act of 1996. This Act, in section 254: Universal Services provides for subsidization of universal access where "quality services should be available at just, reasonable, and affordable rates" (Telecommunications Act of 1996, Pub. LA. No. 104-104, 110 Stat. 56 1996).

LITERATURE REVIEW: LEGAL PROTECTION OF DATABASES

Traditional theory in the field has pointed us in the direction of copyright as the primary protector for literary and informational works. The copyright clause of the U. S. Constitution provides protection for intellectual property by granting Congress the power “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”. (U. S. Constitution, 1.8.8)

Accordingly, Congress has enacted intellectual property laws, including copyright, trade secrets, and patent laws, to fulfill this constitutional mandate. These intellectual property laws, in general, grant creators or owners of works limited monopolies for or control of use of their creations. Copyright law prohibits unauthorized copying of works, but balances that restriction with its Fair Use provisions, and strives to protect the growth of ideas. Trade secrets laws prohibits the copying of information that is undisclosed, and patent laws protect inventions allowing inventors time, currently 20 years, to reap rewards of their products before the invention is passed into the public domain.

Copyright laws are designed to maintain a balance between the competing interests of the public welfare and the accumulation of corporate wealth (Lasing, 2012; Kemp, 2010). This balance is between the public's interest in access to information and the right of the creators to the proceeds of their works. As stated by Lasing (2012, p. 617):

“The classic juridical philosophy of intellectual property law is based on an idea of balance between the economic monopoly granted to right owners and the cultural and human rights of all citizens of access to knowledge.”

This protection assumes a theory that communicated ideas spawn other, new ideas, thus furthering progress, and that progress in the arts and science is essential to the progress of the nation and the society. Assuming that this progress is dependent on the ability of the creators to make a living from their works, intellectual property laws provide economic, artistic and authentication protections for authors and creators by granting them exclusive rights to copy, distribute, display, and perform their works and derivatives of these works (17 U.S.C., §106).

In discussing these intellectual property laws, scholars focus primarily on copyright. Patent law is excluded from the discussion as most information products do not qualify for protection under this law,

and trade secrets law protects only those databases that are kept confidential, and so they are largely not part of the debate on how to best protect databases while assuring adequate public access (Osenga, 2009; Goldstein, 1994).

Scholars emphasize the role of the idea/expression dichotomy of copyright in preventing facts and ideas from being restricted while at the same time allowing the creative elements of a database to be protected (Osenga, 2009, Bittton, 2011, Davidson, 2007). Assurances of unfettered access to information is codified in the Copyright Act where it states that “in no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle or discovery...”(U.S.C. 17, §102(b)). Osenga also points out that it is this idea/expression dichotomy that ensures that copyright remains consistent with the requirement of the First Amendment that information be generally free (Osenga, 2009, p. 5).

Copyright law protects authors by granting them a limited monopoly in the copying, performance, display, and distribution of their works; it provides specific protections for the efforts of various types of authors, composers or artists, using a wide variety of media.

The Fair Use doctrine is an important exception to this protection. The Fair Use doctrine excludes certain educational, parody, and news uses from the monopoly, stating that such uses should be transformative and not infringing on the rights of the copyright holder. The criteria for determining if a use is fair are fourfold: the nature of the work, the amount of the work copied, the nature of the use, and the impact the use has on the market for the work (17 U.S.C. § 107). While fair use is meant to protect information access and encourage the spread of ideas, it can also be seen as a threat to the protections provided by the general intent of copyright in that overuse of this exception could reduce the ability of owners to rely on copyright (Osenga, 2009).

United States Copyright law has traditionally protected databases by acknowledging originality and creativity as well as the value of the effort and investments required in developing these works. The industrious collect approach rewarded producers for effort and investment while the creativity emphasized originality and enhancement of the public domain (Newell, 2011). Historically, both creativity and industrious collection doctrines have been applied in defense of protection for databases. Scholars observe that after the Copyright Act of 1976, the industrious collection defense was in decline and that the applicability of this sweat of the brow concept in

determining eligibility for copyright protection was dealt a final blow by the 1991 by the Supreme Court *Feist* decision (Newell, 2011; Bitton, 2011; Yu, 2010). The loss of the industrious collection as a defense did not result in predictable or stable treatment of factual compilations (Bitton, 2011). However, case law since this decision has consistently rejected the industrious collection defense in the text of the decisions (Newell, 2011). In this non-industrious environment and as result of the *Feist* decision, a “thin” copyright protection where the creativity threshold is very low has developed (Newell, 2011). And, the decline of this doctrine may be an indication that the courts recognized the inapplicability of ‘sweat of the brow’ to modern digital databases (Bitton, 2011).

In 1991, *Feist v Rural Telephone Company* (499 U.S. 340), a telephone directory published by Rural Telephone Company, Inc. was copied and enhanced by Feist Publications, Inc., and Rural Telephone sued for protection under copyright law. In its decision, the U. S. Supreme Court ruled in favor of Feist, stating that Rural Telephone’s directory contained no element of creativity and was therefore, not protected by copyright. In this decision, the court reasserted the constitutional basis of copyright law, “originality is a constitutional requirement” (111 S. Ct. 1282; 1991 U.S. LEXIS 1856).

Case law since this *Feist* decision demonstrates that copyright protection for databases has continued, finding that originality or creativity can still be found in the selection and arrangement of data within a database. In her study of federal case law decided after the *Feist* decision and before January 1, 1998, Warwick finds that of 74 decisions regarding compilations, 34 of which were factual compilations, only 5 were found where it "could be conclusively stated that the work in question received less protection under copyright than it would have prior to the *Feist* decision, with a lesser degree of protection a possibility in 6 additional cases."(Warwick, 1999, p. iii).

While uniqueness of the arrangement of elements in a database has been the most common basis for claims of creativity, the decision in the *Corsearch v. Thomson & Thomson* case demonstrates the court's willingness to recognize creativity even if the users do the arranging. In this case, trademark information was supplemented with a system of codes and assembled into a digital database. The court found that the database was copyrightable since it "offered sufficient evidence of its selection, coordination, enhancement and programming of the state trademark data, as well as other contributions that establish the originality and requisite creativity, and thus...."(792 F. Supp. 305 S.D.N.Y. 1992).

Not all cases since *Feist* have been decided in favor of the database owners. A frequently cited example of a digital database that did not receive copyright protection is the cable service area directory produced by Warren Publishing Company. In this case, *Warren Publishing, Inc. v. Microdos Data Corporation* (115 F. 3rd 1509 (11 Cir 1997)), the publisher sued Microdos for copying sections of its directory. The court decided that the Warren directory itself did not qualify for copyright protection, and therefore, Microdos's copying of it did not constitute infringement.

One of the earliest compilation cases decided after *Feist*, *Key Publishing Inc. v. Chinatown Today Publishing Enterprises, Inc.* (942F 2d 509, 1991), recognized that the original database, a business directory published for New York City's Chinese-American community, did qualify for copyright protection. However, the court also decided that the copying done by *Chinatown Today* was not infringement since only facts had been copied. The organization of *Chinatown Today's* directory was significantly different from the original Key directory, and therefore, did not pass the "substantial similarity" standard applied by *Feist*.

Copyright law went through a major revision process during the 1980's and 1990's, culminating in the Digital Millennium Copyright Act of 1998. The intent of this act was to adjust copyright to the 'Digital Age' and to conform to the requirements of the World Intellectual Property Organization (WIPO) and treaties that the U.S. signed in 1996 (ALA.org/advocacy/copyright/dmca). Databases were originally considered in the development of the DMCA. However, after years of discussion, Congress was not able to agree on an approach to database protection. Consequently, database legislation was removed from the final versions of this bill and separate bills were proposed.

The major provisions of the DMCA that are of concern to libraries are:

- sets limitations on copyright infringement liability for online service providers (OSPs)
- expands an existing exemption for making copies of computer programs
- provides a significant updating of the rules and procedures regarding archival preservation
- mandates a study of distance education activities in networked environments
- imposes rules prohibiting the circumvention of technological protection measures
- mandates a study of the effects of anti-circumvention protection rules on the "first sale" doctrine
(<http://www.ala.org/advocacy/copyright/dmca>)

The provisions of the DMCA prohibiting the circumvention of copy protection methods and the alteration or removal of copyright management information have become an important part of the database protection issue as they outlaw the avoidance or disabling of protecting technologies placed on database products. This, in effect, significantly limits the study of encryption methods, and seriously threatens any application of the fair use of protected databases. In 2002, new bills were discussed or introduced in Congress effectively proposing to extend the anti-circumvention provisions of the Digital Millennium Copyright Act by requiring computers connected to a network to conform to either industry or government specified security standards, which would include 'anti-copying' technologies (S. 2048, 1998). The House also considered a bill, (Limitation on Liability for Protection of Copyrighted Works on Peer-To-Peer Networks, H.R. 5211, 2002), to limit the liability of copyright owners who use technology to stop piracy on peer-to-peer networks. New legislation was also introduced to protect the rights of consumers from technological invasions in the digital environment (Digital Choice and Freedom Act, H.R. 5522, 2002, and Digital Media Consumers' Rights Act, H.R. 5544, 2002).

While copyright is the traditional protection for databases, alternative legal protections for databases are available. One alternative law is misappropriation law. The basis of misappropriation claims is in laws that protect fair trade practices, in particular, taking or using another person's property for profit, but without permission, consideration, or a contract. These are state laws and there is no consistency among the states.

Trade secrets laws, which are state laws and not federal laws, guided by the Uniform Trade Secrets Act (USTA), protect secrets against theft. Both can be applied to database protection: trade secrets and unfair competition would protect encryption and other encoding algorithms from misappropriation and theft and patent law would protect physical devices used to protect databases. Provisions of trade secret laws can be used to prosecute those who copy and/or break through technological protections attached to digital databases, asserting that these protection technologies are trade secrets. The implementation of the Digital Millennium Copyright Act has provided an alternative route for protection of works in the anti-circumvention section (17 U.S.C. §1201) which prohibits circumventing the security system attached to works, including databases.

The Commerce Clause of the Constitution gives Congress the power to regulate commerce with foreign nations, and among the several States, and with the Indian Tribes (U. S. Constitution, 1.8.3). Interpretations of the purpose of this clause have been stated repeatedly, and while different statements address specific aspects of the regulations, the general goal is to assure minimal governmental interference in the market, uniformity of regulation, and a free and open market. As stated by the U. S. Supreme Court in *Pennsylvania v. West Virginia*, the intent of the Commerce clause is:

“to protect commercial intercourse from invidious restraints, to prevent interference through conflicting or hostile state laws, and to insure uniformity in regulation.” (1923 262 US 553 67 L Ed 1117)

Under the umbrella of free and open trade, consumer protection and contract laws have been implemented on both the state and federal levels that further a concept of fair trade. There are two competing models for law that would provide protection for databases: a strict property model and a misappropriation model. In the strict property model, information products would be treated under the law like tangible goods. However, information products are unlike tangible goods in some very fundamental ways; they are non-consumable, non-exclusive, and have a low marginal cost of reproduction (Hettinger, 1989, p. 34-35). For example, copying of an intellectual property

work does not expend or exhaust the original work, it does not deprive the owner of possession of that item, and several people can simultaneously possess the work without interference or restricting the use of that work (Hettinger, 1989).

Since trade in the database market is often accomplished through licensing rather than a transfer of title or ownership, contract laws have become essential in understanding the protections being provided to both the database owners and the consumers (Osenga, 2009, p. 9).

For several years, since early in the 1990's, Congress has been debating amendments to the Uniform Commercial Code, a code that establishes a standard for commercial contracts. Unfortunately, widespread opposition at the federal level has not yet been resolved and, as an alternate approach, the U. S. National Conference of Commissioners on Uniform State Laws (NCCUSL) has developed a model for a proposed state law, called the Uniform Computer Information Transaction Act (UCITA). This proposed model law, commonly referred to as "a cyberspace commercial statute", is designed to create a uniform commercial contracts law for digital products, a code to regulate transactions involving computer software,

multimedia products, computer data and databases, on-line information, and such products (CPSR.Org/program/UCITA, 2002). Among the more popularly recognized impacts of this model law would be that it would validate “shrink-wrap” or “click-wrap” licenses. These are licenses to use a product that are accepted by the act of opening the wrapping or clicking on an “I agree” button on a web page.

While all states have considered some form of UCITA, only two states, Maryland and Virginia, have passed UCITA legislation (ALA.org/UCITA, 2003). Most states have elected to not proceed with UCITA legislation at this time because of widespread opposition to UCITA, based on concerns for protection of consumer rights. At the end of 2001, the extensive opposition had resulted in reconsideration of the model by NCCUSL and efforts to continue implementing UCITA were temporarily suspended pending the outcome of an evaluation of UCITA by the American Bar Association (McManes, 2001). In addition to not enacting UCITA legislation, some states have passed laws protecting their citizens from the UCITA laws of other states (ALA.org/UCITA, 2003). In some situations, the originators of a computer information license may elect to have the license contract subject to the laws of another state—possibly either Maryland or Virginia where UCITA laws have been implemented (ALA.org/UCITA,

2003). Because they feel this option to take advantage of existing UCITA laws may harm the rights of their citizens as consumers, Iowa, North Carolina and West Virginia have enacted "bomb shell legislation" prohibiting this option to specify the governing state laws (ALA.org/UCITA, 2003).

Opponents of UCITA express concern that this law would allow owners to disable computer software during contract disputes, which would harm the consumer not only by the potential damages lack of use could create, but also by invading the consumer's privacy. UCITA prohibits reverse engineering of computer programs, thus reducing opportunities for scientific research as well as competitive competition and new product development (CPSR.org/program/UCITA, 2002). This proposed law could ban unfavorable reviews of computer software, and it would remove liability from software vendors who sell defective digital information products.

As the above discussion indicates, the status of legal protection of databases shows that copyright continues to be effective, and several alternatives are being employed. Scholars question, in light of the legal and technological protections available, if there is a need for additional legislation. A leading scholar in the field, Samuelson

(1998), argues against the need for additional legislation. Samuelson observes that few database owners have had difficulty getting protection under copyright law since most have been able to demonstrate some degree of originality in the relationship and/or presentation of the data. Warwick (1999), in her dissertation, The Judicial Influence and Policy Implications of *Feist* in Regard to the Protection of Databases and Compilations, asserts that copyright is adequate protection for databases and that additional legislation is not needed, and would be "unnecessary, unconstitutional and poor policy". Peter Yu (2010) argues that the recent database proposals are all likely to fail the test of constitutionality, running afoul of the Copyright, Commerce Clauses, or of the First Amendment. He argues against following the European Union approach observing, based on the 2006 report on the Directive, that this Directive has not only failed to benefit the community, but has harmed the European printing and publishing industries (Yu, 2010). Davidson (2007) opposed new legislation based on a lack of need and the costs associated with additional law and regulation. He observes that the European Union has not gained from having specific database protection and that the cost have been high with benefits not evident (Davidson, 2007, p. 13). He also observes that there has been no negative impart on the U.S database industry

in spite of fears of the impact of the reciprocity requirement in the Directive (Davidson, p. 13).

LITERATURE REVIEW: THEORY AND POLITICAL PROCESS

Interest groups have had a significant influence on our national policies. The degree of influence and type of groups playing dominant roles has varied. At different times in our history, the voice of the corporate sector has been dominant, and at other times, or in some policy areas, the voice of the public has been able to balance those corporate interests. This dissertation investigates the role played by interest groups and coalitions in formulating database legislative reform.

In his work, *A Preface to Democratic Theory* (1956), considered a seminal work on pluralism, Robert Dahl claims that many diverse interest groups influence the government in the formulation of policy. In this theory the existence of a multitude of varied groups assures that most public interests are represented, and that the competition among the groups, over time, results in representative policy (Dahl, 1956; Truman, 1951). Opposing theory asserts that all interest groups do not have equal access to government and that the 'elite' groups with the greater resources are more able to influence policy (Lowi, 1969; Mills, 1956; Schattschneider, 1961).

