Information as Property

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Abstract

Information is quickly becoming one of the main assets in corporate life. This paper attempts to study the relationship between the law and information. The questions posed are (1) can information be considered as property (2) How does this answer effect the legal practitioners and business (3) Is the legal point of view compatible with the everyday actions of business today?

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Introduction

> What is *information*?…Information is somehow related to knowledge. More loosely, information is related to teaching, briefing, decision making, persuasion, manipulation, and even hearsay. (Dahlbom & Mathiassen, 1993)

We have entered the information age and we are the information society. The progression of society has been followed by the progression of law. Each level of civilisation or new economic system has required a parallel development in the field of law. The reason for this is that the law is developed to protect the interests of the present society. So when a society moves from an agrarian to an industrial phase the law must change to award increased protection for the industrialist at the expense of the land owning farmer.

If we apply this chain of thought and evaluate the next step of society from the industrial to the information society the law must develop to protect the new economic base. In this case the law must develop to protect the information society maybe at the expense of the industrial reality.

The types of protection the law awards vary widely but the industrial and mercantile age brought with it developments in the fields of property law, contract law, and also saw the creation of a specialized field of law which has come to be known as intellectual property law. The basis of this law is to award monopolies as a reward to those members of society who increase the total sum of knowledge by innovation and invention.

With the advance of information technology and the dawn of the information society intellectual property law has first been adapted to fit the new products. An example of this is software which only with great difficult can be fitted into the classical

intellectual property legislation. Another effect of the shift in the economic base towards information is the call be several groups to do away with intellectual property law altogether. The feeling is that these laws are outdated and unsuitable for the age. The origins of unix and late linux show the value of open source economy and the fact that many products need not be based upon the industrial method of economic protection.

The intellectual property laws have also been criticized by other groups such as the developing nations who feel that the whole system of law is a subtle form of imperialism where the industrial nations set the technological standards and price their products in such a manner as to keep the less developed nations dependent on the industrialized world.

There is also another group which are attempting to define information as property. This attempt to legally define information in such a way would award the owner of the property with certain exclusive rights and this paper is an investigation into the validity, effect and usefulness of such a classification.

There have been previous attempts to define information as a sui generis form of property but this is an area of law which is neglected and when the issue has been discussed the results have been unsystematic and ad hoc. The question still remains to be answered if information can be seen as property. While the discussion continues on an academic level the question must be asked and answered in all countries for an adequate system of information protection can be developed.

The first stage is to identify the components of the concepts of information as property. First, what is property? Second, What is information? Can Information be property? What will the results of this answer be if the question is answered affirmatively?

The particular quality for information is that it is in itself a non-tangible item which is in most cases stored and transferred in tangible form. Most legal efforts surrounding information have been aimed at either strengthening the position of the tangible receptacles or punishing those who would attempt to take the information, by copying the receptacle, without permission. This leads to an interesting problem where a information stored on a piece of paper may not be copied and transferred to others without breaking copyright legislation but the same information may be memorized and retold to unlimited audiences.

What has been done?

Information has always been a valuable commodity worth protecting. The problem is not that the law does not recognize this fact but rather that the law has not been able to adequately define and consequently protect information. The law has more often worked on protecting the physical or tangible representation of information. Prior to the digital age the difference between protecting information or the tangible representation was not practical and left to philosophical discussion. This was because the task of copying and transferring information was in itself a hinder to the spread of the illegitimate use of information.

To be able to consider information as a specific good we must first consider whether information users can have exclusive rights over the information since the concept of exclusive right to use a good is one of the hallmarks of property. There have been areas where the law has considered information to be valuable enough to be protected from being used by others than authorized users.

The whole concept of original and copy is a clear example of this. In many legal situations the law will accept no substitute for an original document, which more often than not must be signed and witnessed by Notary Public, the point in this case was to make sure that the correct information was available to the courts should this be necessary at a later date. Prior to the digital revolution copies where by definition inferior in both legal effect and quality. The problem with the quality of copies was also compounded by the fact that each subsequent copy made from another copy further degraded the quality. This technological barrier made copies less useable and easily identifiable.

These facts made information protection less important since any copies made where inferior to the original and easily identifiable should the law wish to punish the copy maker. This led to the development of the concept of information protection through protecting the tangible representation. A good example of this is the fact that it took much longer for copyright legislation to protect authors against those who translated their work rather than those who reprinted of the same.