In looking specifically at the influence of testimony by interest groups, some scholars claim a lack of influence (Jones, Baumgartner and Talbert, 1993). These scholars found that testimonies are propaganda and hearings are planned to promote the desired view of the government. Opposing views of hearings and testimonies are offered. Scholars find that testimonies provide important information used in policy formulation (Bradley, 1980; Porter, 1974; Rundquist and Storm, 1987; Whiteman, 1985). Not only do testimonies provide information, but they also serve to publicize the committee position on the policy issue (Davidson, Oleszek, Lee 1981; Deering and Smith, 1997, DeGregorio, 1992, Truman 1951).

A clear evidence of reform exists if relevant policy changes are enacted through regulatory and legislative changes (Peterson, 1993). Additional evidence of reform exists in the political activity surrounding that reform. Some scholars note that increased political activity puts pressure on legislators and that these legislators in turn respond to the voters' wishes (Peterson, 1993). Confirming the effectiveness of political activity, but qualifying that theory, some scholars assert that the activity is only effective if it is organized (Peterson, 1993). While the level of political activity indicates that reform is under

consideration, the nature of the activity will indicate the direction of that reform.

Some political theory suggests that the United States has moved from an era of iron triangles, where corporate money was a primary influence in legislation, to an era where interest groups, representing more popular and public interests, have had a significant impact on policy making. The early 20th century was an era when Congress, the administration and strong business interests combined to establish national policy, a political environment referred to as "Iron Triangles" (Peterson, 1993). These triangles represented a closed system, a political environment that channeled public comment through its members.

These political iron triangles began to weaken as a result of Congressional reforms beginning in the 1970's. These reforms included requiring the election of committee chairpersons, setting term limits for committee leadership, establishing standing sub-committees with their own budgets and staff, implementing sunshine laws requiring open committee meetings, and campaign reform with accompanying emergence of Political Action Committees (Loomis & Cigler, 1998; Peterson, 1993). Under these new governmental

operating rules, Congress became more accessible, and policy decision makers, whether administrators or congressional representatives, were open to input from the public. This public input was provided primarily through organized representation of public and private interests in the form of interest groups, advocacy coalitions and policy networks.

Scholars, such as Cigler and Loomis (1998), Gais, et al (1984), Peterson (1993), and Sabatier and Jenkins-Smith (1999) have demonstrated that recent legislative processes have included a stronger representation of popular opinion, expressed through a broader range of organizations. Among the important changes in the political structure were a proliferation of interest groups during the 1960's, a rise in single-issue groups, an increased, formal involvement of interest groups with the government bureaucracy, the presidency, and the Congress, the continuing decline of the political parties' performance in policy-related activities, and an increase in the number and visibility of public interest groups (Loomis and Cigler, 1998).

While the political influence of industry is still strong, in some policy fields this strength is tempered by the growing role played by public interest groups. Studies have shown that our national health

care and environmental policies are evidence of the growth and impact of these widely representative groups (Peterson, 1993; Loomis & Cigler, 1998). On the other hand, there are policy fields that may not have felt the impact of the public interest groups. Prior to the Digital Millennium Copyright Act of 1998, national telecommunications and information policies may have been areas that were guided primarily by the interests of big business (Aufderheide, 1999; Litman, 1989; Litman, 2001).

In national information policy, while interest group participation is evident, Litman questions the effectiveness of that participation. One major factor in information policy, our Copyright laws, have been the purview of big business and largely the product of the political "iron triangles" (Litman, 1989). Litman, in a fairly strong opinion of the influences of industry, describes copyright law as being the result of industrial compromise rather than congressional consideration. She comments that:

"Congress has, since the turn of the century, been delegating the policy choices involved in copyright matters to the industries affected by copyright."(Litman, 1989, p. 9).

Additionally, theory suggests that the success of business interest coalitions is fairly assured if the businesses involved are in general agreement (Marin, 1991; Loomis and Cigler, 2002).

The impact of interest groups and coalitions in regard to a policy reform effort is also affected by the degree of public involvement in the reform (Bennett & Lawrence, 1995). Scholars have noted that the degree of public involvement in an issue provides two very different environments for coalitions. If the public understands an issue, and if the press is significantly involved in publicizing that issue, then coalition efforts are more likely to have an impact. On the other hand, where there is a 'public vacuum' and the media is not actively involved, a coalition impact has not been demonstrated (Bennett & Lawrence, 1995).

Reform is generally a response to some motivating, significant event (Sabatier and Jenkins-Smith, 1999). Currently, the emergence of the digital world, with the popularity and availability of digital devices and the Internet as a means of distribution and communication, is a significant event that appears to be contributing to, or necessitating, a change in national information policy.

This new, digital environment has changed the assumptions underlying much of the information, publishing, music, and movie industries. These industries previously relied on their unique capabilities to produce a combination of quality and quantity in their products. Today, with a personal computer and an Internet connection, most private citizens can perform the same functions as these industries. Therefore, these industries, while seeking additional legal protection, are also investigating and implementing technological protections for their products.

Database protection technology is a powerful tool that controls access to information or databases and, as such, is a significant factor in preserving an appropriate balance between the right of database producers and the interests of the public. Technology has traditionally been a device used by copyright holders to supplement their legal control over copying and distribution of works or products (Litman, 1996). Where conflicts between the technology and the producers have occurred, legal compromises have been developed. The Sony Betamax case is an example in which the motion picture and VCR equipment manufacturers compromised, allowing the VCR industry to continue to sell their devices and the movie industry to collect

compulsory licensing fees. The Home Audio Recording Act of 1992 was a resolution of a dispute between the music industry and audio recording equipment producers, again providing compulsory licensing fees for the music industry. The audio recording legislation, however, established a new level of governmental involvement in regulating technology by requiring that audio recording devices be technologically equipped to prevent serial copying (Litman, 1996).

In addition to motivating a change in national information policy, technology has had an impact on the functioning of the interest groups involved in the reform (Loomis & Cigler, 1998). These new technologies have helped interest groups and coalitions by providing inexpensive, immediate methods of communication to keep their constituencies informed and active. Also, new communications technologies, especially the Internet and mass media improvements, have facilitated the presentation of arguments to the Congress, the executive branch and to the public. Loomis and Cigler (1998, p. 11), in discussing interest groups politics, describe the impact of technology as:

“Compounding the effects of the growing number of increasingly active groups are changes in what organizations can do, largely as a result of contemporary technology. ...communications breakthroughs make group politics much more visible than in the past. Of equal importance, however, is the fact that much of

what contemporary interest groups do derives directly from developments in information-related technology.”

An additional, and possibly undesirable, impact of technology on the factors affecting the balance between owners and the public is rise in the associated cost of political action (Aufderheide, 1999).

Technology is expensive and, due to its success, use has become essential. The cost of this essential technology may have provided the richer, corporate interests with additional power and influence. In a study of interest groups activities as related to the Telecommunications Act of 1996, it was demonstrated that the business interests, not the public interest, was empowered by technology (Aufderheide, 1999).

RESEARCH QUESTIONS:

Based on the issues raised in the problem statement and in the Literature Reviews, the following major research questions arise to guide this investigation:

1. What effect might proposed database legislation have had on the balance between the economic interests of database producers and the public interest in the free flow of information?

2. To what extent, if at all, did Congressional testimonies fairly represent the views of the interested parties by providing a balanced and fair picture of the issues?

3. To what extent was the group of witnesses representative of all interested parties, or was information industry dominance evident in proposed database legislation introduced between 1997 and 2004?

4. To what extent, if any, did the proposed legislation have the potential to increase the power of industries to use technology to enforce access controls that limit access?

5. What role did technological changes play in the formulation of proposed legislative reform for database protection?

METHODOLOGY AND METHODS

This study examines proposed amendments to copyright and closely related laws that specifically address database protection in order to understand the impact the legislation may have on the balance between the rights of database owners and the right of the public to unfettered access to information. The study examines the legislative proposals and the associated hearings and witnesses in order to further understand what factors in the legislation might impact this balance. The examination of the laws consisted of identifying the applicable bills, summarizing the major provisions, and determining the approach and extent of the protection proposed by each bill. The legislative process was examined through an analysis of the witnesses and their testimonies in the debate over the proposed database protection legislation.

Scholars in the field of public policy, coming from political science and communications traditions, have developed comprehensive policy studies involving Congressional hearings (Jones, Baumgartner, Talbert, 1993; Miller, 2004; Kim, Chung, Kim, 2011). These studies are from literature in different fields: Jones, Baumgartner and Talbert and Miller represent scholars in the political

science field; Kim, Chung and Kim as are scholars in communications. The methods used in these studies consist of identifying a comprehensive set of hearings for the applicable policy area(s), establishing comprehensive lists of individuals and organizations participating in the hearings, analyzing the major themes of the hearings, and providing descriptive statistics.

In their study of Congressional Committees, Jones, Baumgartner and Talbert (1993) gathered lists of all hearings held in Congress for a fixed time frame, and listed all witnesses at these hearings. They coded these witnesses as representing industry, government or lobbying groups and the position taken by each witness. The study used descriptive statistics to analyze the data noting associations among the groups and issues being investigated.

Kim, Chung and Kim (2011) studied information relating to the net neutrality policy debate. The research performed "frequency analysis" of witness lists from 43 hearings held by Congress and the FCC on the issue of net neutrality. In this analysis names and organizational affiliations were coded and used to determine how often the categories of 'information subsidizers' appeared in the information channels.

In her study of the national crime agenda, Miller (2004) analyzed hearings between 1947 and 1998 in order to understand the role of bureaucrats in policy formulation. This study identified witnesses at hearings and assigned categories of government, interest groups and victims; descriptive statistics were used to describe the extent of participation by various groups.

Gandy (1982), in his book, Beyond Agenda Setting, reports that the hearing process is an important method of delivering information to decision makers and that examining who testifies provides information and if the sources represent a wide range of interests.

This dissertation, a study of information policy, applies the same methods described above, in a study of database protection. The hearings are an excellent source of data as they have the unique advantages of being public; being available to all in public records, and consisting of all statements in this particular forum of the debate. The testimonies at the hearings also have the advantage of being well throughout presentations of the arguments of the witnesses and representative of the position of the organization being represented. Also, the transcripts of the hearings are data made available at the

time of consideration of the bills. The hearings are then, open, complete and comprehensive statements of the parties involved in the legislative discussions at the time of the discussion.

Data Collection:

In the collection of data for this study, a comprehensive approach was used. For each of the bills being examined, all of the testimonies and all of the witnesses were included; no sampling was used, and no criteria for exclusion of witnesses were applied.

Legislation:

In selecting the legislation to be studied, records were searched for all proposals for copyright amendments, and for bills addressing databases or collections of information, proposed or enacted between 1997 and 2004.

This study begins in 1997 with the first bill proposed after exclusion of databases from consideration under the bills that would become the Digital Millennium Copyright Act of 1998. The study concludes with the last bill proposed to provide protection specifically to databases, in 2004.

Each bill was reviewed for inclusion in this study based on its exclusive applicability to the specific issue of database protection. The legislation examined includes proposed amendments to Copyright law that are related to database protection, as well as laws that are proposed to specifically protect databases via misappropriation or unfair trade practices. The legislative proposals originated in Congressional Committees, including the U.S House of Representatives, Committee on the Judiciary, the U. S. Senate, and Committee on the Judiciary and the U.S. House Commerce Committee.

While several Copyright law amendments were included in the initial search results, many were excluded from thorough study since they addressed items only peripherally related to database protection. For example, bills or sections of bills addressing the term of copyright, the specific technical provisions of copyright that apply to phonograms, software copyrights and computer maintenance exceptions, specific library operation copyright exemptions, distance education copyright exemptions, specific copyright issues related to broadcast media, and digital signatures were all under consideration in the same time frame as the selected bills. None of these laws or proposals is included in this study.

All copyright related legislation was identified, examined and classified by general subject matter. The categories of copyright legislation included: Databases, Comprehensive (coverage or protection for all works), Entertainment, Enforcement, Security Devices, Royalties, Licensing, Jurisdiction (State or Federal), Orphaned Works, Fair Use, Satellites, Education, International, and Miscellaneous (including Hull and Fashion Designs). There were 155 proposals to amend copyright and related laws in the time period between 1997 and 2007. Of these proposals, only 6 were specifically related to database protection; only four of which had associated hearings.

These 6 were:

Table 1: Database Legislation - 105th – 108th Congresses	
Bill No	Title
108th Congress:	
HR 3872	Consumer Access To Information Act of 2004
HR 3261	Database and Collections of Information Misappropriation Act
106th Congress:	
HR 1858	Consumer and Investor Access to Information Act of 1999
HR 354	Collections of Information Anti-Piracy Act of 1998
105th Congress:	
HR 2652	Collections of Information Anti-piracy Act
S. 2291	Collections of Information Anti-Piracy Act

Witnesses:

A list of participants in the database debate with their group affiliations was assembled by extracting the names and organizations of each witness from the Congressional Record of the hearings on the

bills under study. There were 42 witnesses giving a total of 52 testimonies at the 4 hearings. The following table lists the witnesses and the category assigned to each. (See Appendix 2 for descriptions of these witnesses.)

Table 2: Witness List		
Organization	Witness Name	Category
ALL, ALA, ARL, MLA & SLA (Libraries)	Neal	Ed/Research
American Banking Association	Band	Re-Compiler
American Intellectual Property Law Association (AIPLA)	Kirk	Professional Association
American Medical Association (AMA)	Corlin	Producer
Ameritrade, Inc.	Ricketts	Re-Compiler
Assoc. of American Universities, Amer. Council on Ed., National Assoc of State Univ. & Land Grant Colleges	Stewart, Phelps, O'Brien	Ed/Research
Association of Directory Publishers (ADP)	Hammack	Producer
AT&T, Inc.	Politano	Re-Compiler
New York Stock Exchange (NYSE)	Bernard	Producer
Bloomberg	Bell	Re-Compiler
Computer and Communications Industries Association (CCIA)	Black	Re-Compiler
Coalition Against Database Piracy (CADP)	Warren, Winocur, Horaczewski	Producers
DLJ Direct, Inc.	Hogan	Re-Compiler
Doane Agricultural Services Corporation	O'Henderson	Producer
Eagle Forum	Schafly	Ed/Research
Information Industry Associates (IIA)	Aber, Tyson	Re-Compiler
Information Technology Association of America	Casey	Re-Compiler
National Academy of Engineering	Wulf	Ed/Research
National Academies of Science, etc	Lederburg	Ed/Research
National Association of Realtors	McDermott	Producer
National Association of Securities Dealers (NASD)	Furbush	Producer
New York Stock Exchange (NYSE)	Bernard	Producer
Online Banking Association (OBA)	Band	Re-Compiler
Professor - Law	Ginsburg	Other
Professor - Law	Reichman	Other
Professor - Science	Ledley	Other
Schwab, Inc	Dwyer	Re-Compiler
Software and Information Industry Associates (SIIA)	Duncan	Re-Compiler
U. S. House - Commerce Committee	Oxley	Congress
U. S. Copyright Office	Peters, Carson	Government Organization
U. S. Department of Commerce	Pincus	Government Organization
U. S. House, Commerce Committee	Sterns	Congress

U. S. House, Commerce Committee	Berman	Congress
U. S. House, Judiciary Committee	Coble	Congress
U. S. Securities and Exchange Commission	Nazareth	Government Organization
U.S. Chamber of Commerce	Donahue	Re-Compiler
USA Democracy	Baptista	Ed/Research
Yahoo, Inc	Rightmire	Re-Compiler

Testimonies

Testimonies for the four bills for which hearings were held were extracted from the transcripts in *The Congressional Record* for the actual hearings. The entire discussions, with the live statements as well as the written witness statements, were collected for analysis. This resulted in a total of 52 testimonies being included in this study.

Methods

Specific methods employed included qualitative analysis aided by descriptive quantitative tabulations of participants and testimonies by specified categories. These tabulations are used to determine the distribution of categories of witnesses, associations between the category of a witness and the position taken in support or opposition to each of the bills proposed, and associations between witness categories and major topics identified in the testimonies.

Analysis of the testimonies was used to extract text from the testimonies and code it under the topics of (1) definition of the issue,

(2) source of the issue, (3) policy solutions and (4) public good. As common comments were identified under each topic, each was also coded. Tabulations of the identified arguments under each of the four topics are made. Associations between witness categories and the identified topics and comments are identified.

Interviews

Interviews were conducted for this dissertation to further investigate the contribution made by the testimonies in the formulation of information policy as related to database protection. Interviewees were chosen from interest groups that provided testimony and from Congressional staff involved in the drafting and processing of the selected legislation. Three interviews were conducted, two of Congressional staff assigned to the Judiciary under the chairmanship of Howard Coble, and one person representing the On-0line Banking Association, a coalition of database re-compilers. Selection of interviewees was based on whether or not the person was involved with the bills under consideration, and if the person was available and willing to be interviewed. Unfortunately, since this research was done years after the bills were discussed, and after a change in the president, the large majority of staff members were no longer available. The interviews were conducted in person; each

interview followed a scripted interview questionnaire, and each lasted approximately 45 minutes to one hour. (The interview questions are provided in Appendix 1.)

Analysis of Legislation:

The analysis of the legislative proposals consisted of a summary of the major provisions of each database proposal and categorization of each bill as one that provides either broad or limited protection for databases. This analysis also identified significant similarities and differences in the proposed bills. As noted in the analysis of the witnesses and testimonies, associations among categories of witnesses for each proposed bill were observed and reported. Tabulations of opposition and support for proposals by categories of witnesses were provided; and the status of each bill in the legislative process was reported.

The goals of this analysis were to identify provisions in the bills that favored either owners' interests or public interests, and identify the categories of witnesses supporting or opposing each approach to the legislation (Research Question 1). Additionally, the provisions were examined for any restrictions placed on the technology used to protect the database products (Research Question 4). This analysis provided

insight not only into the direction the balance might take should the legislation become law, but also, which organizations advocated the direction.

Analysis of the Witnesses

This study investigated the community or the participants in the database protection debates. This investigation included identifying the organizations testifying, categorizing each witness, recording the position taken by each organization or witness on each of the database protection proposals, and recording the consistency of positions taken by types of participating organizations.

The goals of this analysis included: determining if there was an even distribution or if the testimony process was dominated by any sector, determining if categories of witnesses took consistent stands on the legislation, identifying associations between witness categories and categories of testimony content (Research Questions 2 and 3).

Participants selected for study included legislators providing statements at the hearings, government representatives who prepared written statements for the hearings, interest group representatives,

individuals, and others who testified concerning any of the database legislation proposals.

The group of organizations participating in the database legislative debates would be representative and balanced if it were to include groups from all aspects of the issue and if each aspect appears to have a fairly evenly weighted voice. The numerical analysis of the groups included tallies of the number of participating interest groups, with subtotals by the position taken with regard to narrow or broad database protection, and sub-totaled by the type of membership, or category the group represents.

The type of organization presenting testimony was organized into categories that reflect various sectors of the population. Leech and Baumgartner (1999), reviewing data from a national survey of interest groups, categorized the interests groups into seven types of organizations:

1. Business
2. Trade Associations
3. Professional Associations
4. Unions
5. Government Organizations
6. Non-profit Sector
7. Other institutions

This study attempted to apply the same categories to the participants in the database protection issue and to compare this distribution with the general pattern found in the study. Are the categories of organizations appropriate for the information policy area, and, is the distribution of types of groups similar? Initial research indicated that these categories may not be applicable; categories would be better derived from the analysis of the issue under investigation. In this study, categories found to be more informative included:

Government Agency	U.S. federal government agency
Commercial Database Producers	Businesses creating and distributing databases
Educational/Research	Educational, library and research organizations
Commercial Database Re-Compilers	Business that extract data from existing databases and re-sell the new product
Professional Associations	Associations of professionals not representing database producers or re-compilers (Not trade associations)
Congress	Members of the U. S. Congress
Others	Individuals not representing other categories

The category of commercial organization labeled 'producers' were businesses that primarily develop and produce databases. The database products were primarily commercial products and frequently, the producer was the only, or one of a few companies that provided that type of database. The category of re-sellers consisted of companies that use existing databases and add new features or

contents, then re-sell the resulting product. These companies may also develop new databases. They are often companies whose primary business is other than database production; internet service providers, communications firms, and banks, are examples. In some cases, the re-compiler may also be a publisher that uses existing database to re-distribute the data in conjunction with analysis, but this publisher would not be the original developer of the databases used in this analysis. A publisher that does develop a database product, rather than use exiting products, would be categorized as an owner or producer. The Education and Research category consists primarily of libraries, academic institutions, academic professional organizations and associations; there were also two political organizations that distribute political information through the web. The Government Agencies category included only U. S. government agencies such as the Federal Communications Commission, the Department of Commerce, and the U. S. Copyright Office. Professional associations that did not represent members of any of the above categories were categorized as Professional Associations. Members of Congress who gave testimony or who introduce a bill at a hearing were included in the category 'Congress'. And independent individuals who gave testimony were categorized as 'Others'.

Analysis of Testimonies

The goal of this analysis was to identify the witnesses' perception of the impact of the proposed legislation on their industries, the justification for the legislation, and solutions that might be proposed. The witness testimonies also provided some examples of the public good served by the legislation. Analysis of these testimonies provided insight into the impact the proposals would have on the balance between the owners' rights and the public interest in access to information (Research Question 1).

In analyzing the content of these testimonies, Van Gorp's frame matrix concept was used (Van Gorp, 2007). In his article, *Where's the Frame? Victims and Intruders in the Belgian Press Coverage of the Asylum Issue*, Van Gorp identifies several aspects that provide a framework for a thorough analysis: type of participants, role of the participant, problem description, problem source, policy solution, moral and emotional basis, metaphor or stereotype, lexical choice, and visuals (Van Gorp, 2007, p. 491). While this study does not use all of Van Gorp's aspects, in this analysis, emphasis was placed on the type of the witness, defining the issue, the source of the issue, and policy solutions proposed. In addition, this analysis identified witnesses' explanations of the "public good".

For each of the testimonies, the witness's description of the issue, source of the issue, and policy solutions were extracted, reviewed and common results were identified and coded. This process resulted in five issue descriptions being identified; three issue sources and six potential policy solutions were also identified. Tables summarizing the results of these aspects were built. Data elements in these tables include: the name of the witness, the type or category of the witness, the bill number, and the position taken by the witness. These tables were then examined for trends and exceptions. In addition, where witnesses identified the public good, that definition was extracted and summarized; these results were examined for associations with the witness categories.

Findings: Legislative Proposals

Research Questions:

What effect might proposed database legislation have had on the economic interests of database producers and the public interest in the free flow of information?

To what extent did the proposed legislation have the potential to increase the growing power of industries to use technology to enforce access controls that limit access?

Database legislation is provided or proposed through two sets of law: one is intellectual property law, primarily Copyright Law; the other is commercial law, primarily contract laws and the rules of the Securities Exchange Commission and Federal Trade Commission, which define unfair trade practices, especially misappropriation. Misappropriation, in general, is a term referring to the use of a product without permission from the owner. The bills in this study each specify the extent of copying or extraction that constitutes misappropriation for their proposals.

During the period of this study, 1997 through 2004, committees of the House of Representatives and Senate proposed amendments to

Copyright Law, under bill proposals: HR 2652: Collections of Information Anti-piracy Act of 1997 , S 2291: Collections of Information Anti-piracy Act of 1998, and HR 354: Collections of Information Anti-Piracy Act of 1998. During the same period, Congressional committees proposed bills based on commercial law including: HR 1858: Consumer and Investor Access to Information Act of 1999, HR 3261: Database and Collections of Information Misappropriation Act of 2004, and HR 3872: Consumer Access To Information Act of 2004.

The earliest of these bills, HR 2652, introduced in 1997, and S 2291, introduced in 1998, both titled the Collections of Information Antipiracy Act, would amend Federal copyright law to prohibit the extraction, or use in commerce, of “all or a substantial part of a collection of information in a way that harms the potential market for a product or service”. These bills exempt the extraction or use of individual items of information, extraction or use of information for verification of accuracy, and nonprofit educational, scientific, or research, or news reporting purposes. Transfer of data is permitted; a provision that is similar to the First Sale Doctrine allowing a person to sell a copyrighted item to another as long as no additional copies are made (H.R. 2652, 1997).

These acts would exclude government databases and computer programs from protection. Both bills provide coordination with regulations governing securities exchanges: the Securities and Exchange Act of 1934 and the Commodities Exchange Act. Both bills preempt State laws where applicable, and provide for coordination with anti-trust and licensing laws, and the Communications Act of 1934.

Civil remedies for violations are allowed in the form of temporary injunctions, impounding of copied materials, and monetary damages for lost revenues. Non-profit organizations, United States Government and State agencies are not subject to these remedies. Criminal remedies are provided where the value of the misappropriation exceeds \$10,000 and provided for fines and imprisonment.

Both of these bills were introduced during the 105th Congress; HR 2652 by the House Judiciary Committee, subcommittee on Courts and Intellectual Property, the other, S. 2291, by the Senate Committee on the Judiciary. HR 2652 was reported to the House, and was passed. The Senate version of this bill, S. 2291 was introduced to the Senate on July 10, 1998 and referred to the Subcommittee on

Technology, Terrorism and Government on October 13, 1998. This subcommittee did not report the proposal back to the full Judiciary Committee; Senator Grams, who introduced the bill to the Senate, expressed disappointment in the failure of the bill to be reported and interest in having the topic of database protection in a form similar to this bill addressed in the next Congress (S.2291, 106th Cong, 2d., 1998).

In the 106th Congress, attempts were made to continue the work begun in the 105th Congress on database protection. The House Judiciary Committee, sub-committee on Courts and Intellectual property introduced H.R. 354: Collections of Information Anti-Piracy Act. This bill proposes, by amending copyright law, to prohibit the copying of complete databases as well as most extraction of data from a database; individual items may be extracted. This bill contains four factors to be considered in determining if an instance of copying is misappropriation, including the amount copied, the intent of the copying, the impact of the copied materials on the overall new product, and the effect of the extracted materials on the market for the protected work. HR 354 exempts copying for non-profit education, scientific research, criticism and illustration or explanation. Also, copying or extractions for verification, news reporting and

investigative, protective or intelligence gathering are permitted activities. Interestingly, this bill singles out genealogical information to be exempted, as are government collections of information, securities and exchange data, and computer programs with and without embedded data. Digital online communications identification or routing data is also not protected. This law would also allow the transfer of legally extracted or copied data to another person. HR 354 addresses the relationship of this bill to other laws, including: other sections of Copyright, Anti-trust, the Communications Act of 1934, Security and Commodities Acts, and Federal and State privacy acts. Additionally HR 354 proposes to pre-empt state laws. Allowing civil remedies of temporary and permanent injunctions and impoundment provides enforcement of HR 354.

HR 354 was considered by the House Judiciary Committee, which held a public hearing. The bill was reported to the House, favorably, but the House did not vote on the bill. Introduction of this bill to the House raised objections from the Commerce Committee claiming that HR 354 exceeded the constitutional powers of the Congress. Concerned that the Judiciary Committee bill might be too broad, the House Commerce Committee began to develop its own database protection legislation. And in 1999, the House Commerce Committee,

sub-committees on Telecommunications, Trade and Consumer Protection and on Finance and Hazardous Materials drafted and proposed bill HR 1858: Consumer and Investor Access to Information Act of 1999.

The purpose of this bill is described as being: "To promote electronic commerce through improved access for consumers to electronic databases, including securities market information databases" (HR 1858, 106th Cong., 1st Sess., 1999). The first section of this bill defines general rules for copying and extracting of elements from a database. The bill disallows copying of any complete database used in competition with the original product. The bill permits databases to be collected independently, copying and extracting for news reporting, law enforcement, educational, scientific and research uses, as long as that use is not part of a pattern of use that competes with the database owner. Government databases, internet communications databases and computer programs are not protected by this bill, but, the bills allows the Federal and state governments to enter into a contract that does protect a government database.

HR 1858 does not provide protection for an individual idea, fact, procedure, system, and method of operation, concept, principle, or discovery. Subscriber lists, primary legal materials and securities data are also excluded from protection. HR 1858 defines its relationship to other laws, including other provisions of Copyright law, the Telecommunications Act of 1934, Securities laws, rights under licensing. The bill proposes to pre-empt state law where inconsistent with HR 1858.

This bill includes a provision to protect an Internet Service Provider from liability rising from misconduct of its customers. This bill also provides a limitation of liability for uses databases that do not constitute "misuse".

Enforcement of HR 1858 is assigned to the Federal Trade Commission through its rules and powers assigned by the Federal Trade Commission Act (*15 U.S.C., 41*). It provides no private remedies and no rewards accrue to the database owner. This bill also requires a report to Congress on the impact of this bill has on electronic commerce and on the database industry in the United States.

HR 1858 includes a second title that addresses protection specifically of real time market information. It amends the Securities Exchange Act of 1934 (*15 U.S.C.*) by adding a provision to prevent the misappropriation of real time market data and by allowing enforcement through civil suit, temporary and permanent injunctions, and monetary relief for damages. The bill contains provisions to allow distribution of information that is independently gathered, and for News reporting. It also addresses the relationship to other applicable laws, including Federal Securities laws, Anti-trust laws, Licensing, and the Federal Trade Commission. Generally, this new law would preempt state laws where applicable, and will not supersede other, existing federal laws.

Discussion of HR 1858 was significant; the bill was assigned to the House Commerce Committee, Subcommittee on Telecommunications, Trade and Consumer Protection and the subcommittee on Finance and Hazardous Substances. Both subcommittees held hearings on this bill. The bill was reported, favorably, back to the full House Commerce Committee, where it was passed and reported to the House. The House then referred the bill to the Judiciary Committee. The Judiciary Committee considered the bill and reported it back to the House, unfavorably.

The Judiciary Committee supported a competing legislative proposal, HR 354. The fundamental difference in the approaches to database legislation is reflected in these two bills. HR 354 is a proposal based on a broad protection for database owners while HR 1858 is based on a very limited protection for owners and more emphasis on the benefits of open access to information.

The original database protection bills failed to be adopted by the Congress. And for the next few years, no new database legislation was introduced. Members of the House attempted to negotiate with the members of the Judiciary and Commerce Committees, hoping to find a compromise. Those efforts were not successful, and two new bills were proposed to the 108th Congress. Again, the Judiciary Committee supported a broad protection proposal and the Commerce Committee recommended a limited protection proposal.

In 2004, H.R. 3872: Consumer Access to Information Act of 2004 was introduced into the House of Representatives by the House Committee on Energy and Commerce. The purpose of this act is to prohibit the misappropriation, or use without compensation or permission, of databases while ensuring consumer access to factual

information. This act prohibits the misappropriation of a database by classifying such misappropriation as an unfair method of competition and an unfair or deceptive act or practice in commerce under the Federal Trade Commission Act. The act does not address what portion of a database must be copied to be a violation, but rather depends on the impact of any copying. The copying must meet the following criteria to be considered misappropriation: the database must have been created at some expense, the information contained must be time sensitive, the resulting copied product is in competition with the original database product, the use constitutes 'free riding' on the original development effort, and the impact would be to reduce the incentive to produce the product.

This act exempts the provider of an interactive computer service that makes available information provided by another content provider from liability. Enforcement is provided through the Federal Trade Commission under the provisions of the Federal Trade Commission Act. Again, as in its predecessor, there is no provision for private remedies.

The second bill to be considered in the 108th Congress was H.R. 3261: Database and Collections of Information Misappropriation Act.