There have been important exceptions to this principle of protecting the container rather than the content and some examples of these are:

Espionage

In the case of espionage the law is very protective of the information which is stolen rather than the manner in which it is recorded. In the Swedish penal code anyone who without proper authorization *collects, transfers, leaves or exposes data/information* of military significance, places this information in the hands of a foreign power and the information is seen as damaging national security can be sentenced to life imprisonment (BrB 19:5§).

In the commercial sphere there has also been a need to protect information from competitors. This information is usually defined as a trade secret and protected in many of the industrialized nations. Ståhlros (1986) defines the trade secret is a corporate immaterial asset composed of technical or commercial information. He defines it further as valuable practical knowledge which is not protected by intellectual property law. The information is particularly valuable to the company which basis certain competitive advantages upon its use.

The fact that he makes a difference between information which is protected by intellectual property legislation is interesting but not really relevant to this article. The important point is whether information can be protected and if so does this imply that information is property? The most important part of corporate know-how is that the secrets themselves can be used within the company and they do not loose any value. Should the secret become known then the value of the information to the company is radically reduced.

The Intellectual Property System

There have been areas where the law has seen a need to protect information from being freely distributed. The largest such area in the commercial sector is intellectual property law The two most common methods for protecting information today are those parts of the intellectual property law known as patent or copyright. The method used depends on the type of information, which the author wants to protect.

Legislators around the world have long discussed the need for protecting the fruits

of intellectual work. The most common method has always been to reward a person by granting a monopoly. This monopoly may have been on a process or a product and is the basis of the worlds intellectual property system. The general motivation today for granting an inventor or an author a monopoly on his idea or text is that this promotes the spread of ideas by rewarding the inventor. While the inventor is free to exploit his monopoly during the early years and reap his rewards, society is rewarded by the fact that the knowledge the inventor creates is dispersed into society. This knowledge can be used in additional research, which will hopefully result in new patentable ideas or processes. After the monopoly period is over society reaps its second reward since then the idea is free to be used by anyone. The thought behind this is that the inventor has by then had the time to create a substantial machinery for sales and marketing that he will be able to maintain his competitive edge.

Before we continue we must first see which types of ideas may be protected. The law has chosen to divide intellectual property into several groups but this paper is only concerned with two different categories of legally recognised protectable ideas.

The first such category is the patent. This form of intellectual property and can be traced back to the fifteenth century (Lloyd, 1997). The roman historian Atheneus wrote that the creators of great culinary dishes received a monopoly on the dish for one year (Koktvedgaard, 1965). The history of the patent has had a chequered past and at times it has been used shamelessly as a method of rewarding any person for doing service to the King and had nothing to do with intellectual effort on the part of the monopoly holder.

The modern patent is governed by similar laws in most industrial countries and there have been several attempts to implement international conventions but none have been particularly successful. There are common factors among patents and these are the criteria for obtaining a patent in most legal jurisdictions.

1. The object of the patent must concern a new invention or process
2. This must involve an inventive step
3. The result must be capable of industrial exploitation

The first point is not very controversial, but what this point implicitly explains is that only an object or a process may be patented. This effectively concludes unexpressed ideas, texts, music etc. The second point is probably more controversial since it is an attempt to try to define what an invention is. The inventive step is the leap of reasoning the inventor has made and it is for this creative leap which he must be rewarded. An example of this could be the combination of computer, cell phone, key finder and camera in one small portable unit. This gadget could be called an invention and is unquestionably as useful as any Swiss army knife but is not an inventive step since it is not difficult to foresee the combination of these artefacts into one portable device.

The last requirement for a patent is that the invention or process be capable of industrial exploitation. This requirement can usually be widely interpreted since the definition of industrial development does not mean that the invention has to be used within industry.