The House Judiciary Committee proposed this act in 2004 to the House of Representatives. It prohibits copying or extraction of all or a substantial part of the information contained in a database and making that copy available in competition with the owner of the database. It provides exceptions for: (1) independently generated or gathered information; (2) certain reasonable use by a nonprofit science or research institution; (3) hyper-linking one online location to another; and (4) making such information available for the primary purpose of news reporting. This act excludes government databases and computer programs. And, the act coordinates with other applicable laws, including other intellectual property laws, contract laws, the Communications Act of 1934 (47 U.S.C.), and securities laws. It pre-empts state laws where applicable, and adheres to 'judicial doctrines' of misuse. It exempts from liability a provider of an interactive computer service for making available information that is provided by its customers or users. It provides oversight by the Federal Trade Commission, the Patent and Trademark Office, and the Copyright Office. The act requires reports to specified congressional committees. The act excludes from liability (1) any accredited nonprofit postsecondary educational institution or nonprofit research laboratory; (2) employees of such institution or laboratory acting within the scope of employment; and (3) students enrolled in such educational

institution. Enforcement consists of civil remedies of temporary and permanent injunctions, impoundment, and monetary relief for damages and related profits, and associated legal expenses.

In summary, these database protection bills can be categorized as attempting to provide either a very comprehensive or broad protection for databases, where little or extraction or copying is allowed, or, the bills can be seen to protect only wholesale copying of a database, where extraction is not necessarily considered a threat to the market value of the database. Bills, HR 2662 and S 2291, HR 354, and HR 3261, all introduced by the Judiciary Committees of the House and Senate, propose broad protection. The three initial bills were introduced as amendments to copyright law, although not basing protection on creativity, the primary consideration for copyright protection. Also, these bills differ from copyright protection by introducing new civil and criminal remedies for violations. The most recent bill, HR 3261, was proposed as a new law, not as a copyright amendment. While providing broad protection, it proposes a new, federal misappropriation law; current misappropriation laws are state laws. This bill provides for FTC oversight, but allows owners civil remedies. All four bills prohibit copying an entire database in a way that would harm the market of the original product. None of the bills

address the technology that is available to protect the database products.

Findings: Participants

Research Question:

To what extent was the witness group representative of all interested parties, or was information industry dominance evident in proposed database legislation introduced between 1997 and 2004?

This study examines the organizations giving testimony at Congressional hearings as a means of determining if the people and organizations that testified at the hearings represented all the major interests in the legislation. A comprehensive, distributed group of participants would imply that the testimony process was fair and balanced.

In the analysis of the witnesses, categories of witnesses consisted of: Commercial– Producers, Commercial - Re-compilers, Education and Research, Professional Associations, Congress, Government Organizations, and Others.

The database producers are typically organizations that publish databases or build database products that are intended to be end products. Often these end products are very specialized databases

that contain extensive, specific data such as medical, chemical and legal databases; producers often designed these databases for use by professionals. Companies that re-compile databases often offer products that may have a short life-span, are more entertainment or shopping oriented, or that generally lend themselves to frequent and often large scale updating. These companies use existing databases as a basis for new or expanded products. The casual consumer frequently uses these products. This group of businesses also includes companies that market the equipment and software used to distribute databases. Firms that produce consumer databases may also produce professional databases, and vice-versa, these distinctions are not exclusive; the classification reflects the primary type of databases distributed by the company.

In many cases, the business interests were represented by coalitions; these coalitions are included in the categories represented by their membership. For example, a coalition of directory publishers is included in the business-producer category. The category of business re-sellers and distributors may include communications companies such as AT&T, Internet Service Providers, or computer communications equipment distributors. This category also includes

the New York Stock Exchange (NYSE) and the National Association of Securities Dealers (NSAD), both providing real-time market databases.

In addition to the database businesses, representatives of educational and research organizations, especially universities and libraries, were invited to testify. These organizations are categorized as Education and Research Organizations. Testimony by members of professional associations, including lawyers, engineers, computer professionals and others were grouped in the Professional Association category. These organizations were distinguished from government organizations, which included the Department of Commerce, the United States Copyright Offices, and the Securities and Exchange Commission (SEC). Several members of Congress gave statements at the hearings; these were included in the Congress category. There was an "Other" category for individuals testifying.

TABLE 4: Witnesses- Category Distribution by Legislative Proposal						
	HR 2652	HR 354	HR 1858	HR 3261	Total	%
Business- Producers	4	3	2	1	10	19%
Business – Re-compilers	3	1	10	1	14	27%
Education and Research	3	3	4	1	10	19%
Professional Associations	1	1	0	0	4	8%
Congress	1	2	1	1	5	10%
Government Organizations	1	2	2	1	6	12%
Others	3	0	0	0	3	6%
Totals:	16	12	19	5	52	

There were 52 people testifying at the hearings on the four database bills (See Table 1 on page 56 for a complete list of these witnesses and their associated organizations). Businesses that re-compile or distribute databases were the largest group represented with 14 representatives or 27% of the group. Businesses that produce databases and educational and research organizations were both represented by 10 witnesses or 19% of the group. Six (6) government organizations represented 12% of the testimonies and 5 members of Congress represented 10% of the group. There were four (4) professional associations testifying, representing 8% of the group. Three (3) individuals testified: 2 law professors and experts in Intellectual Property Law, and one engineering professor. These individuals make up the 'Other' category and are 6% of the total.

The method used by Congress to select organizations and individuals to testify was examined. This examination consisted of interviewing staff assigned to the committees that held hearings on the database bills and individuals who testified. Congressional staff members, serving during the 106th Congress, who were interviewed, indicated that the staff prepared a list of potential witnesses; this list was reviewed by the Committee or Sub-Committee chairperson and approved or modified. The list was developed to include

representation of all interests. Both Congressional staff members who were interviewed indicated that the intent of the testimonies was to inform the sub-committee members, and therefore attempts were made to have witnesses presenting all points of view included in the testimonies.

Congressional hearings were held during the 105th, 106th and 108th Congresses on database bills being proposed by sub-committees of the House Commerce Committee and the House Judiciary Committee. Hearings were held in reference to four bills that were specifically database protection bills. The bills under study and the corresponding number of witnesses invited to testify on each of these bills was:

Table 5: Tabulation of Witnesses by Legislative Proposal All Legislative Proposals	
Bill Number and Title	Number of Testimonies
HR 2652: Collections of Information Anti-piracy Act	16
HR 354: Collections of Information Anti-piracy Act	12
HR 1858: Investor Access to Information Act	19
HR 3261: Database and Collections of Information Misappropriation Act	5

HR 2652: Collections of Information Anti-piracy Act:

The first hearings on a database protection bill were held by the House Judiciary Sub-committee on Courts and Intellectual Property, during the 105th Congress (Oct 1997 and May 1998), regarding bill HR 2652: Collections of Information Anti-piracy Act. At these hearings, there were 16 testimonies from organizations and individuals representing a variety of interests. Testimony was presented by four business organizations that publish databases as well as three that re-compile or distribute databases. The education and research sector was represented by three organizations and individuals; one professional organization testified and one Congressman and one government official made statements. There were also testimonies from three individuals. The following table shows the distribution of the witnesses by category:

Category	Number of Testimonies
Business - Producers	4
Business - Re-Compilers	3
Education and Research Organizations	3
Professional Organizations	1
Congressional Members	1
Regulatory Organizations	0
Government Organizations	1
Other	3
TOTAL	16

The four producers of databases testifying included the American Medical Association (AMA), as an owner and producer of medical databases, and the Coalition Against Database Piracy (CADP), a coalition of database owners and publishers, and two representatives of the Association of Directory Publishers (ADP). There were two hearings on this bill; the ADP had a representative testify at each hearing. Three associations representing companies that re-compile a variety of types of databases testified; these included the Information Industry Associates, information/database collectors, distributors, and value-added re-disseminators, the Information Technology Association of America, made up of companies that provide computer hardware, software, internet services, and database compilations, and the On-line Banking Association, an organization that represents financial institutions that use and distribute financial databases. The education and research sector was represented by testimony from three organizations: the Association of American Universities and others, the American Library Association and others, and the National Academy of Engineering. Only one professional association testified: the American Intellectual Property Law Association, an organization representing Intellectual Property lawyers. One government organization testified, the United States Copyright Office. Two lawyers and a scientist testified as individuals.

Table 7: HR 2652: Collections of Information Antipiracy Act Witness List		
Testifier	Representing	Category
Coble, Howard	U. S. House, Judiciary	Congress
Peters, Maribeth	U. S. Copyright Office	Government Organization
Neal, James	AALL, ALA, ARL, MLA & SLA (Libraries)	Education and Research
Wulf, William A	National Academy of Engineering, Science, etc	Education and Research
Stewart, Debra	Assoc. of American Universities, Amer. Council on Ed., National Assoc of State Universities & Land Grant Colleges	Education and Research
Reichman, J. H.	Law Professor	Other
Ledley, Robert	Science Professor	Other
Ginsburg, Jane C.	Law Professor	Other
Warren, Paul	Association of Directory Publishers	Producer
Corlin, Richard F.	American Medical Association (AMA)	Producer
Hammack, William	Association of Directory Publishers	Producer
Aber, Robert E.	National Association of Securities Dealers (NASD)	Producer
Kirk, Michael	American Intellectual Property Law Association (AIPLA)	Professional Association
Tyson, Andrea	Information Industry Associates (IIA)	Re-Seller
Casey, Tim D.	Information Technology Association of America (ITAA)	Re-Sellers
Band, Jonathan	Online Banking Association (OBA)	Re-Sellers

This selection of organizations to testify supports the assertion of the Congressional staff that attempts were made to present varied perspectives on the database protection issue. It is interesting to note that support for this bill, HR 2652, was consistent within the categories of witnesses; i.e. all witnesses in any category consistently argued for, or against the bill. All of the databases producers supported this bill; all three of the organizations that re-compile or distribute databases

opposed the bill. The three education and research testimonies were in opposition to the bill. Congressman Howard Coble, chairperson of the House Committee on the Judiciary, Sub-committee on Courts and Intellectual Property, and the representative responsible for sponsoring this bill, spoke in favor of the bill. The representative from the U.S. Copyright office spoke in general support of the bill.

The chairman of the House Commerce Committee at the time, Thomas Bliley, expressed concern that H.R. 2652 exceeded the jurisdiction of the House Judiciary Committee in that the bill would potentially govern inter-state and international trade, a responsibility of the Commerce Committee. The bill also would have adverse effects on Securities and Exchange Commission and on the Federal Trade Commission regulations and the ability of these agencies to properly perform their functions. In this letter, Mr. Bliley agreed to not seek a sequential referral to the Commerce Committee if language changes were made to address his concerns. A year later, and after the Judiciary Committee introduced H. R 354, the Commerce Committee, did seek a sequential referral, and a competing bill, H.R. 1858, was introduced and referred to the Commerce Committee (Congressional Record, 105th Congress, 5/19/1998).

H .R. 354: Collections of Information Anti-piracy Act

The House Committee on the Judiciary, Sub -Committee on Courts and Intellectual Property held the second database protection hearing during the 106th Congress. The bill under discussion was HR 354: Collections of Information Anti-piracy Act. There were 12 testimonies given at this hearing; the distribution by category is shown in the following table:

Table 8: HR 354:Collections of Information Anti-piracy Act Witness Category Distribution:	
Category	Number Testifying
Business - Producers	3
Business - Re-Compilers	1
Education and Research	3
Professional Organizations	1
Congress	2
Government Organizations	2
Other	0
Total	12

Participants in this hearing included three representatives of database owners or publishers: the Doane Agricultural Services Corporation which collects, organizes and distributes data for use primarily by farmers, the National Association of Realtors, owner of the large databases of properties for rent or sale, the multiple listing database, the Coalition Against Database Piracy, a coalition predominantly of businesses that own and publish databases. All of these database producers spoke in favor of this comprehensive protection bill. The only representative in the second category, the

Software and Information Industry Association (SIIA), an organization consisting of high-tech companies that develop and market software and electronic content for business, education, the Internet and entertainment, also testified in favor of this bill.

The education and research category was represented by three organizations, all-speaking against the bill. Representatives gave these testimonies from a coalition of library associations, a coalition of science and engineering organizations, and a coalition of colleges and universities.

Two government organizations: the U. S. Copyright Office, speaking in general support of the bill, and the Department of Commerce, speaking against. Two members of the House made statements at the hearing; Representative Coble, U. S. House, Judiciary Committee spoke in favor of this bill while Representative Berman, U.S. House, Commerce Committee, spoke against it. In addition, testimony was heard from one professional association: The American Intellectual Property Law Association, speaking in favor of the bill. As with the debate on HR 2652, the testimonies on HR 354 were from a diverse group of representatives with opposing views

being argued. And, no independent individuals testified. The following table lists the witnesses at the hearing on H. R. 354.

Table 9: H.R. 354: Collections of Information Antipiracy Act Witness List		
Name	Organization	Category
Berman, Howard	U. S. House, Commerce	Congress
Coble, Howard	U. S. House, Judiciary	Congress
Pincus, Andrew	U. S. Dept of Commerce	Government Organization
Peters, Maribeth	U. S. Copyright Office	Government Organization
Neal, James	AALL, ALA, ARL, MLA & SLA (Libraries)	Education & Research
Phelps, Charles E.	Assoc. of American Universities, Amer. Council on Ed., National Assoc of State Universities & Land Grant Colleges	Education & Research
Lederberg, Joshua	National Academies of Sciences, of Engineering, and, Amer. Assoc. for Advancement of Science, and Institute of Medicine	Education & Research
Winokur, Marilyn	Coalition Against Database Piracy (CADP)	Producers
O'Henderson, Lynn	Doane Agriculture Services Corporation	Producers
McDermott, Terry	National Association of Realtors	Producers
Kirk, Michael	American Intellectual Property Law Association (AIPLA)	Professional Association
Duncan, Daniel	Software & Information Industry Association (SIIA)	Re-Compilers

HR 1858: Consumer Access to Information Act:

The third bill for which testimonies were held was HR 1858: Consumer Access to Information Act. This bill was introduced by the House Commerce Committee during the 106th Congress; the first of the bills that was not introduced by the Judiciary Committee. The introduction of HR 1858 coincided with the House Judiciary Committee submittal of HR 354 to the full House for consideration. Based on

interviews of two Congressional staff and one lobbyist who were involved in the hearings on the Judiciary Committee database bills, part of the intent in introducing HR 1858 was to stop HR 354 from proceeding. These interviewees felt that the Commerce Committee did not actually expect HR 1858 to become law, but felt that the Commerce Committee was strongly opposed to HR 354 and wanted to offer an alternate, less comprehensive, approach to database protection. This opinion is repeated in the literature, where, for example, the techlawjournal.com describes HR 1858 as being "designed to defeat passage of HR 354..." (Techlawjournal.com, 2001).

Two hearings were held on this bill, HR 1858: The Consumer Access to Information Act, by the House Commerce Committee, Sub-Committees on Science and the Sub-Committee on Telecommunication, Trade and Consumer Protection. This bill was reported to the House in the 106th Congress, but was never considered by the full House. At these two hearings, there were a total of 19 testimonies; 11 at June 30, 1999 hearing before the Science Sub-committee and 8 on June 15, 1999 hearing before the Telecommunication Sub-Committee.

Table 10: HR 1858: Investor Access to Information Act Witness Category Distribution	
Category	Number Testifying
Business – Producers	2
Business – Re-compilers	10
Education and Research	4
Professional Organizations	0
Congress	1
Government Organizations	2
Other	0
Total	19

The participants in the hearings on HR 1858 included statements from Representative Oxley, introducing the bill and arguing in support of the proposal. Government organizations testifying consisted of the Securities and Exchange Commission (SEC) and the U.S. Department of Commerce. Four (4) testimonies were given by education and research organizations including two representing higher education and libraries, the Eagle forum, and USA Democracy. The coalition of libraries included public and private, research, special and academic libraries. This library coalition spoke in favor of the bill as an approach that would safeguard the balance between protection and access. Representation of the academic sector included the Association of American Universities, the American Council on Education, the National Association of State Universities and Land-Grant Colleges. These institutions favored the approach presented in HR 1858 in that it

provides protection against piracy, while also maintaining traditional access to, and use of databases.