The second category is Copyright. This is an area where legislators have managed to a much further scale in their efforts to introduce international conventions which make copyright legislation much more uniform and enforceable around the globe. There have been a number of unilateral and multilateral agreements but the most important one is the Berne Convention which was first signed in 1886 and has been revised many times since. The fundamental thoughts behind the Berne convention are still the basis of copyright

law today. Under the Berne convention and most national legislation copyright protection is used to protect literary and artistic works which is described as:

> The expression "literary and artistic works" shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings; lectures, addresses, sermons and other works of the same nature; dramatic or dramatico-musical works; choreographic works and entertainments in dumb show; musical compositions with or without words; cinematographic works to which are assimilated works expressed by a process analogous to cinematography; works of drawing, painting, architecture, sculpture, engraving and lithography; photographic works to which are assimilated works expressed by a process analogous to photography; works of applied art; illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science. (Berne Convention, Article 2 (1))

From this list we can see that copyright is a very flexible instrument which may be used to protect artistic expression in almost any form. The term artistic reflects the origins of copyright, it was designed to protect literary writers since they were considered a valuable asset to the national heritage. This has since been expanded upon and copyright now is independent of its artistic background since. One of the main motives for this rule is that the courts would rather leave the discussions on the definition of art to the philosophers.

The advantage of copyright is that the protection enters into force directly at the moment the idea is recorded in a tangible form. Therefore a piece of music is protected as soon as it is written down or recorded whichever comes first. The effect of copyright protection is that the artistic expression may not be reproduced in any form without the express permission of the author.

Information Theft

In many cases when information has been stolen it has been so common that the law has not concerned itself with attempting to punish the actions. An example of this is when a person who purchases a book and then lends the book to his friend. The authors receives no compensation from the new reader. This situation typically falls under copyright law but adequately exemplifies peoples' behavior towards information as such. In many cases information is considered as something that is free to be shared. Most copyright violations occur when the tangible containers of information are copied.

Books are photocopied, films are recorded and compact disks are burned. In most cases the people carrying out these violations are totally unaware of the illegality of their deeds. If they are aware of the serious nature of their actions they do not feel that the actions should be punishable since the common opinion is that they do not cause harm. The digital technology today allows the digital products to be easily copied at no loss of quality and at almost no expense to the manufacturer. These facts, which were amongst the most important for the development of online trade have now become the reasons for which most people do not feel that their actions are wrong in any way.

Traditional criminal law would not punish an information thief unless that person also took the tangible vessel the information was contained in. The reasoning behind this is that when the thief only steals information the original owner still retains the same information in his possession. He can still remember and still use the information. When

the same thief steals the papers or disks the information is recorded on he deprives the owner of the use of certain property and therefore the law can react and punish the theft. The Swedish law defines an act of theft as taking without permission which causes damage to the owner of the property which has been taken. The legislator has also expanded upon the description of property which may be stolen by explaining only tangible goods may be stolen (Rekke, 1997) which effectively excludes the possibility of information theft in Swedish law. The situation in the England, Australia, USA and Canada is similar where only the widest interpretation of the law can information as such be stolen. The situation can best be summed up by the Australian courts who said in *The Federal Commissioner of Taxation v United Aircraft Corporation:*

> Knowledge is valuable, but knowledge is neither real personal property…It is only a loose metaphorical sense that any knowledge as such can be said to be property.

The English case of *Oxford v Moss* is a very interesting case which focuses on the problem between information and the tangible form in which the information is stored. The case involved a student whom had got hold of the questions in a coming university exam. Since he did not keep the paper he could not be charged with theft. The law was incapable of punishing the unfavorable action.

There are some states that are moving towards a better definition to the theft of property. This is being done as a reaction to the importance of protecting information stored in databases and computers. Information is no longer dependent upon the tangible form but rather the content.

Discussion

As we have seen the law has been unable to systematically declare the position of information under the law. This means that any situation where people deal with information is fraught with a greater amount of uncertainty since the law has been unable to formalize the position of information.

In some ways the law has a tendency to be blind to the real world. This is because it seldom acknowledges any problems that are not already known. So while the law still cannot fully accept that information can be a form of property this does not mean that information is not treated as property. Information is often bought, sold, leased and used as collateral. Often information is stolen, destroyed, vandalized.

The fact that the law has not been quick enough to follow the developments of society cannot hinder the reality that information is being used in many of the ways previously described. The insecurity of the situation must be alleviated in some way. The legal alternative to legislation is creating a secure regulated environment by using contracts. This method is widely used in several areas such as employment law, non-disclosure clauses and secrecy agreements. There are two main problems with the contractual approach, the first is that the contractual approach can only bind those who are party to the contract. This is a severe limitation to the efficiency of contractual approach. The second serious flaw with the contractual approach is that it involves a large amount of preparatory work on the part of those who are to be involved in handling the information. The trouble with attempting to control future situations in this way is that the is no such thing as a perfect contract since the more details included in the contract the more complex and harder to interpret they become while if less information is included in the contract they become much to vague and of little use when attempting

to settle future disputes.