The Eagle Forum is an organization that provides information to conservative and pro-family citizens enabling them to participate in the process of self-government and public policy making. This organization creates, re-compiles and distributes databases on political issues. USADemocracy is an Internet based organization that creates, re-compiles and distributes political information toward the goal of educating the American people. Both of these educational organizations expressed concern over any restrictions on the sharing of public domain data, and therefore opposed the bill.

Two database owner/publishers, Doane Agricultural Services and the Coalition Against Database Piracy (CADP), spoke against this bill. Doane Agricultural Services is a producer of databases; it creates, maintains, and distributes databases containing information about products and economic forecasts for farmers. The CADP is a coalition representing several database publishers. Both database producer representatives argued that HR 1858 is inadequate protection, or nearly non-existent protection for the research and effort required producing the databases they sell.

There were 10 testimonies from coalitions or firms that re-compile databases. There were 6 witnesses that dealt exclusively with market data: 2 of which were the National Association of Securities Dealers, (NASD), and the New York Stock Exchange (NYSE). NASD and NYSE are included in this category because both, while the initial clearing houses for market data, they are engaged in the collection and re-distribution of this data. In addition to making market data available for trading, both also play an important part in regulating the use of these databases. The representative of the NASD spoke against the bill while the NYSE representative spoke in favor.

Four of the database re-compilers were brokerage organizations: Bloomberg, DLJ Direct, Ameritrade, and Schwab. All these companies use and re-distribute market data and all spoke in favor of this legislation. In addition to those dealing with market data, three large corporations, AT&T, MCI WorldCom and Yahoo, firms that develop and re-sell a large variety of databases, testified in general support of this bill. The Computer & Communications Industry Association (CCIA) and the American Committee for Interoperable Systems, representing

firms that enhance and re-sell and distribute databases also testified, again in favor of the approach of HR 1858.

The Securities and Exchange Commission (SEC) and the U. S. Department of Commerce represented government Organizations. The SEC is concerned with the availability and safeguarding of market data. The SEC supported the bill, but the Department of Commerce, providing information about the legal issues in the bill, indicated no position in favor or opposition.

In summary, the distribution of representatives appears to be varied and comprehensive; testimonies were heard from all the identified sectors. However, the distribution of witnesses on this bill differs from the distribution on the other bills studied in that a large number of testimonies, 10 of the 19 or 52.6% of the witnesses, were database re-compilers. Also, 6 of these were specifically from the securities-market data sector. Also noteworthy, a large portion of the testimonies were from businesses: representatives of the two business categories gave 12 of the 19, or 63.2%, of the testimonies.

Four witnesses represented education and research organizations: a coalition of libraries, a coalition of academic

institutions, and two political activist groups that provide educational information via the web. All four spoke in favor of the bill, arguing that it provided limited barriers to the access of information, allowed transformative uses, but still prohibited theft of an entire database. One of these four organizations, USADemocracy, argued for no restrictions on the free-flow of information. While speaking against the type of restrictions proposed in HR 354, this witness advocated that government interference in the market place be kept to a minimum. The witnesses did not specifically state his support of HR 1858, but the testimony was more supportive of the content of HR 1858 than oppositional.

The 10 re-compilers' testimonies, all of which were in favor of this bill, when combined with the 4 education and research organizations' testimonies, also in favor of this less restrictive bill, resulted in a favorable hearing environment for H.R. 1858. Representative Oxley, member of the Commerce Committee, supported the bill, and the witness from the government, Andrew Pincus of the U. S. Department of Commerce, claimed inadequate time for thorough study, and was non-committal on the bill.

Witness representing two producers provided testimony in opposition to HR 1858. One of these two witnesses, a representative of the large publisher, Reid Elsevier, speaking on behalf of the Coalition Against Database Piracy, declared the bill to be not only deficient in protecting databases both domestically and internationally, but also that it would harm the market. Opposition by the witness representing Doane Agricultural Services was also based on the inadequate protection provided by H.R. 1858.

Testimony Before	Witness Name	Organization	Category
House Commerce Sub: Finance & Consumer Protection	Oxley, Michael	U. S. House, Commerce	Congress
House-Commerce Sub: Tel Com Trade & Consumer Protection	Pincus, Andrew	U. S. Dept of Commerce	Government Organization
House Commerce Sub: Finance & Consumer Protection	Nazareth, Annette	Security & Exchange Commission (SEC)	Government Organization
House-Commerce Sub Committee on Tel Com Trade & Consumer Protection	Schlafly, Phyllis	Eagle Forum	Education Research
House-Commerce Sub Committee on Tel Com Trade & Consumer Protection	Baptiste, Donald	USA Democracy	Education Research
House -Commerce Sub Committee on Tel Com Trade & Consumer Protection	Neal, James	AALL, ALA, ARL, MLA & SLA (Libraries)	Education Research
House -Commerce Sub Committee on Tel Com Trade & Consumer Protection	O'Brien, Gregory	Assoc. of American Universities, Amer. Council on Ed., National Assoc of State Univ. & Land Grant Colleges	Education Research
House -Commerce	O'Henderson,	Doane Agriculture Services	Producer

Sub Committee on Tel Com Trade & Consumer Protection	Lynn	Corporation	
House -Commerce Sub Committee on Tel Com Trade & Consumer Protection	Horbaczewskj, Henry	Coalition Against Database Piracy (CADP)	Producer
House - Commerce Sub: Finance & Consumer Protection	Furbush, Dean	National Association of Securities Dealers, Inc. (NASD)	Re-Compiler
House - Commerce Sub: Finance & Consumer Protection	Bernard, Richard P.	New York Stock Exchange (NYSE)	Re-Compiler
House-Commerce Sub Committee on Tel Com Trade & Consumer Protection	Politano, Frank	AT&T	Re-Compiler
House-Commerce Sub Committee on Tel Com Trade & Consumer Protection	Casey, Tim D.	MCI WorldCom	Re-Compiler
House-Commerce Sub Committee on Tel Com Trade & Consumer Protection	Rightmire, Matthew	Yahoo!	Re-Compiler
House Commerce Sub: Finance & Consumer Protection	Ricketts, J. Joe	Ameritrade	Re-Compiler
House - Commerce Sub: Finance & Consumer Protection	Bell, Stuart	Bloomberg	Re-Compiler
House-Commerce Sub Committee on Tel Com Trade & Consumer Protection	Black, Edward	Computer & Communications Industry Association (CCIA)	Re-Compiler
House - Commerce Sub: Finance & Consumer Protection	Hogan, Michael	DLJ Direct	Re-Compiler
House - Commerce Sub: Finance & Consumer Protection	Dwyer, Carrie	Schwab	Re-Compiler

HR 3261: Database and Collections of Information Misappropriation Act

The fourth bill introduced to provide protection for databases for which hearings were held was HR 3261: Database and Collections of Information Misappropriation Act. This bill was reported to the House from the Judiciary Committee in the 108th Congress. After approximately three years, pursuits of a compromise proposal failed and both the Commerce and Judiciary Committee brought forward new bills. The proposal from the Judiciary Committee, a bill based on the same broad protection model that its prior bills had been using, was submitted. A hearing was held as a joint hearing for the House Commerce Committee, sub-committee on Commerce, Trade and Consumer Protection and the House Judiciary Committee, subcommittee on Courts, Internet and Intellectual Property.

Table 12: HR 3261: Database and Collections of Information Misappropriation Act Witness Category Distribution	
Category	Number Testifying
Business - Producers	1
Business - Re-Compilers	1
Education and Research Organizations	1
Professional Organizations	0
Congress	1
Government Organizations	1
Other	0
Total	5

This hearing had only five witnesses, one of which was Congressman Sterns, chairperson of the House Commerce Committee. As reported by via the interview of Congressional staff members, the

selection process for these witnesses was essentially closed; the number of witnesses was limited by the Committee in the interests of efficiency and the participants were selected by the committee chairperson after recommendations were made by the staff.

The Coalition Against Database Piracy (CADP) spoke in favor of the bill. This organization consists of database producers and was created specifically to further laws to prohibit misappropriation of databases. The National Academy of Engineering, a professional organization representing the National Academy of Science, the National Academy of Engineering and the Institute of Medicine, and representing the American Library Association, the Association of Research Libraries and Association of American Universities, representatives of the education and research category, testified in opposition to the bill. The U.S. Chamber of Commerce, a business federation of a wide variety of businesses, representing the re-compiler category, also testified in opposition to the bill.

The United States Copyright Office representative testified generally in favor of this bill. Representative Stearns, chairperson of the House Energy and Commerce Committee, spoke in opposition to the bill.

TABLE 13: HR 3261: Database and Collections of Information Misappropriation Act Witness List			
Witness	Representing	Category	Position
Carson, David	Copyright Office	Government Organization	For
Donahue, Tom	US Chamber of Commerce	Business – Re-Compiler	Against
Kupferschmid, Keith	Coalition Against Database Piracy (CADP)	Business - Producer	For
Wulf, William	National Academies of Science, Engineering, etc.	Education Research	Against
Sterns, Cliff	House, Commerce	Congress	Against

The organizations providing testimony at this hearing are different from previous hearings in that participation was very limited; with only four organizations invited to testify. The CADP, an organization strongly urging protection for databases, was invited to testify, and supported the bill. The education and research organizations' interests were represented by a coalition of academic institutions, consisting of the National Academies of Science, and Engineering, the Institute of Medicine, the American Library Association, the Association of Research Libraries, and the Association of American Universities. This representative spoke against this bill. The interests of the re-compilers were represented by the U.S. Chamber of Commerce, also speaking against the bill.

In summary, the discussions of the four database bills were heard from a variety of perspectives, and in general appear to have

addressed a wide variety of interests. While witnesses argued opposing positions, they all presented their arguments in terms of the ultimate public good. All witnesses argued that having accurate, current, and abundant available databases was a worthwhile goal. The hearings were dominated by the businesses that re-compile and/or re-sell databases, and the education and research sectors; these two sectors represented nearly half, 24 of the total 52 testimonies. Also, the business sector, both producers and re-sellers provided 24 of the testimonies—again, nearly half of all testimonies.

There was a significant representation of the professionals with 10 testimonies being from a combination of the Professional Associations and Government Organizations. Given the amount of information provided by experts, whether representing a business, education, or government agency, the debate appears to have been well informed.

There were some notable, specific instances where the balanced, comprehensive nature of the debate could have been in question. The testimonies on HR 354 did not include input from the businesses who re-compile databases. While the education and research sector was well represented, this commercial sector, generally opposed to the bill,

would have added to the debate. On the other hand, this same business sector was highly represented at the hearings on HR 1858 with 10 of the 19 testimonies being re-compilers. However, in summary, after considering all four hearings, there was comprehensive representative participation.

FINDINGS: TESTIMONIES

Research Questions:

To what extent, if at all, did Congressional testimonies fairly represent the views of the interested parties by providing a balanced and fair picture of the issues?

What role did technological changes play in the formulation of proposed legislative reform for database protection?

The analysis of testimonies related to database legislation examines four bills, in a series of seven bills introduced between 1997 and 2004, for which Congressional hearings were held. The first bill with hearings was HR 2652, The Collections of Information Anti-Piracy Act, introduced in the House in 1997. A prior bill was introduced in 1996, HR 3531, Database Investor and Intellectual Property Anti-piracy Act. This bill was proposed as an implementation of the agreements pending in the WIPO treaties of 1996. The bill was introduced and assigned to the House Judiciary Committee, where it died. No hearings were held in association with HR 3531. Also, after initial attempts to address the database issue as part of a general discussion of modernization of Copyright law while considering the Digital Millennium Copyright Act, representatives recognized that a resolution to the database issue was not imminent and they removed

all references to database protection from that discussion. In 1998 Congress passed the Digital Millennium Copyright Act of 1998 (DMCA) and left database protection to be resolved by other legislation.

The second bill addressing database protection, S 2291: Collections of Information Anti-Piracy Act, introduced in July 1998, was essentially a Senate version of the House bill, HR 2652, and no hearings were held. The third bill in the series was HR 354, Collections of Information Anti-Piracy Act, introduced in 1999; the House Judiciary Committee held hearings. Shortly after these hearings, the House Commerce Committee introduced and debated a new database protection bill: HR 1858, Investor Access to Information Act. Hearings were held for this bill in May of 1999. The two bills in the House committees took significantly different approaches to the problem; the House bill proposing broad protections against all piracy and the Commerce bill proposing limited prohibitions. Congress tabled the discussion while leaders attempted to bring about a compromise between the two-committee approaches.

After over three years of discussion, no compromise was reached, and two additional database protection bills were proposed—again one by each of the two involved committees. The Judiciary

Committee proposed and held hearings on HR 3261, Database and Collections of Information Misappropriation Act of 2003 in September of 2003. A hearing was held on HR 3261 in September of 2003. The Commerce Committee introduced the last of the series, HR 3872, Consumer Access to Information Act of 2004, six months later, in March of 2004; no hearings were held. Once again, the Judiciary bill proposed broad protections while the Commerce bill proposed limited target protections. To date, no additional database protection legislation proposals have been introduced.

Position on the bills:

While witnesses spoke either in favor or opposition to the bill being discussed, some testimonies, primarily those from government organizations, were informative analyses of the proposals and did not necessarily indicate support or opposition. Many of the testimonies discussed a need for legislation, and while supporting this bill, had significant concerns. Most of the testimonies raised objections to some provisions of the proposals, but still indicated support or opposition to the approach and principles included in the bill. Where possible, the analysis of the testimony assigned support if that

analysis was largely supportive, even if the support was not explicitly stated or in support of all aspects of the bill under discussion.

Overall, testimonies from producers favored the bills that offered broad protection for their products, HR 2652 and HR 354. These bills provided broad protections, described as an attempt to reinstate “sweat of the brow” type of protections. H.R 1858 was less restrictive, and was favored by most of the education and research organizations and the re-compilers.

While there were generally consistent positions taken by the different categories of witnesses, there were instances where the position taken in the testimony was not necessarily consistent with the majority of organizations in that category. The Association of Directory Publishers spoke against HR 2652, a bill that would protect these directories from piracy. The directory publishing industry had for years battled the phone companies that attempted to maintain a monopoly over directory data. The directory publishing opposition was based on the fear that HR 2652 might re-instate monopolistic control over directory information.

HR 2652: the Collections of Information Antipiracy Act:

Testimonies on HR 2652, the Collections of Information Antipiracy Act, were held in February and October of 1998 and included presentations from 16 witnesses; 8 or 50%, argued in support of the bill, 8 or 50% argued against the bill. Seven (7) testimonies, were presented by representatives of commercial organizations; 4 from businesses that produce databases, 3 of these 4 were in favor of this bill, and 3 from business that re-compile databases, all opposed to the bill. Three testimonies were from educational or research organizations; all three opposed the bill. One testimony each was from a government organization, a professional association and a member of Congress, all in favor of the bill. Additionally, there were three testimonies from individuals, two favoring the bill, one opposing.

HR 354: Collections of Information Anti-piracy Act:

Hearings on HR 354, the Collections of Information Antipiracy Act, were held in March of 1999 and included presentations from 11 witnesses; 6 or 54%, argued in support of the bill, 4 or 36% argued against the bill; 1 expressed neither support or opposition. One third of the testimonies, or 4 testimonies, were presented by representatives of commercial organizations. Three were from

businesses that produce databases; all three were in favor of this bill, and one from business that re-compile databases, also in favor of this bill. Three testimonies were from educational or research organizations; all three opposed the bill. Two testimonies were from government organizations; one supported the bill, one reported numerous problems with the bill, and did not express support for it in its current state. One professional association of Intellectual Property lawyers testified in favor of the bill. Additionally, there were two testimonies from Congressmen, Representative Coble, who introduced the bill and was chairperson of the U.S. House Judiciary Committee, favored the bill. Representative Berman, chairperson of the U.S. House Commerce Committee, opposed the bill.

HR 1858: Consumer and Investor Access to Information Act of 1999:

Hearings on HR 1858, the Consumer and Investor Access to Information Act of 1999, were held on June 15 and June 30, 1999, and included presentations from 19 witnesses; 15 or 79%, argued in support of the bill, 3 or 16% argued against the bill, and one did not express either support or opposition. Twelve, or 63% of the testimonies were presented by representatives of commercial organizations; 2 from businesses that produce databases, expressing the only opposition to the opposed of this bill, and 10 from business

that re-compile databases, 9 in favor of this bill and 1 opposed. Four (4) testimonies were from educational or research organizations; all supported the bill. Two (2) testimonies were from government organizations; one supported the bill, one reported numerous problems with the bill, and did not express support for it in its current state. Representative Oxley, U. S. House of Representatives, member of the Committee on Commerce, argued in favor of this bill.

HR 3261: Database and Collections of Information Misappropriation Act

A hearing on HR 3261, Database and Collections of Information Misappropriation Act was held on February 11, 2004, and included presentations from five witnesses; two argued in support of the bill, and three argued against the bill. Testimonies were heard by a single representative of each of five categories identified in this study: database producers, database re-compilers, education and research organizations, government organizations and Congress. There were no representatives from the Professional Associations category, and no independent individuals testified. Support for this bill was expressed by the Coalition Against Database Piracy, representing database producers, and by the U.S. Copyright Office. Opposition came from testimonies by the Chamber of Commerce, representing database re-compilers, and a representative of the academic, representing the

education and research sector. Also, Representative Sterns, U. S. House of Representatives, Energy and Commerce Committee, opposed the bill.

Issue description:

In analyzing the testimonies, five descriptions of the issue being addressed were identified and coded:

Table 14: Issue Descriptions in Testimonies	
Code	Description
1	Threat to the economic value to owners of database products posed by database piracy; reduced incentives to produce
2	Potential reduction in the quantity and quality of data available to society
3	Inadequacy of legal protection. Reduction in the level of protection provided by copyright law with regard to databases, result of the <i>Feist</i> decision. Inconsistencies in misappropriation law—currently a state level body of law with inconsistencies among the states.
4	Potential of proposed laws to create legal barriers to the access of information—potential of law to create an “ownership” of facts
5	Potential growth of monopolies in specific database areas—(notably directories, market data)

A majority of all the testimonies, 32 or 61.6%, described the issue in economic terms as either database piracy (21%), inadequate legal protections for databases (35%), or potential monopolies (5.8%). Nearly two-thirds, 63.7%, of the testimonies describing the issue as one of piracy were from the Government Organizations (36.4%) or Database Producers (27.3%). There were 18 or 34.6% of the

testimonies that described the issue as inadequate legal protections. These were distributed across all the witness categories, but not evenly; 7 of the 18, or 38.8%, of these were from the database producers; the remaining being from all other categories. The threat of monopolistic control of databases was the identified issuer in only three testimonies—one producer and two re-compilers.

The issue descriptions found in the testimonies that were reported by the database producers included threats to economic value of databases and reduction of incentives resulting from piracy, inadequate legal protections for investments, and the potential to encourage monopolistic control of databases.

Other issue descriptions included a potential reduction of the quantity and quality of databases available to the public, and the potential of proposed laws to create legal barriers to accessing information. These issue descriptions represented 38.5% of all the testimonies. The categories of witnesses that presented the issue in these terms were very predominantly the education and research sector and the database re-compilers; 9 were testimonies of education and research organizations, 8 were testimonies of database re-compilers, and the remaining 3 were from government organizations.

Table 15: Issue Description Distribution by Bill and Witness

	Educ. & Congress Research	Gov	Producer	Re- Compiler	Pro. Assoc.	Other	Total	
Threat to the economic value to owners; piracy; reduced incentives								
H.R. 2652	1		1			1	3	
H. R. 354	1		2	1			4	
H. R. 1858			1	2	1		4	
H. R. 3261								
Total 1:	2		4	3	1	1	11	
Reduction of quantity and quality of data available to public								
H.R. 2652								
H.R. 354	2						2	
H.R. 1858	1	1			4		6	
H.R. 3261								
Total 2:	3	1			4		8	
Inadequacy of legal protection for databases/ investment								
H.R. 2652				2	2	1	1	6
H.R. 354	1		1	2	1	1		6
H.R. 1858		1		2				3
H.R. 3261	1	1		1				3
Total 3:	2	2	1	7	3	2	1	18
Potential of proposed laws to create legal barriers to access to information								
H.R. 2652		4			1			5
H.R. 354		1			0			1
H.R. 1858		2			2			4
H.R. 3261		1			1			2
Total 4:		8			4			12
Potential growth of monopolies								
H.R. 2652				1	1			2
H.R. 354								
H.R. 1858					1			1
H.R. 3261								
Total 5:				1	2			3

**HR 2652: Collections of Information Anti-piracy Act and
HR 354: Collections of Information Antipiracy Act**

The testimonies supporting these two bills argued for broad protection against theft of database products. Twelve of these 28

supporting testimonies identified the issue as inadequate legal protection, and six identified the theft of works as the issue; one of these was opposed to the bill. These proponents of these bills argued that the lack of protection would discourage investment in database products. A lack of incentives to develop databases will not only reduce the number of databases available, but would harm the quality of those that were distributed. Lynn O'Henderson, President of Doane Agricultural Services Corporation, in his testimony regarding HR 354 states that he can't realistically expand his database services without protective legislation. Robert Aber, testifying on behalf of the Information Industry Association regarding HR 2652 states that "the benefits that wide availability of valuable collections of information bring to our society will be sharply diminished ...". Paul Warren, representing the Coalition Against Database Piracy, also testifying regarding HR 2652 (1997) states that "the incentives for database makers to continue to make their substantial investments will be dampened considerably unless an effective legal regime is implemented..." Maribeth Peters, U.S. Copyright Office, states that "...we have heard of reports of reluctance of many producers to create legally vulnerable database products..." (Testimony on H.R 2652, 1997).

The eleven testimonies opposing HR 2652 and HR 354 described the issue in terms of the impact the bill might have on the free-flow on information. Two of these testimonies claimed a potential reduction in the amount of information in the public domain, and six testimonies described the issue as an attempt to establish legal barriers to the access to information. This opposition stated that the proposed bill attempted to apply protections that were too broad and that exceeded the scope of traditional misappropriation law. Two testimonies included concerns that a result of such a law would be to return to the situation that existed prior to the Telecommunications Act of 1995 where phone companies held a monopolistic control over directories. And one testimony, as indicated above, identified the issue as piracy and resulting reduction of incentives, but still opposed this bill.

HR 1858: Consumer and Investor Access to Information Act

Testimonies on this bill described the issue as any of the identified definitions. The most common issue description, with six testimonies expressing this view, was the potential reduction in the quantity and quality of databases available to the public. Five testimonies identified database piracy as the issue, interestingly, two of these supported this bill, two opposed it and one withheld any recommendation. Three testimonies described the issue as inadequate

legal protections for databases, and four saw the proposed laws as creating barriers to access to information. One feared that legislation could lead to a growth in monopolistic control of database use. It is interesting to note that the large majority, 16 or 84.2%, of the 19 testimonies were in favor of this bill, HR 1858. Many of the issue descriptions referred to the earlier bills and were actually in favor of this bill as a less restrictive approach.

HR 3261: Database and Collections of Information Misappropriation Act

Issue Descriptions:

Testimonies regarding this bill indicated only two issue descriptions—three identified inadequate legal protections and two identified a threat of the proposals to create legal barriers to access to information.

Issue Source:

The source of the issue that the legislation attempted to address was described by the testimonies as technology, international competition, or recent changes in the level of protection provided by Copyright Law. Several testimonies focused on the broad protection being proposed by the initial proposals as the source of the issue.

The technology described in the testimonies as posing a threat to databases included the new digitization and scanning techniques available that allowed anyone to create databases very cheaply and quickly, and the new distribution network made possible by the internet. These new technologies allowed any consumer to copy databases, partially or completely, using any home computers and scanners available on the home printers. Once these devices digitized the database, distribution on the internet was essentially free. While any consumer was able to do this copying, the threat that publishers were primarily concerned about was rival database distributors. Competitors were now technologically able to build on the efforts of a publisher without compensating the original developer.

The threat from international competition was a result of the enactment of the European Directive that provided very broad protection to member database products, but that denied reciprocity to any nation that did not implement a similar legal protection. Should the United States not conform to the EU Directive, our databases would be subject to international piracy.

The change in the Copyright protection noted in the testimonies was the 1991 *Feist* decision that reduced the "sweat of the brow"

protection under Copyright Law. With the potential exclusion of investment or labor as a rationale for Copyright protection combined with the requirement for creativity, many database producers feared that their investments would be destroyed. Without legal protection, producers would consider limiting their productivity and exposure.

Once a law was proposed, it provided a focus for arguments either in support or opposition to the proposed bills. The testimonies that defined the bills as the cause of the issue feared restrictive legislation that would limit access, foster monopolies, or harm the industry by preventing transformative uses of existing databases. All felt that such a proposal would lead to undesirable reduced free flow of information, reduced competition; the bills were considered to be too restrictive. In addition, some testimonies indicated that the issue stemmed from political pressure by the database industry to gain an advantage in the marketplace, or to re-create a monopolistic situation that was evident prior to the Telecommunications Act.

Witnesses Suggestions for Policy Solutions:

The testimonies contained policy recommendations to be used in attempting to provide a solution to the database protection issue. An

analysis of the testimonies identified six recommended policy solutions:

Table 16: Witness Suggestions for Policy Solutions	
Freq	Solution Description
14	Federal Misappropriation Law
9	Broad protective law; compatible with EU Directive
2	Allow the market to control access and pricing
9	Limited, target law, that address specific collections and/or specific threats/misconduct
4	No new laws
14	Laws to protect free-flow, research, and incentives to produce

The two most common solutions proposed in the testimonies were a misappropriation law that was uniform, based on the Commerce Clause and at the federal level, and a general policy statement that sought a law to protect the free-flow of information, research and incentives. Of the 52 testimonies given on all the bills, 28 or 53.8% proposed one of these two policy solutions; 14 testimonies suggested each. Nine of the testimonies suggested law that would provide broad protection and that would be compatible with the European Directive. Nine other testimonies supported policy that would enact laws on a limited, targeted basis. Four testimonies advocated no new laws be passed, asserting current protection is adequate and the risk of unintended consequences would be too great. And two testimonies advocated that the market be allowed to control pricing and access.

Policy Solutions: Distribution by Witness Category								
	Congress	Gov	Other	Non-profit	Producer	Re-compiler	Prof Assc	TOTAL
Federal Misappropriation Law	1	2	1		6	2	2	14
Broad protection; EU Directive	1	1	1		5	1		9
Allow market to control access			1			1		2
Limited, targeted law			1	4	1	3		9
No new law				3		1		4
Law to protect free-flow, research	3	3		4		4		14
TOTALS:	5	6	4	11	12	12	2	52

Witnesses' Construction of Public Good:

While the testimonies were analyzed to extract the description of the issue being addressed by the legislative proposals, and several different approaches were identified, the overall concern of all the bills and all the testimonies was for the maintenance of a balance between the competing interests of the database producers and protecting the public interest.

Attempting to better understand what the public interest is in this debate, the analysis of testimonies identified examples of public good derived from databases that were described in the testimonies. Regardless of perspective, nearly all testimonies recognized the overall public good contained in having an informed population. The solutions proposed in the testimonies emphasized assuring access to

information that is abundant, accurate and up-to-date. Economic benefit to the public would be achieved by protecting a competitive environment where this competition encourages productivity and creativity; the growth of ideas benefits the public. Public good is derived from having abundant and reliable information for public use, and public access to government information should be assured. Policy should promote learning. Keeping unfettered access to medical data helps to improve public health. Easy access to market data promotes individual participation in control of personal economic situations and builds trust in the securities market. Other public benefits identified in the testimonies include: a predictable legal framework, expanding international markets to help the economy grow.

Public good was identified as existing in database products that are not only accessible, but also complete, accurate and up-to-date. Current database producers argued in their testimonies at hearings on database protection proposals that lack of protection may reduce their productivity, and while others may produce the products, the quality and timeliness may suffer.

In summary, the analysis of these testimonies shows that the database producers consistently argued for broad protection; for new

laws in addition to existing legal protections. With very few exceptions, they supported the bills that would provide broad protection and consequently would provide incentives to develop new database products. These testimonies emphasized the benefits derived from a strong database industry, relating public good, such as public health assisted by robust, accurate and up-to-date medical databases; healthy agriculture assisted by accurate and comprehensive agricultural and scientific databases, and general improvements in quality of life facilitated by the development of new database products.

Referring to the *Feist* decision as factor that created the issue was common in the testimonies; for all four bills, 18 of the 52 witnesses identified inadequate legal protections as the cause of the issue; 7 were representatives of the database producers, but at least one witness from every category made this claim. The primary explanation for the inadequate legal protection was identified as the Supreme Court decision in the *Feist* case that disallowed industrious collection as a justification for protection.

This analysis also shows a common interest among the database re-compilers and the education and research sector, primarily made up

of science, education, library and civic organizations. These organizations all supported unfettered access to information, and the testimonies show consistent opposition to the three bills that propose broad protection. There were eight testimonies from the education and research organizations on the three broad protection bills; all eight testimonies were against all these bills. There were also eight testimonies from the producers on these three broad protections bills; all eight were opposed to the bills. There were five testimonies from the re-compilers on these same three bills; all but one were aligned with the education and research sector and argued against these bills.

The goal of both groups of representatives was to secure access to existing databases in order to extract information. The re-compilers had business objectives—to create new, marketable database products. The objective of the education and research organizations was to share information in order to allow science, research, and in general, knowledge, to progress and innovation. Both categories, Re-compilers and Education and Research, objected to barriers to information, technical, legal or economic, that interfere with this growth.

These testimonies indicated some support for the limited protection approach proposed by HR 1858, but some testimonies also suggested no additional legislation was needed, that the industry might do well if regulated by the marketplace. The public good emphasized was access to and growth of knowledge. This growth would be made possible by transformative uses of databases.

The testimonies play an important role in the development of the law. The three interviews conducted of staff involved in these proposals indicated this. All of these staff members indicated that the witnesses were selected with the intent to represent a broad spectrum of views. Also, all three agreed that the testimonies had an impact on the bill development. The staff members indicated that the testimonies educated the committee members about the intent of the bill and the provisions of the bills; they helped to build a public record of the development of support or opposition to the bill; they established a forum of communication among the committee members and often force the committee members to take a stand on the issues. The testimonies also brought public, and congressional, attention to the bills.

Conclusions

The electronic information age has brought debates centered on intellectual property rights to the forefront of Congressional discussion; much of it has arisen around data protection. In the interest of a democratic society a new emphasis has focused on the longstanding debate between balancing the public good with owners' rights. This dissertation is concerned with that debate. It is a study of the impact that federal legislative proposals considered between the years 1997 and 2004 have had on the rights of the public to unfettered access to information and the rights of database owners to the fruits of their labor. It examines the provisions of bills identifying approaches to protection proposed by different constituent groups, as exemplified by their testimonies at Congressional hearings.

The balance between the desire of owners of database products to make a profit and the benefit derived from open access to and sharing of information was not significantly changed by the database legislation considered between 1997 and 2004. From one perspective, this lack of change cannot be attributable to the laws because none of the legislative proposals considered was passed into law. From a more

comprehensive perspective, the proposals and years of discussion raised the awareness of many of the issues involved in protecting databases in the digital era. This debate of the database protection bills was an on-going educational process and it highlighted several important factors essential to any consideration of what it would take to maintain the balance between producers' rights and the public interests.

This study examined the political environment during the consideration of the database bills by analyzing the content of the testimonies. This analysis showed that the testimonies included opinions from all the categories of organizations identified as having a stake in this issue. From the analysis of the testimonies, it is evident that the commercial split identified during the examination of the witness lists was confirmed by the results seen in the testimonies. Not only were the testimonies of the group of producers consistently in favor of broad protection, the testimonies of the other commercial organizations, the re-compilers, were consistently opposed to these same bills. Also, the analysis of these testimonies showed that the education and research organizations were very consistently opposed to the broad protection that bans complete copying as well as most

extraction or partial copying because these transformative uses of databases are essential to research.