What does ownership imply?

One method of defining anything is by attempting to describe what functions the thing has. If we take this functional approach when attempting to define what property is we look to its functions. The concept of property has developed along with man over the centuries and has developed in most societies. In some primitive agrarian societies the concept of individual ownership are less developed than in more complex societies. There have even been attempts to regulate ownership by removing some property rights and placing them in the hands of the state for the benefit of all society. Common for all stages of society and all attempts to replace property with alternative forms of ownership is the fact that there has always been some form of property and ownership rights.

To define this phenomena of property we must first attempt to analyze what property is. Looking at the function of property we see that the ownership of a certain good grants certain rights upon the owner. These rights are usually exclusive and allow the owner alone to buy, sell, lease the good. The owner is also protected from others attempts to steal or vandalize the goods.

The case for information as property

The law is supposed to promote acts which are beneficial to society while at the same time act as a prevention and punisher of unfavourable actions. The lack of a coherent system surrounding the status of information in the eyes of the law is unsatisfactory since information is becoming one of the main staples of economy today. The backbone of the present legal system concerning ideas is intellectual property law. This system which is based upon the economy of the 17^{th} and 18^{th} centuries and is not an adequate protection for the information society despite all changes and reinforcements. This is because:

1. Copyright allows the author to protect the expression of an idea by protecting the order of the words written down. Copyright in this manner only protects ideas in a second hand manner.
2. Patents must be inventions, inventive steps and capable of industrial exploitation this excludes too many areas, especially in the information society.

The idea of intellectual property law has been criticized as a method of enforcing imperialism and retaining status quo between developing and industrial nations. The programming community has a long tradition of anti intellectual property law work as can be seen in the whole open source programming movement.

If we look at the other examples shown in this paper which only work in restricted scenarios and only between parties which have previously agreed to the rules sourrounding information.

The case against information as property

One of the earliest writers against the concept of information as property must be Thomas Jefferson who wrote:

> If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called and idea, which an individual may exclusively

> possess as long as he keeps it to himself but the moment it is divulged, it forces itself into the possession of everyone, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possess the less, because every other possess the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density at any point, and like air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property.

Jefferson was one of the main forces behind American copyright legislation his ideas were to give limited rights to the author while making the content or idea free to be used in society (Samuelson, 1991). This is one of the two main critiques against the idea arranging a legal system for information. The basic idea is that information in itself cannot or should not be contained or restricted in any manner. This line of thought has developed since Jefferson and has today come to be the main source arguments for those who wish to remove intellectual property law. Most of the authors who advocate this movement have not attempted to formulate an alternative but rather maintain that the control of ideas and information should be removed.

The other strong line of thought calls for a radical reform of intellectual property law. Those calling for such reform often have different motives for doing so and are not always in agreement as to whether the system should be scrapped completely or merely reconstructed.

Conclusion

The legal situation today promotes a situation which does not view information as property. This is despite the fact that many companies value information as their main asset and the loss of this asset would seriously affect the value of the company.

The need for a coherent system of classification would aid the information owner and user to be able to better determine and defend his obligations and rights. Most countries today have laws concerning secrecy and confidentiality and these can be enforced by the companies who have the possibility of claiming damages if they were to suffer losses as a direct result of, for example, information theft. These situations are still inadequate because they are based on an incoherent and complex system which does not allow any legal security for the information user. It is just this type of security that the law is supposed to offer.

Another problem arises when the end user is unsatisfied with the law. If the society does not feel that the laws are just or valid then they will not feel inclined to follow them. The less chance that their actions will lead to punishment the less people whom will follow the law. The internet allows people to act on a whim and end users feel that their is little or no chance of getting caught so they do no feel that they are acting contrary to the laws. There cannot be a crime if there is no victim and Internet information crime is seen as a victimless crime.

The complexity of the market and products today are leading to a shift in the sale of products. There has always been knowledge surrounding products but this has not been seen as a marketing advantage. Manuals, support and additional information have been

given away free in the aid of making a sale. Today the importance of the information surrounding the goods is valued much higher and the goods themselves are given away at little or no profit while the main profits are derived from after sale service. Since the information surrounding the goods has risen in importance there is a legitimate call for a system that makes this information capable of being owned. Can this be done and if so how?

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