The data presented show that the database producers category of witnesses very consistently sought additional protection based in law. The analysis of the testimonies shows that these producers defined the problem as one of theft or piracy, that the sources of the problem were technological advances and a reduction in available legal protections. These producers also indicated that any policy solution proposed should include additional law that would provide broad protection for their efforts and investments.

The position taken by these producers in support of the bills proposing broad database protection would have increased the control these organizations had on access to information; it would have potentially shifted the balance in favor of these organizations. Testimonies in favor of the bills pointed out that this broad protection would provide a healthy economic environment where a safe marketplace would create incentives to produce. This increased production would provide not only additional databases, but more varied, current, and accurate ones as well. These witnesses argued that this direction is in the best interests of the public as the data in

the marketplace would be able to support research, innovation and an improved citizenry. Claiming this benefit to the public appears to indicate that the successful implementation of the broad legal protections would shift the balance in favor of the public interest. However, this benefit would accrue only after the producers had secured their economic stability. Consequently, passing any of the broad protection bills would have effectively shifted the balance in favor of the producers.

The testimonies of the education and research organizations, including academic institutions, libraries, research organizations, and others, indicated that these organizations supported a less restrictive approach to database protection or no additional legal protection at all. These organizations defined the problem being addressed by the proposed legislation as a threat to the balance posed by restrictive legislation. This legislation could remove facts from the public domain and assign ownership to producers or owners of database products; this could lead to the development of monopolies of specific types of data collections; and could provide legal barriers to access to information.

The data in this study also show that these organizations recognized technological advances as the source of change that challenged the security of the database industry. And, the data shows that the policy solutions proposed by these organizations consistently sought little additional legal protection, if any, for databases. These organizations, again consistently, argued for targeted legal approaches where specific violations of fair trade practices would be identified and prevented, for allowing the market to determine if the database industry experienced substantial harm and therefore needed additional protection, for a policy that would encourage innovation and exploration and maintain a robust and accessible public domain of information. When considering the balance between the producers and the public, these organizations argued in favor of open access to information, balancing the issue in favor of the public good.

This study noted a third element in the debate—that part of the information industry that takes existing databases and extracts, combines and enhances these to produce new database products. The testimonies presented by witnesses from these organizations were fairly consistently aligned with the education and research organizations. These organizations favored a database industry that was allowed to grow through innovations and expansion built on

existing databases. In their testimonies, they recommended limited, targeted protection and encouraged policy that would allow the market to determine if additional regulation were needed. For them, such an approach would optimize the database industry while also protecting public access to information, and preserving the public domain; it would prevent the development of monopolies, and allow competition to establish pricing. The organizations favored the public side of the balance issue.

As an additional observation of the data from the hearings, the testimonies can be categorized as presenting either an economic or a social orientation. While both orientations support the public good goals, the priorities differ. Those with an economic view argue that economic considerations outweigh the immediate social benefits and that the social benefits will eventually occur. In the economic view, databases are commodities that have value primarily as income or wealth generators. Databases, as commodities, contribute to economic growth. Those with a social view argue the importance of an open information environment in optimizing the development of ideas. In this view, databases are primarily social entities with intrinsic, informational value. Databases have value in their ability to further the intellectual, scientific, etc. development of mankind/society

The frame matrix used in this analysis considers the type of the witness, the issue description, the issue source, proposed policy solutions and public good categories identified by the testimony. The following table presents the frame for the content analysis within the context of the economic or social orientation.

Table 18: Economic or Social Views of Legislative Proposals		
	Economic View	Social View
Type of Witness (Category)	Database Owners/producers, Government Officials, etc.	Database users Research and educational organizations
Issue description	How to protect database investment	How to assure open access to databases
Issue Source	Technology- digital access and copying tools and inadequate legal protection – post <i>Fiest</i>	Reduced access to data; Digital Rights Management; too strict legal protection
Policy Solution	Expansion of law-either via copyright or a new federal misappropriation law	Status Quo/ Fair Use Protection
Public Good Identified	reliably of databases economic growth consumer protection	open/equal access intellectual development scientific progress political participation preservation of free market

That there were representatives from a variety of types of organizations presenting testimony was also significant in that this represents a departure from the 'iron triangles' environment, where witness lists were restricted to the involved industry and that had been the rule in the development of copyright legislation. In her book, Digital Copyright, Litman (2001) describes about 100 years of industry

developed drafts of copyright legislation and subsequent negotiation among the involved firms resulting in the proposed bills.

In the database debate, the fact that the testimonies were held and that input was sought from a variety of involved organizations and individuals is indicative of the change in the political environment. This inclusion of the varied interests in the debate improves the chance that the bills will be more balanced; in this case, that the balance between the owners' desire for strong protection would be weighed against the education and research organizations' interest in protecting unfettered access to information.

Theory also suggests that the success of change advocacy is more likely if the business coalitions are in agreement (Marin, 1991; Loomis and Cigler, 2002). In this debate, the business interests were not in agreement; in fact, the two sub-divisions of the businesses were strongly opposed to one another. The failure of any of the legislative proposals to pass supports the theory that lack of agreement within sectors would result in a failure to implement the desired reform.

In considering the impact the database legislation would have had on the balance between owners and the public interests, the role

of the *Feist* (1991) decision should be mentioned. The status of the balance between the competing interests may have been in favor of the producers prior to digitization and *Feist*. However, regardless of this possibility, the internet and digitization technological advances and the *Feist* decision did change the environment, possibly shifting the balance away from the producers. Prior to digitization and the Internet, developing and distributing databases took significant investments. After the digital technologies, copying and distribution via the Internet made reduced costs for the industry. Before the *Feist* decision, database owners could claim Copyright protection based on effort and financial investment; after *Feist*, the commercial producers' witnesses felt that proof of creativity was required and investment was not adequate for protection. Although databases continued to receive protection under copyright after *Feist* (Warwick 1999; Osenga, 2009), the decision in this case was often described by witnesses as a weakening of the legal protection.

A second aide in understanding the political environment during the development and discussion of the database legislative proposals was an examination of the witness lists for the hearings held on these proposals. This research found that the group of witnesses was representative of the many interests involved in developing the

legislation. The witness lists for each of the bills for which hearings were held consisted of organizations from all identified categories. The distribution of the witnesses among the categories showed that 70% of the witnesses were from the two commercial categories, Producers and Re-compilers, and the Education and Research category. Domination by these categories of witnesses was seen for each of the proposals. In the category of 'Others', all three witnesses were from education and research institutions. The remaining categories, Professional Associations and Government Organizations, made up slightly less than 16% of all testimonies. The primary contribution of these testimonies was to provide technical analysis of the bills; most of these witnesses did express opinions in support or opposition to the bills. The last category, Congress, consisted of statements from Congressional committee members.

Reform is generally a response to some motivating, significant event (Sabatier and Jenkins-Smith, 1999). The new technologies of the Internet and of digitization were important factors in causing this legislation to be proposed; they were a motivating event in database protection (Samuelson, 1988; Litman, 2001; Bitton, 2011). The analysis of the testimonies shows general agreement among the witnesses that technology were the source of the issue. The

testimonies referred repeatedly to digitization and the Internet as factors that changed the database industry. While the testimonies recognized that technology was a threat to database producers, there was little acknowledgement that the same technologies could benefit the producers by lowering their costs of production and distribution. Also, while the ease of copying and distributing with digitization technologies and the Internet appear to threaten the viability of the database industry, these technologies also facilitate entry into the market. These technologies can be seen as a threat to the established leaders in the industry as they facilitate competition (Osenga, 2009).

Discussion of technology in the testimonies was, unfortunately, limited to the uses that facilitated database copying and distribution. Very little attention was paid to the new technologies that provided control of access to databases. This new technology, the Digital Rights Management software (DRM), has the potential to allow producers to control access to their products regardless of the legal protections provide to them. Use of technology to protect databases is not good policy as long as controls of these technologies are inadequate. Using technology and legal alternatives to copyright may result in losing the public good goals of intellectual property law. Technology, as well as contracts, can hamper the flow of information, and evidence shows

that database products protected by technology prohibit uses that copyright would allow (Osenga, 2009).

Examples of the successful implementation of DRM systems today can be seen on the distribution of movies, music and books via the internet. Less obvious, but of great concern to the education and research communities, is the costs associated with the implementation of DRM in licensing materials to libraries. Research shows that the cost of on-line licensing of library materials is increasing and that these licensing agreements are having an undesirable impact on collection development (Frazier, 2001; Koehn and Hawamdeh, 2010).

While these DRM systems still need improvement and do not always stop large scale commercial theft, they are effective in a large part of the consumer environment. Consumers deal with these systems frequently when using the Internet to shop, for example, for music or books. Services such as iTunes use DRM software to control the copying, downloading or listening to music. The same systems are commonly used by Amazon.com, Barnes & Noble, or other on-line book sellers to control the distribution of books via downloading to computers, phone or tablets. Distribution is controlled by use of user profiles, currently primarily a profile that describes taste in music or

books or method of payment. These systems are also used by database producers to control access to databases. As with the music and book distribution, users are charged a fee for access. Without regulation, this technology has the potential to displace any law that may attempt to protect the public interest in access to information. While technology can, and does, greatly improve consumers and citizens ability to access information, it can also prevent that access, or it can implement schemes that limit access.

The proposed legislation which we have examined contained provisions for protecting databases by prohibiting copying of all or part of the database; the bills differed in the extent of copying or extraction allowed. The first two bills, HR 2652 and 354 were proposed as amendments to Copyright law, while the later ones were primarily proposed as new laws based on protection under the Commerce Clause of the Constitution, specifically by applying the concept of misappropriation. Misappropriation is a commercial concept that addresses unfair competition or trade practices.

This change in approach to the legislation indicates a growing recognition of information as a commodity, and as such, the laws that became more often involved in the discussions were fair trade laws

and rules. Even while submitting the bills as Copyright proposals, the three bills introduced by the Judiciary Committees were all titled as misappropriation acts. The two bills introduced by the Commerce Committees were new laws, except title two of H.R 1858, which was proposed as an amendment to the Securities Exchange Act of 1934. This title of HR 1858 is the portion of that bill that directly addresses market data.

Regardless of the approach, all the bills proposed some limits on the access to information. The degree of the restrictions in the Judiciary Committees bills is described by the testimonies as comprehensive; the bill provided broad protection to the owners. The Commerce Committees bills prohibit copying of entire databases, but are described as far less restrictive, and encouraging of extraction to build new databases. Both bills require the database products to be in the commercial market place to be covered.

Since none of the bills were passed into law, it is difficult to see if they had any impact on the balance; there will be no case law to provide interpretations of the degree of protection actually provided by the two sets of laws. Based solely on the interpretations of the degree of protection afforded, as presented by witness testimony, the

Judiciary bills would shift the balance in favor of the producers. The testimonies regarding the Commerce bills imply that the low level of protection would not significantly prevent access to information, and therefore, would not shift the balance. Some of the testimonies did not present the Commerce bills as viable, or safe, solutions to the problem of adjusting to the new technologies. These testimonies argued for no new legislation, and urged Congress to allow the market to determine if future legislation were appropriate.

The public good described by the witnesses focused on the benefits of access to information and on assurances that the information was complete, current and accurate. The producers argued that the encouragement generated by providing protection for their products would result in more databases and databases of higher quality than would be available without the protection. The education and research and re-compiler organizations advocated providing an open environment where access is protected.

Several specific examples of public good derived from the database industry included improved public health that results from medical data being available, informed investors being able to control their own investments due to the availability of real time market

information, increased food production due to availability of current, on-line agricultural databases, public safety enhanced by the availability of poison databases, improved citizenship aided by open access to a wide variety of political data, scientific advances aided by shared science databases, and especially the encouragement of innovation by simply having open access to information.

Assessing the impact the legislation might have on the balance between the owners' rights and the public interest in access to information is a difficult task. However, the success or failure of the database industry would give us a reasonable indication. Data is available that shows very rapid growth in the database industry evident even during the time frame of these proposals. Jonathan Band, for example, reports that the number of databases increased by 35% between 1991 and 1997, the number of files in databases increased by 180%. He also reported that there has been a rise of private ownership of these databases; in 1997, the government and non-profit organizations produced 78% of all databases, but in 1991, these organizations had produced only 30% while the private sector produced 70% of all databases (Hearing on H.R. 354, testimony of J. Band, 1999). A more recent study, 'The State of Databases Today', by M. Williams (Williams, 2003), shows that by 2003, the database

market had grown 147% since the *Feist* decision. This same study showed the same trend in privatization of databases; in 1990 68% of databases were private, and 90% were private by 2002. Additionally, the Digital Futures Coalition (DFC), on their web site (May of 2002) reported similar trends in growth and increasing private ownership of the database industry.

The DFC reports that the number of databases increased between 1991 and 1997 by 35%. And, the ownership shifted from 78% of all databases being owned by government and non-profit organizations in 1977, to only 22% owned by these organizations by 1997(www.dfc.com).

Studies of the international database market also indicate a healthy U.S. database industry. Peter Yu (2010) reports that the European share of the database industry decreased from 33% to 24% between 2002 and 2004 while the U.S. share increased from 62% to 72%.

This growth may indicate that the lack of additional legal protection has not produced the harm to the market feared by the producers and appears to be evidence that a balance has been

maintained. However, caution in concluding legal protection is not needed should be exercised here as the strong database market may be a result of the new technologies and DRM enforced contracts, and not due to legislative enhancements to protection—or lack thereof (Osenga, 2009).³

The interviews, although limited, provide some interesting information. The interviewees all indicated that the group of organizations and individuals invited to testify were selected as a cross-section of interested parties; intentionally not limited to the information industry. Committee staff indicated that they proposed lists to the committee chairpersons, and the chairperson finalized and approved the list of witnesses. The interviewee representing the reseller sector indicated that the witness lists were designed to include witnesses that would best serve the chairperson by helping to get votes from constituents.

³ Statistics are available for the database industry, but these use the NAICS classification system that combines databases with directory publishing and all the associated 'yellow' page advertising income. It is therefore not truly reflecting the database industry growth that this study is focusing on. For a general analysis of the combined industry growth and projection, see Warlock, K. Industry Growth by the Numbers, *EContent*, Information Today, Inc., Dec 2007 30(10).

Also, the interviews revealed that the testimonies were believed to be a significant source of information for the committee members. Staff considered the hearings important not only for the educational value, but also to provide an opportunity for the Congress members to participate in a common forum for debate, to declare their support or opposition, and to recognize who agrees or disagrees with them. Also, the hearings provide a public record of the debate.

Summary:

In this dissertation, the legal and technological protections for databases were examined. Databases are a primary element of our national information policy, and they are an important national resource. These resources are important to national economic growth, to the development of our society, and to the progress of knowledge. With the existing uncertainty about protection for the large investments required for producing and distributing databases, their full potential may not be attainable. Alternatively, the protections available to these investors may stifle the free-flow of information.

Directions in meeting the need for a secure environment for database developments have been diverse and, in some ways, uncoordinated. This study of the proposed database legislation and

legislative processes hopefully provided some understanding of the complex factors that could provide a system of protection that will meet the needs of both the public and academic/research community and those of the commercial firms investing in databases.

Future Research:

Future research to monitor the growing use of these DRM systems would help to focus the attention of Congress on the potential of this technology. While the discussion of the database proposals presented in this study did not address the DRM systems, Congress began discussions with an oversight hearing in June, 2002 on "DRM: The Consumer Benefits of Today's Digital Rights Management Solutions". However, as these systems continue to develop, additional examination would be beneficial.

Digital Rights Management systems play an important part in the distribution of databases in libraries. These systems implement the contracts libraries have with the owners of on-line resources. These contracts are not only costly, but also have an impact on the collections of libraries. In his study of digital resources, Frazier (2001) observed that the impact of digitization on libraries is not only the

increasing cost of the licensing, but the terms of these licenses that require libraries to purchase materials as part of a package that might not be in line with the library collection development goals. Continuing study of the impact these licensing agreements have on the library budgets and on the ability of the libraries to make materials available to the public would be an important study to use in evaluating the continued success of the database industry.

Updated studies of the growth of the databases industry would add to the understanding of the impact of technology on the availability of information. Data showing the distribution of different types of databases and who the consumers are may help to clarify some of the issues associated with the digital divide discussions.

Future study of the international aspects of database protection that investigate the impact of the European Union's Database Directive would be beneficial. The United State rejected the *sui generis* approach used in this Directive and feared that our database products would suffer from the lack of protection in foreign markets. The health of our database industry suggests that this did not happen. The discussion of the European Union's Directive 10 year review report adds to the argument that the U.S rejection of the Directive did not

harm our industry. Some theories on why this did not happen would be constructive and important if new protection legislation were to be proposed.

Theory suggests that coalitions might be more successful if the public becomes engaged in the issue (Bennett and Lawrence, 1995). In the hearing process, three individuals were invited to participate; these were university professors and a lawyer. There were two organizations, USADemocracy and The Eagle Forum providing educational resources for the public. Their participation indicates concern for opening the discussion to the public. However, protecting databases from theft, copying, and extraction are generally not popular public concerns, and an apparent relatively low media profile would suggest that a public impact might not be involved. A study of news reporting and other media would be interesting to assess the degree of public involvement in this issue.

Appendix 1

Interview Instrument

The interview will last about 1 hour and will be audio recorded. I will give you a written copy of the questions, which I'll ask you to return to me at the end of the interview.

Your responses will be anonymous. While the source of information may be identified in the discussion of the results of this interview, this identification will be general--as staff of the Congress or a representative of a participating group, no specific name or title will be used.

Part One: Drafting the bill:

The following 2 questions relate to the time period during which the bill was being drafted, until it was formally introduced to the Congress.

1. Who were significant contributors to the drafting of this bill? Please include names and organization represented if appropriate.
2. In drafting the legislation, was information provided by profit or non-profit groups? If so, please describe these sources.

Part Two: Consideration and Hearings:

The next 8 questions relate to activities during the consideration of the bill, including discussions, meetings and hearings as appropriate.

3. Were formal hearings held in consideration of this bill?
4. If there were formal hearings held in regard to the identified legislation, explain how the persons were chosen to testify at these hearings? Please describe the process of selecting the testifiers, including any detailed information about specific instances where persons(s) were either asked to testify or prevented from testifying. What criteria were used to include or exclude?

5. During the time that the bill was being considered by the sub-committee/committee, what sources of information were used, other than hearing testimonies?
6. Political scientists have reported that Interest Groups often assert their views through an educational effort. Do you believe that the information provided via the testimonies influenced the provisions included/excluded from the bill?
7. Would you say that the testimonies given by representatives of Interest Groups helped members of the committee or sub-committee?
8. If additional informational materials, (i.e. staff summaries or overviews or independent assessments of the bill), were made available, do you believe that these materials influenced the members of the committee or sub-committee?
9. Was a report on the bill prepared by the government's administration provided? (For example, the Registrar of Copyrights and Counsel from the Attorney General's office each prepared a report on Bill 354: Collections of Information Anti-piracy Act)
10. If there was an administrative report, do you believe it was influential in shaping the thinking of the committee/sub-committee?

Part 3: The Entire Process:

These last 2 two questions ask you to consider the process in general and take into account the entire time period during which you were involved in the process.

11. What information providing activity do you believe most influences the thinking of the committee/sub-committee?
12. Do you believe that testimonies are a significant factor in shaping the legislation? Why or why not?

Appendix 2

Witness/Organization Descriptions

AALL, ALA, ARL, MLA, SLA (Libraries)

American Association of Law Libraries, American Library Association, Association of Research Libraries, Medical Library Association, Special Libraries Association. Collectively representing 80,000 librarians in research, academic, law, medical, public, state-based, and special libraries throughout North America.

ACIS

Agriculture Publishers Association

A coalition of mostly small businesses who provide vital and timely information to the nearly 3 million individuals who make up America's farming and farm-related industries.

American Intellectual Property Law Association (AIPLA)

The AIPLA is a national bar association of nearly 10,000 members engaged in private and corporate practice, in government service, and in the academic community. The AIPLA represents a wide and diverse spectrum of individuals, companies and institutions involved directly or indirectly in the practice of patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property.

American Medical Association

The AMA is the world's largest medical publisher, represents its physician members.

Ameritrade Holding Corporation

Full service, on-line brokerage firm serving over 225,000 accounts.

Association of American Publishers (AAP)

AAP's members are a diverse lot. We are large, multi-faceted corporations whose names are household words; we are also small literary presses, non-profit university presses, regional publishers, professional and scholarly societies. We are located in New York, Chicago, Boston and San Francisco; we are also located in Center City, MN, Mountain View, CA, Sarasota, FL, and Ithaca, NY. Through direct membership and through formal affiliation with regional publishing associations, such as the Publishers Association of the South and the

Rocky Mountain Publishers Association, we comprise some 300 companies publishing hardcover and paperback books in every field, including general fiction and non-fiction, poetry, children's books, textbooks, Bibles, reference works, scientific, medical, technical, professional and scholarly books and journals, materials for classroom instruction and testing. Members of our Association produce computer software and electronic products and services, such as CD-ROMs and online databases.

Association of American Universities, American Council on Education, Nat'ional Assoc of State Universities and Land-Grant Colleges

These organizations represent over 1,700 colleges and universities, including the nation's major public and private research universities. Their institutions conduct the preponderance of the nation's academic research, produce most of its Ph.D.s as well as Master's and professional students, and educate a substantial portion of its undergraduate students.

Association of Directory Publishers (ADP)

A century-old international trade association of over 180 independent telephone directory publishers who employ thousands of workers throughout the country. We provide consumers with telephone directories that include white and yellow pages listings, plus community information. Our products are indispensable links in the communications network that binds our communities together.

AT&T

Among the world's largest communications leaders, providing voice, data and video communications services to large and small business, consumer and government agencies. AT&T uses data from many sources throughout our business activities, including market and sales...and we often combine this information... we use large volumes of data and factual information to develop new and innovative products.

Bloomberg Financial Markets

Provides multimedia analytical and news services to more than 117,000 terminals used by 350,000 financial professionals in 100 countries worldwide. Analyze and distributes market data.

Coalition Against Software Piracy (CADP)

CADP is an ad hoc group composed of large and small U.S. database providers who stand to suffer grievous harm--and whose thousands of

employees' jobs will be at risk--if you do not promptly enact federal database legislation that is effective and fair. Its members include the American Medical Association; the Information Industry Association; The McGraw-Hill Companies; Phillips Publishing International, Inc; Reed Elsevier Inc.; Skinder-Strauss Associates; the Thomas Publishing Company; The Thomson Corporation and Warren Publishing, Inc. CADP's members are an integral part of the U.S. database community. Today, the United States is the world leader in the creation and distribution of informational databases. Our members employ or represent many thousands of editors, researchers, and others, who gather, update, verify, format, organize, index and distribute the information contained in their vast array of database products. As a result of the efforts of CADP members and others in the U.S. database community, scientists, researchers, academics, scholars, businesses, government and consumers have ready access to a wealth of user-friendly, reliable and up-to-date information they consult daily.

Computer and Communications Industry Association (CCIA)

CCIA is comprised of leading manufacturers and providers of computer, information processing and communications-related products and services. CCIA's member companies represent a broad cross-section of the information and communications technology industry ranging from young, entrepreneurial companies to many of the largest in our industry. They collectively generate annual industry-derived revenues in excess of \$180 billion. CCIA's members are involved in all aspects of the National Information Infrastructure (NII), as leading builders of the network infrastructure, as providers of content and information services, and as manufacturers and providers of Internet servers, World Wide Web browsers, and terminal and storage equipment. Thus, CCIA is at the very heart of the emerging technologies which will bring the United States into the 21st century.

Digital Future Coalition

DFC consists of 42 national organizations, including a wide range of for profit and non-profit entities. Our members, a list of whom is attached to my written testimony, represent educators, computer and telecommunication industry companies, librarians, artists, software and hardware producers, and scientists, among others.

DLJ Direct, Inc.

On-line brokerage firm with over 600,000 on-line subscribers.

Doane Agricultural Services Company

Doane Agricultural Services Company, which for the last 80 years has

been one of the leading providers of information, economic forecasts and computer software to the agricultural sectors. Our radio program *AgriTalk* is carried each day on 115 stations in the farm belt reaching nearly one million listeners.

Eagle Forum

Eagle Forum, a nationwide organization with some 80,000 members, both compiles databases and uses database information compiled by others. Among the important current issues we are concerned about is the defense of the rights of patients to access and control their own medical information.

Ginsburg, J. C.

Professor of law at Columbia University.

Information Industry Associates (IIA)

IIA is composed of a broad cross section of information/database collectors, distributors, value-added re-disseminators and users from a number of different industries. Given my background and the nature of my participation in IIA, I am most familiar with financial information and the issues facing the financial information industry. Participants in IIA include, among a variety of diverse interests, representatives of all the major U.S. equities, options and futures markets that collect and process financial information, the major information vendors that disseminate financial information, and the financial intermediaries who receive and use financial information.

IIA is a 30 year-old trade association representing all sectors of the information industry. The Association's 550 member companies include organizations, large and small, that create, manage and distribute information products and services. IIA members serve every conceivable market, domestic and international, including businesses, governments, libraries, educational institutions, and increasingly, the general public. The Association's public policy program focuses on fostering an environment favorable to the growth and widespread availability of high quality, timely and reliable information products and services. The industry provides information in a variety of traditional formats -- print-on-paper, microfiche and microfilm -- but like NASDAQ, many other IIA members are using digital formats to meet the ever-growing demands of the marketplace for delivery of comprehensive collections of information

Information Technology Association of America (ITAA)

ITAA is the leading United States trade association of the information technology industry, representing over 11,000 direct and affiliated

member companies involved in every facet of the information technology industry, including computer hardware, software, the Internet, and telecommunications. The members are copyright owners, database compilers and users, Internet access and service providers, and content users, including MCI, Dun & Bradstreet, Fujitsu USA, Netscape, and AT&T.

Ledley, R.

Professor of Physiology, Biophysics and Radiology at Georgetown University

MCI Worldcom, Inc.

Internet Service Provider; building and operating communications networks.

NASDAQ Stock Market, Inc.

The Nasdaq Stock Market is a wholly owned subsidiary of the National Association of Securities Dealers (NASD), the largest self-regulatory organization for the securities industry in the United States. Every broker/dealer that does a securities business with the public is required by law to be a member of the NASD.

Founded in 1971, Nasdaq is today the largest electronic, screen-based market in the world, capable of handling trading levels well in excess of one billion shares a day. It accounts for more than one-half of all equity shares traded in the nation and is the second largest stock market in the world in terms of the dollar value of trading. It lists the securities of more than 5,500 domestic and foreign companies, more than all other U.S. stock markets combined.

**National Academies of Sciences, of Engineering
Amer. Assoc for Advancement of Science, and Institute of
Medicine**

Academies chartered by Congress to provide advice to the federal government and to the nation on scientific, medical and technological issues. The AAAS is the umbrella for over 250 professional and scientific and engineering societies in the United States, with more than 140,000 professional members.

National Association of Realtors (NBR)

Representing 730,000 Realtor members involved in all aspects of the real estate industry nationwide. 900 multiple listing services used to provide real estate information to all of our practitioners, buyers and sellers, and increasingly directly to consumers.

New York Stock Exchange

Distributes real-time market data to the public.

Online Banking Association

The OBA is an industry trade group representing banks and other financial institutions involved in the online delivery of financial services, as well as payment systems providers and companies providing products and services related to online banking.

Reichmann, J. H.

Scholar in the field of intellectual property law.

Schwab & Company

Financial Brokerage firm, serving over 6,000,000 accounts.

Securities Exchange Commission (SEC)

Government Agency

Software & Information Industry Association (SIIA)

The SIIA represents over 1200 high-tech companies including Emigre that develop and market software and electronic content for business, education, the Internet and entertainment. The SIIA was formed on January 1, 1999, and was actually a merger between the Software Publishers Association and the Information Industry Association.

USA Democracy

USADemocracy is a comprehensive Internet resource for people interested in politics and the legislative process. Our goals are to educate the American public as to the activities of their elected representatives on Capitol Hill and to provide a medium through which our subscribers can communicate with Congress electronically. Our company, like many other Internet companies, deals mainly in information. We provide information that is already in the public domain to our subscribers, at no cost to them, in a more usable format.

Yahoo!, Inc.

Yahoo! is a global Internet media company that offers a branded network of comprehensive information, communication and shopping services to 60 million users worldwide. As the first online navigational guide to the Web, Yahoo! is the leading guide in terms of traffic, advertising, household and business user reach, and is one of the most recognized brands associated with the Internet.

Congress:

- Berman, Howard** Democrat, California
House of Representatives,
Commerce on the Judiciary
Witness: H.R. 354
- Coble, Henry,** Republican, North Carolina
House of Representatives,
Chairman, Committee on the Judiciary
Witness: H.R. 2652 and H.R. 354
- Oxley, Michael** Republican, Ohio
House of Representatives,
Committee on Commerce
Subcommittee on Finance and Consumer
Protection
Witness: H.R 1858
- Stearns, Cliff** Republican, Florida
House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications and
Technology
Witness: H.R 3261

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(February 12, 1998) (testimony of Debra Stewart).

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(October 23, 1997) (testimony of Paul Warren).

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(February 12, 1998) (testimony of Paul Warren).

HR 2652: Collections of Information Antipiracy Act: Hearings before the Subcommittee on Courts and Intellectual Property of the House Committee on the Judiciary, 105th Cong., 1st Sess.
(October 23, 1997) (testimony of William A. Wulf).

HR 354: Collections of Information Antipiracy Act: Hearing before the Subcommittee on Courts and Intellectual Property of the House Committee on the Judiciary, 106th Cong., 1st Sess. (March 18, 1999) (testimony of Jonathan Band).

HR 354: Collections of Information Antipiracy Act: Hearing before the Subcommittee on Courts and Intellectual Property of the House Committee on the Judiciary, 106th Cong., 1st Sess. (March 18, 1999) (testimony of Howard Berman).

HR 354: Collections of Information Antipiracy Act: Hearing before the Subcommittee on Courts and Intellectual Property of the House Committee on the Judiciary, 106th Cong., 1st Sess. (March 18, 1999) (testimony of Howard Coble).

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HR 1858: Consumer and Investor Access to Information Act of 1999: Hearing before the Subcommittee on Finance and Hazardous Materials of the House Committee on Commerce, 106th Cong., 1st Sess. (June 30, 1999) (testimony of Stewart Bell).

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Hazardous Materials of the House Committee on Commerce, 106th Cong., 1st Sess. (June 30, 1999) (testimony of Carrie Dwyer).

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HR 1858: Consumer and Investor Access to Information Act of 1999: Hearing before the House Subcommittee on Finance and Hazardous Materials of the House Committee on Commerce, 106th Cong., 1st Sess. (June 30, 1999) (testimony of Lynn O'Henderson).

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HR 1858: Consumer and Investor Access to Information Act of 1999: Hearing before the House Subcommittee on Telecommunications Trade and Consumer Protection of the House Committee on Commerce, 106th Cong., 1st Sess. (June 15, 1999) (testimony of Mathew Rightmire).

HR 3261: Database and Collections of Information Misappropriation Act: Hearing before the Subcommittee Commerce, Trade and Consumer Protection of the House Committee on Energy and Commerce, Subcommittee on Courts, the Internet and Intellectual Property of the House Committee on the Judiciary, 108th Cong., 2d. Sess. (February 11, 2004) (testimony of David Carson).

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HR 3261: Database and Collections of Information Misappropriation Act: Hearing before the Subcommittee Commerce, Trade and Consumer Protection of the House Committee on Energy and Commerce, Subcommittee on Courts, the Internet and Intellectual Property of the House Committee on the Judiciary, 108th Cong., 2d. Sess. (February 11, 2004) (testimony of Keith Kuperschmid).

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